BUILDING WIRE

PARTEX CABLES building wire conforms to BDS IEC 60227, BDS 900, BDS 899 & BS 6004, BS 6500 constructions and comes in a variety of colors and features. High speed, extra low friction jacket designed to improve installation even under the most difficult conditions. Our high quality copper/aluminium building wire is manufactured to deliver long-term, reliable performance in all types of building applications. PVC insulated cables have a long term permissible operational temperature of 70˚C. This cable can be used either indoors or outdoors in cable ducts or conduits.

PARTEX™ Cables powering with safety

partexcables.com
partexstargroup.com

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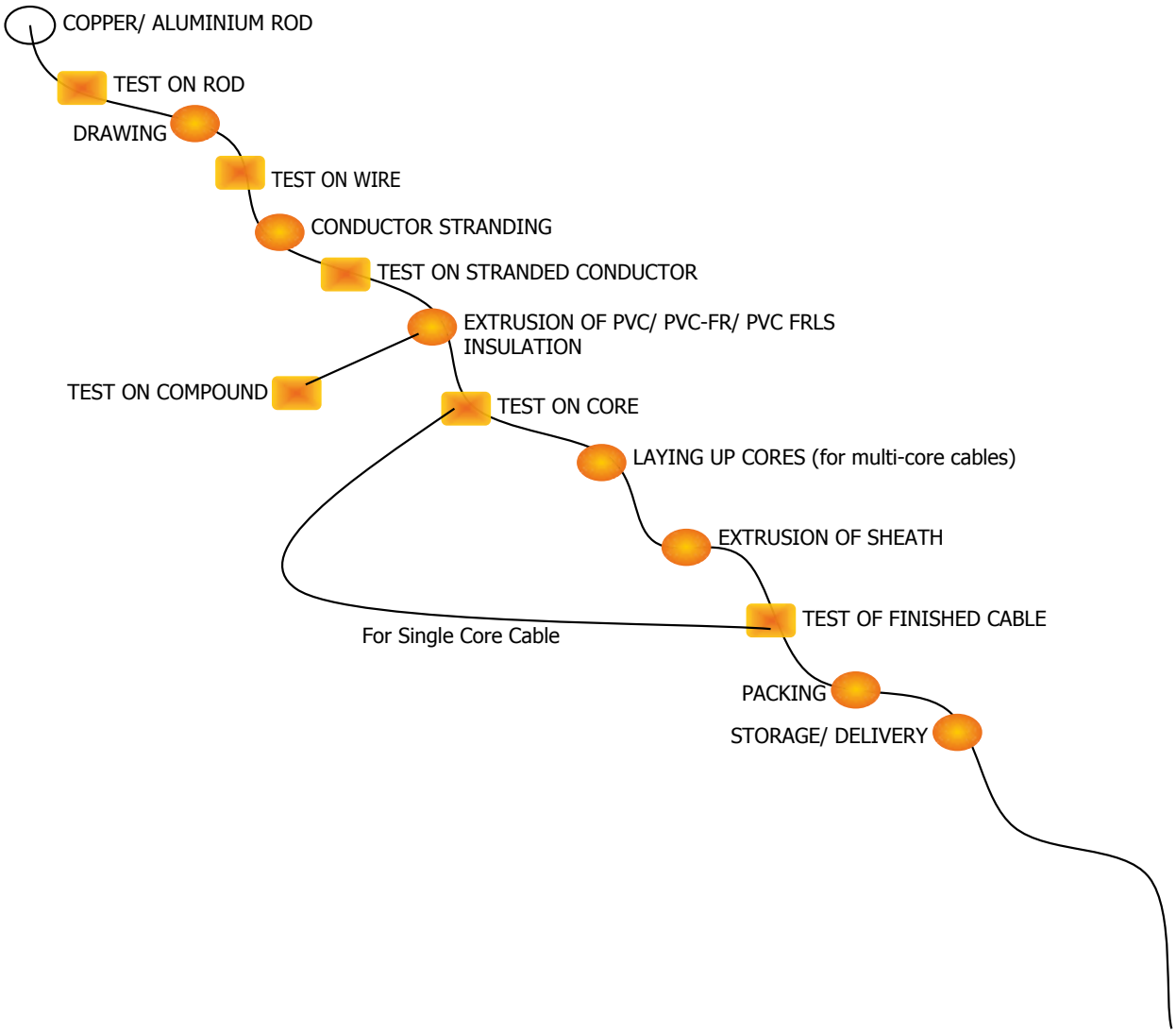
BUILDING WIRE

Voltage Rating (U_0/U) : Up to and including 450/750 Volt

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
BDS IEC 60227 IEC 60227 BS 6004 BS 6500 BDS 900 BDS 899 IEC 60228	IEC 60811 BS 7655	IEC 60332 EC 61034 BS EN 50265

BUILDING WIRE MANUFACTURING PROCESS



BYA/BAYA or BYA-FR/BAYA-FR or BYA-FRLS/BAYA-FRLS

1 Core (Cu or Al/PVC)
PVC (Skin Coated) Insulated Non-sheathed Single Core Cable

APPLICATION
Suitable for surface mounted or concealed steel condition or trunking. Also suitable for field protected installation in and application up to 1000 V A.C up to 750V to earth D.C.

STANDARD
BS 6004
BDS IEC 60227-3
IEC 60332
IEC 61034

VOLTAGE GRADE
U_0/U : 300/500V & 450/750V

COLOR
Insulation
(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION
Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation:

PVC (Skin Coated), TI1 to BS 7655
PVC-FR (Skin Coated), TI1-FR to BS 7655
PVC-FRLS (Skin Coated), TI1-FRLS to BS 7655

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
			Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 0.5 re	1/0.80	0.6	1.9	2.3	10	7	36.0	-	8	-	11	-
1 x 0.75 re	1/0.98	0.6	2.1	2.5	13	8	24.5	-	10	-	13	-
1 x 1.0 re	1/1.13	0.7	2.5	3.0	16	9	18.1	-	13	-	16	-
1 x 1.0 rm	3/0.65	0.7	2.5	3.0	17	10	18.1	-	13	-	16	-
1 x 1.3 rm	3/0.74	0.7	2.6	3.2	20	12	14.03	22.95	15	10	19	12
1 x 1.5 re	1/1.38	0.7	2.6	3.2	22	12	12.1	18.1	16	11	20	13
1 x 1.5 rm	7/0.52	0.7	2.7	3.3	23	13	12.1	18.1	16	11	20	13
1 x 1.5 rm	3/0.8	0.7	2.7	3.3	23	13	12.1	18.1	16	11	20	13
1 x 2.0 rm	3/0.91	0.8	3.1	3.8	30	17	9.11	15.18	20	13	25	15
1 x 2.5 re	1/1.78	0.8	3.2	3.9	32	17	7.41	12.1	22	15	28	18
1 x 2.5 rm	7/0.67	0.8	3.3	4.0	33	19	7.41	12.1	22	15	28	18
1 x 3.0 rm	7/0.74	0.8	3.5	4.3	40	21	5.99	9.84	26	17	31	20
1 x 4.0 rm	7/0.85	0.8	3.8	4.6	51	25	4.61	7.41	30	20	37	24
1 x 4.5 rm	7/0.91	0.8	3.9	4.7	56	28	3.89	6.51	32	21	39	25
1 x 6.0 rm	7/1.04	0.8	4.3	5.2	71	34	3.08	4.61	38	25	47	31
1 x 7.0 rm	7/1.12	1.0	4.5	5.8	85	41	2.61	4.29	42	27	51	33
1 x 9.5 rm	7/1.32	1.0	5.4	6.5	113	52	1.86	3.09	50	32	61	39
1 x 10 rm	7/1.35	1.0	5.6	6.7	117	53	1.83	3.08	52	34	63	41
1 x 14.5 rm	7/1.63	1.0	6.2	7.5	164	72	1.23	2.03	65	40	79	50
1 x 16 rm	7/1.70	1.0	6.4	7.8	179	77	1.15	1.91	70	45	85	55
1 x 16 rm	19/1.04	1.0	6.5	8.0	181	79	1.15	1.91	70	45	85	55

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

BYA/BAYA or BYA-FR/BAYA-FR or BYA-FRLS/BAYA-FRLS

1 Core (Cu or Al/PVC)
PVC (Skin Coated) Insulated Non-sheathed Single Core Cable

APPLICATION
Suitable for surface mounted or concealed steel condition or trunking. Also suitable for field protected installation in and application up to 1000 V A.C up to 750V to earth D.C.

STANDARD
BS 6004
BDS IEC 60227-3
IEC 60332
IEC 61034

VOLTAGE GRADE
U_0/U : 450/750V

COLOR
Insulation
(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION
Conductor: Circular/ Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Insulation:

PVC (Skin Coated), TI1 to BS 7655
PVC-FR (Skin Coated), TI1-FR to BS 7655
PVC-FRLS (Skin Coated), TI1-FRLS to BS 7655

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
			Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 25 rm	7/2.14	1.2	8.1	9.7	276	116	0.727	1.20	91	60	110	72
1 x 25 rm	19/1.30	1.2	8.2	9.9	278	118	0.727	1.20	91	60	110	72
1 x 35 rm	min. 6	1.2	9.0	10.9	373	153	0.524	0.868	112	73	136	88
1 x 50 rm	min. 6	1.4	10.8	12.8	532	216	0.387	0.641	136	88	164	107
1 x 70 rm	min. 12	1.4	12.1	14.6	732	285	0.268	0.443	173	112	207	137
1 x 95 rm	min. 15	1.6	14.1	17.1	985	382	0.193	0.320	216	140	253	165
1 x 120 rm	min. 18/15	1.6	15.6	18.8	1227	470	0.153	0.253	244	158	291	188
1 x 150 rm	min. 18/15	1.8	17.3	20.9	1535	572	0.124	0.206	-	-	333	217
1 x 185 rm	min. 30	2.0	19.3	23.3	1891	705	0.0991	0.164	-	-	381	248
1 x 240 rm	min. 34/30	2.2	22.0	26.2	2458	910	0.0754	0.125	-	-	452	295
1 x 300 rm	min. 34/30	2.4	24.5	29.6	3055	1125	0.0601	0.100	-	-	526	342
1 x 400 rm	min. 53	2.6	27.5	33.2	4078	1505	0.0470	0.0778	-	-	639	416
1 x 500 rm	min. 53	2.8	30.5	36.9	5048	1865	0.0366	0.0605	-	-	752	489
1 x 630 rm	min. 53	2.8	34.0	41.1	6363	2310	0.0283	0.0469	-	-	855	556

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

BYM/BAYM or BYM-FR/BAYM-FR or BYM-FRLS/BAYM-FRLS

1 Core (Cu or Al/PVC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Single Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
BDS IEC 60227-4
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Black)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular/ Circular Compacted, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated) , TI1 to BS 7655

Sheath:

PVC, TM1 to BS 7655

PVC-FR, TM1-FR to BS 7655

PVC-FRLS, TM1-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
1 x 1.0 re	1/1.13	0.6	0.8	3.8	4.5	25	24	18.1	-	13	-	16	-
1 x 1.0 rm	3/0.65	0.6	0.8	3.8	4.5	26	25	18.1	-	13	-	16	-
1 x 1.3 rm	3/0.74	0.7	0.8	4.2	4.9	34	26	14.03	22.95	15	10	19	12
1 x 1.5 re	1/1.38	0.7	0.8	4.2	4.9	33	26	12.1	18.1	16	11	20	14
1 x 1.5 rm	7/0.52	0.7	0.8	4.2	4.9	33	27	12.1	18.1	16	11	20	14
1 x 1.5 rm	3/0.80	0.7	0.8	4.2	4.9	33	27	12.1	18.1	16	11	20	14
1 x 2.0 rm	3/0.91	0.7	0.8	4.6	5.4	44	32	9.11	15.18	20	12	25	15
1 x 2.5 re	1/1.78	0.8	0.8	4.8	5.8	45	36	7.41	12.1	22	15	28	19
1 x 2.5 rm	7/0.67	0.8	0.8	4.8	5.8	46	37	7.41	12.1	22	15	28	19
1 x 3.0 rm	7/0.74	0.8	0.8	5.1	6.1	60	41	5.99	9.84	26	17	31	20
1 x 4.0 rm	7/0.85	0.8	0.9	5.4	6.8	73	48	4.61	7.41	30	21	37	25
1 x 4.5 rm	7/0.91	0.8	0.9	5.6	7.0	81	52	3.89	6.51	32	22	39	26
1 x 6.0 rm	7/1.04	0.8	0.9	6.0	7.4	96	59	3.08	4.61	38	26	47	32
1 x 7.0 rm	7/1.12	0.8	0.9	6.5	7.8	107	64	2.61	4.29	42	27	51	33
1 x 9.5 rm	7/1.32	1.0	0.9	7.0	8.7	145	82	1.86	3.09	50	32	61	40
1 x 10 rm	7/1.35	1.0	0.9	7.2	8.8	147	84	1.83	3.08	52	36	63	43
1 x 14.5 rm	7/1.63	1.0	1.0	8.0	10.0	206	113	1.23	2.03	65	40	79	50
1 x 16 rm	7/1.70	1.0	1.0	8.4	10.5	218	117	1.15	1.91	70	46	85	55
1 x 25 rm	7/2.14	1.2	1.1	10.0	12.5	328	169	0.727	1.20	91	59	110	72
1 x 35 rmc	min 6	1.2	1.1	11.0	13.5	432	211	0.524	0.868	112	73	136	88

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

BYM/BAYM or BYM-FR/BAYM-FR or BYM-FRLS/BAYM-FRLS

2 Core (Cu or Al/PVC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Two Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
BDS IEC 60227-4
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular/ Circular Compacted, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated), TI1 to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:

PVC, TM1 to BS 7655

PVC-FR, TM1-FR to BS 7655

PVC-FRLS, TM1-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	Kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
2 x 1.0 re	1/1.13	0.6	1.2	7.6	8.8	93	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	1.2	7.6	8.8	102	-	18.1	-	13	-	15	-
2 x 1.5 re	1/1.38	0.7	1.2	8.4	10.0	119	108	12.1	18.1	16	11	18	13
2 x 1.5 rm	7/0.52	0.7	1.2	9.0	10.2	121	111	12.1	18.1	16	11	18	13
2 x 1.5 rm	3/0.80	0.7	1.2	9.0	10.2	121	112	12.1	18.1	16	11	18	13
2 x 2.5 re	1/1.78	0.8	1.2	9.6	11.5	165	134	7.41	12.1	22	16	26	18
2 x 2.5 rm	7/0.67	0.8	1.2	10.4	11.8	167	135	7.41	12.1	22	16	26	18
2 x 4.0 rm	7/0.85	0.8	1.2	10.5	12.5	228	178	4.61	7.41	30	21	33	23
2 x 6.0 rm	7/0.1.04	0.8	1.2	11.5	14.0	294	219	3.08	4.61	37	26	43	30
2 x 10 rm	7/1.35	1.0	1.4	15.0	17.5	485	359	1.83	3.08	50	35	60	42
2 x 16 rm	7/1.70	1.0	1.4	16.5	20.0	673	471	1.15	1.91	66	43	80	52
2 x 25 rm	7/2.14	1.2	1.4	20.5	24.0	1004	685	0.727	1.20	75	49	88	57
2 x 35 rmc	min 6	1.2	1.6	23.0	27.5	1347	906	0.524	0.868	92	60	108	70

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

BYM/BAYM or BYM-FR/BAYM-FR or BYM-FRLS/BAYM-FRLS

3 Core (Cu or Al/PVC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Three Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

BDS IEC 60227-4

IEC 60332 & IEC 61043

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Yellow, Blue)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated), TI1 to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:

PVC, TM1 to BS 7655

PVC-FR, TM1-FR to BS 7655

PVC-FRLS, TM1-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
3 x 1.0 re	1/1.13	0.6	1.2	7.8	9.2	106	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	1.2	7.8	9.2	115	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	1.2	8.8	10.5	139	115	12.1	18.1	15	10	16	11
3 x 1.5 rm	7/0.52	0.7	1.2	9.2	10.8	142	117	12.1	18.1	15	10	16	11
3 x 1.5 rm	3/0.80	0.7	1.2	9.2	10.8	142	118	12.1	18.1	15	10	16	11
3 x 2.5 re	1/1.78	0.8	1.2	10.0	12.0	195	150	7.41	12.1	20	14	22	15
3 x 2.5 rm	7/0.67	0.8	1.2	1.0.5	12.5	198	152	7.41	12.1	20	14	22	15
3 x 4.0 rm	7/0.85	0.8	1.2	11.0	13.0	268	193	4.61	7.41	27	19	30	21
3 x 6.0 rm	7/1.04	0.8	1.4	12.5	15.5	386	273	3.08	4.61	33	23	37	26
3 x 10 rm	7/1.35	1.0	1.4	15.5	19.0	590	400	1.83	3.08	46	32	51	36
3 x 16 rm	7/1.70	1.0	1.4	18.0	21.5	856	553	1.15	1.91	58	38	67	44
3 x 25 rm	7/2.14	1.2	1.6	22.0	26.0	1272	794	0.727	1.20	66	43	77	50
3 x 35 sm	min 6	1.2	1.6	24.5	29.0	1685	1023	0.524	0.868	81	53	90	59

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

BYM/BAYM or BYM-FR/BAYM-FR or BYM-FRLS/BAYM-FRLS

4 Core (Cu or Al/PVC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Four Core Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

BDS IEC 60227-4

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Yellow, Blue, Black)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated), TI1 to BS 7655

Inner Covering: PVC, TM1 to BS 7655

Sheath:

PVC, TM1 to BS 7655

PVC-FR, TM1-FR to BS 7655

PVC-FRLS, TM1-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit								
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
4 x 1.0 re	1/1.13	0.6	1.2	8.4	9.8	124	-	18.1	-	11	-	12	-
4 x 1.0 rm	3/0.65	0.6	1.2	8.4	9.8	151	-	18.1	-	11	-	12	-
4 x 1.5 re	1/1.38	0.7	1.2	9.6	11.5	164	135	12.1	18.1	15	10	16	11
4 x 1.5 rm	7/0.52	0.7	1.2	10.0	12.0	168	136	12.1	18.1	15	10	16	11
4 x 1.5 rm	3/0.80	0.7	1.2	10.0	12.0	168	138	12.1	18.1	15	10	16	11
4 x 2.5 re	1/1.78	0.8	1.2	11.0	13.0	230	175	7.41	12.1	20	14	22	15
4 x 2.5 rm	7/0.67	0.8	1.2	11.5	13.5	235	161	7.41	12.1	20	14	22	15
4 x 4.0 rm	7/0.85	0.8	1.4	12.0	14.5	342	241	4.61	7.41	27	19	30	21
4 x 6.0 rm	7/1.04	0.8	1.4	14.0	17.0	464	314	3.08	4.61	33	23	37	26
4 x 10 rm	7/1.35	1.0	1.4	17.0	20.5	719	466	1.83	3.08	46	32	51	36
4 x 16 rm	7/1.70	1.0	1.4	20.0	23.5	1051	647	1.15	1.91	58	38	67	44
4 x 25 rm	7/2.14	1.2	1.6	24.0	28.5	1600	963	0.727	1.20	66	43	77	50
4 x 35 sm	min 6	1.2	1.6	27.0	32.0	2085	1202	0.524	0.868	81	53	90	59

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

BYFY/BAYFY or BYFY-FR/BAYFY-FR or BYFY-FRLS/BAYFY-FRLS

2 Core (Cu or Al/PVC/PVC)
PVC (Skin coated) Insulated PVC Sheathed Two Core Flat Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)

Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated), TI1 to BS 7655

Sheath:

PVC, type 6 to BS 7655

PVC-FR, type 6-FR to BS 7655

PVC-FRLS, type 6-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
2 x 1.0 re	1/1.13	0.6	0.9	4.0x6.2	4.7x7.4	55	-	18.1	-	13	-	15	-
2 x 1.0 rm	3/0.65	0.6	0.9	4.0x6.3	4.8x7.6	60	-	18.1	-	13	-	15	-
2 x 1.3 rm	3/0.74	0.7	0.9	4.2x6.9	5.4x8.7	70	54	14.03	22.95	15	9	17	11
2 x 1.5 re	1/1.38	0.7	0.9	4.4x7.0	5.4x8.4	73	55	12.1	18.1	16	13	18	15
2 x 1.5 rm	3/0.80	0.7	0.9	4.5x7.2	5.5x8.6	77	58	12.1	18.1	16	13	18	15
2 x 1.5 rm	7/0.52	0.7	0.9	4.5x7.3	5.5x8.7	78	59	12.1	18.1	16	13	18	15
2 x 2.0 rm	3/0.91	0.7	0.9	5.2x8.5	6.3x9.8	93	66	9.11	15.18	20	14	23	16
2 x 2.5 re	1/1.78	0.8	1.0	5.2x8.4	6.2x9.8	104	76	7.41	12.1	22	16	26	20
2 x 2.5 rm	7/0.67	0.8	1.0	5.3x8.6	6.3x10.0	108	79	7.41	12.1	22	16	26	20
2 x 3.0 rm	7/0.74	0.8	1.0	5.6x9.4	6.5x10.6	129	91	5.99	9.84	24	17	28	21
2 x 4.0 rm	7/0.85	0.8	1.0	5.6x9.6	7.2x11.5	154	104	4.61	7.41	30	22	33	26
2 x 4.5 rm	7/0.91	0.8	1.0	5.9x10.2	7.2x11.7	167	110	3.89	6.51	32	23	38	27
2 x 6.0 rm	7/1.04	0.8	1.1	6.4x10.5	8.0x13.0	210	133	3.08	4.61	37	27	43	35
2 x 10 rm	7/1.35	1.0	1.2	7.8x13.0	9.6x16.0	328	201	1.83	3.08	50	37	60	47
2 x 16 rm	7/1.70	1.0	1.3	9.0x15.5	11.0x18.5	474	271	1.15	1.91	66	49	80	62

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Rigid · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

BYFY/BAYFY or BYFY-FR/BAYFY-FR or BYFY-FRLS/BAYFY-FRLS

3 Core (Cu or Al/PVC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Three Core Flat Cable

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Yellow, Blue)
Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper or Aluminium, Class-1 & 2 to IEC 60228

Insulation: PVC (Skin coated), TI1 to BS 7655

Sheath:

PVC, type 6 to BS 7655

PVC-FR, type 6-FR to BS 7655

PVC-FRLS, type 6-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of		Overall Diameter		Approx. weight of cable		Max. D.C resistance of conductor at 20 °C		Current rating in conduits at 35 °C		Current rating in air at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit								
						Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	kg/km	ohm/km	ohm/km	amps	amps	amps	amps
3 x 1.0 re	1/1.13	0.6	0.9	4.0x8.4	4.7x9.8	78	-	18.1	-	11	-	12	-
3 x 1.0 rm	3/0.65	0.6	0.9	4.1x8.5	4.8x10.0	85	-	18.1	-	11	-	12	-
3 x 1.5 re	1/1.38	0.7	0.9	4.4x9.8	5.4x11.5	104	77	12.1	18.1	15	12	16	13
3 x 1.5 rm	7/0.52	0.7	0.9	4.5x10.0	5.5x11.6	111	82	12.1	18.1	15	12	16	13
3 x 2.5 re	1/1.78	0.8	0.9	5.2x11.5	6.2x13.5	152	106	7.41	12.1	20	16	22	17
3 x 2.5 rm	7/0.67	0.8	1.0	5.4x11.8	6.4x13.8	164	116	7.41	12.1	20	16	22	17
3 x 4.0 rm	7/0.85	0.8	1.1	5.8x13.5	7.4x16.5	232	157	4.61	7.41	33	24	30	25
3 x 6.0 rm	7/1.04	0.8	1.1	6.4x15.0	8.0x18.0	308	194	3.08	4.61	37	30	37	30
3 x 10 rm	7/1.35	1.0	1.2	7.8x19.0	9.6x22.5	480	290	1.83	3.08	48	35	48	35
3 x 16 rm	7/1.70	1.0	1.3	9.0x22.0	11.0x26.5	698	396	1.15	1.91	64	47	64	47

BYFYE or BYFYE-FR or BYFYE-FRLS

2 Core (Cu/PVC/ECC/PVC)

PVC (Skin coated) Insulated PVC Sheathed Two Core Flat Cable with ECC conductor

APPLICATION

Suitable for fixed installations in dry or damp premises clipped direct to a surface or on a cable tray unenclosed and also for use in non-metallic conduit.

STANDARD

BS 6004
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulated core (Red, Black)
Sheath (Grey or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Circular, Plain annealed copper, Class-1 & 2 to IEC 60228

E.C.C Conductor: Solid annealed copper, Class-1 & 2 to IEC 60228

Insulation: PVC (skin coated), TI1 to BS 7655

Sheath:

PVC, type 6 to BS 7655

PVC-FR, type 6-FR to BS 7655

PVC-FRLS, type 6-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	No. of strands & diameter of ECC wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating in conduits at 35 °C	Current rating in air at 35 °C
			Insulation	Sheath	Lower limit	Upper limit				
							Cu	Cu	Cu	Cu
Core x mm²	nos./mm	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 1.0 re	1/1.13	1/1.13	0.6	0.9	4.0x7.2	4.7x8.6	68	18.1	13	15
2 x 1.5 re	1/1.38	1/1.13	0.7	0.9	4.4x8.2	5.4x9.6	85	12.1	16	18
2 x 2.5 re	1/1.78	1/1.13	0.8	1.0	5.2x9.8	6.2x11.5	119	7.41	22	26
2 x 4.0 rm	7/0.85	1/1.38	0.8	1.0	5.6x10.5	7.2x13.0	175	4.61	30	33
2 x 6.0 rm	7/1.04	1/1.78	0.8	1.1	6.4x12.5	8.0x15.0	245	3.08	37	43
2 x 10 rm	7/1.35	7/0.85	1.0	1.2	7.8x15.5	9.6x19.0	368	1.83	50	60
2 x 16 rm	7/1.70	7/1.04	1.0	1.3	9.0x18.0	11.0x22.5	536	1.15	66	80

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

BYA FLEXIBLE or BYA FLEXIBLE-FR or BYA FLEXIBLE-FRLS

1 Core (Cu/PVC)
PVC (Skin coated) Insulated Non-sheathed Single Core Flexible Cable

APPLICATION

These types are permitted for the inner wiring of equipment, distributor and switchboards and also for protective laying to the lightings with a nominal voltage up to 1000 V alternating current or up to 750 V direct current against earth.

STANDARD

BS 6004

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 450/750V

COLOR

Insulation

(Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION

Conductor: Flexible, Plain annealed copper, Class-5 to IEC 60228

Insulation:

PVC (Skin Coated), TI1 to BS 7655

PVC-FR (Skin Coated), TI1-FR to BS 7655

PVC-FRLS (Skin Coated), TI1-FRLS to BS 7655

PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
1 x 1.5 rm	30/0.25	0.7	2.8	3.4	24	13.30	18	22
1 x 2.5 rm	50/0.25	0.8	3.4	4.1	34	7.98	24	30
1 x 4.0 rm	56/0.30	0.8	3.9	4.8	52	4.95	32	39
1 x 6.0 rm	84/0.30	0.8	4.4	5.3	72	3.30	41	50
1 x 10 rm	80/0.40	1.0	5.7	6.8	118	1.91	57	67
1 x 16 rm	126/0.40	1.0	6.7	8.1	180	1.21	75	90
1 x 25 rm	196/0.40	1.2	8.4	10.2	278	0.780	96	105
1 x 35 rm	276/0.40	1.2	9.7	11.7	376	0.554	119	140
1 x 50 rm	396/0.40	1.4	11.5	13.9	536	0.386	142	170
1 x 70 rm	360/0.50	1.4	13.2	16.0	735	0.272	182	215
1 x 95 rm	475/0.50	1.6	15.1	18.2	992	0.206	222	260
1 x 120 rm	608/0.50	1.6	16.7	20.2	1233	0.161	255	302
1 x 150 rm	756/0.50	1.8	18.6	22.5	1540	0.129	298	355
1 x 185 rm	950/0.50	2.0	20.6	24.9	1900	0.106	339	408
1 x 240 rm	1221/0.50	2.2	23.5	28.4	2482	0.0801	401	476

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

FLEXIBLE or FLEXIBLE-FR or FLEXIBLE-FRLS

1 Core (Cu/PVC)

PVC (Skin coated) Insulated Non-sheathed Single Core Flexible Cable

APPLICATION

These types are permitted for the inner wiring of equipment, distributor and switchboards and also for protective laying to the lightings with a nominal voltage up to 500 V.

STANDARD

BS 6004
BDS 899
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Yellow, Blue, Black, Green, Yellow-Green)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation:

PVC (Skin coated), TI1 to BS 7655

PVC-FR (Skin Coated), TI1-FR to BS 7655

PVC-FRLS (Skin Coated), TI1-FRLS to BS 7655

PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
1 x 0.4 rm	14/0.193	0.6	2.0	2.4	8	47.33	2	3
1 x 0.5 rm	16/0.20	0.6	2.1	2.5	9	39.00	3	4
1 x 0.65 rm	23/0.193	0.6	2.2	2.6	11	28.79	5	6
1 x 0.75 rm	24/0.20	0.6	2.2	2.7	12	26.00	6	7
1 x 1.0 rm	32/0.20	0.6	2.4	2.8	15	19.50	9	10
1 x 1.2 rm	40/0.193	0.6	2.5	3.0	17	16.56	11	13
1 x 2.0 rm	70/0.193	0.7	3.2	3.7	28	9.46	16	18
1 x 3.0 rm	110/0.193	0.8	3.7	4.5	43	6.01	22	24

FLEXIBLE (T/T) or FLEXIBLE-FR (T/T) or FLEXIBLE-FRLS (T/T)

2 Core (Cu/PVC/Twisted)

PVC (Skin coated) Insulated Twisted Twin (T/T) Flexible Cable

APPLICATION

Suitable for dry place where mechanical stress do not exist, at the connections of mobile equipment.

STANDARD

BS 6004
BDS 899
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Black)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation:

PVC (Skin Coated), TI1 to BS 7655

PVC-FR (Skin Coated), TI1-FR to BS 7655

PVC-FRLS (Skin Coated), TI1-FRLS to BS 7655

Twist: Two core twisted

PHYSICAL DATA						ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
			Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	2.0	2.4	16	47.33	2	3
2 x 0.5 rm	16/0.20	0.6	2.1	2.5	18	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	2.2	2.6	22	28.79	5	6
2 x 0.75 rm	24/0.20	0.6	2.2	2.7	24	26.00	6	7
2 x 1.0 rm	32/0.20	0.6	2.4	2.8	30	19.50	9	10
2 x 1.2 rm	40/0.193	0.6	2.5	3.0	34	16.56	11	13
2 x 2.0 rm	70/0.193	0.7	3.2	3.7	56	9.46	16	18

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

FLEXIBLE (F/T) or FLEXIBLE-FR (F/T) or FLEXIBLE-FRLS (F/T)

2 Core (Cu/PVC/PVC)

PVC (Skin Coated) Insulated PVC Sheathed Two core Flat Twin Flexible Cable

APPLICATION

Suitable for dry place where mechanical stress do not exist, at the connections of mobile equipment.

STANDARD

BS 6500

BDS 899

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Black)

Sheath (White or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC (Skin Coated), TI2 to BS 7655

Sheath:

PVC, TM2 to BS 7655

PVC-FR, TM2-FR to BS 7655

PVC-FRLS, TM2-FRLS to BS 7655

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/Km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	0.8	3.3x5.4	4.3x6.9	37	47.33	3	4
2 x 0.5 rm	16/0.20	0.6	0.8	3.5x5.6	4.4x7.0	41	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	0.8	3.6x5.9	4.5x7.1	46	28.79	5	6
2 x 0.75 rm	24/0.20	0.6	0.8	3.7x6.0	4.5x7.2	48	26.00	6	7

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

FLEXIBLE CORD or FLEXIBLE CORD-FR or FLEXIBLE CORD-FRLS

2 Core (Cu/PVC/PVC)

PVC (Skin Coated) Insulated PVC Sheathed Two/ Three core Flexible cord

APPLICATION

Use on household appliances in covered, dry, steamed and humid areas where low mechanical stress exists.

STANDARD

BS 6500
BDS 899
IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation
2 core (Red, Black)
3core (Red, Yellow & Blue)
Sheath (White or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC (Skin Coated), TI2 to BS 7655

Sheath:

PVC, TM2 to BS 7655

PVC-FR, TM2-FR to BS 7655

PVC-FRLS, TM2-FRLS to BS 7655

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
2 x 0.4 rm	14/0.193	0.6	0.8	5.3	6.7	49	47.33	3	4
2 x 0.5 rm	16/0.20	0.6	0.8	5.4	6.8	54	39.00	3	4
2 x 0.65 rm	23/0.193	0.6	0.8	5.6	7.1	60	28.79	6	7
2 x 0.75 rm	24/0.20	0.6	0.8	5.7	7.2	64	26.00	7	8
2 x 1.0 rm	32/0.20	0.6	0.8	5.9	7.5	74	19.50	10	11
2 x 1.2 rm	40/0.193	0.6	0.8	6.5	7.9	78	16.56	13	15
2 x 1.5 rm	30/0.25	0.7	0.8	6.8	8.6	99	13.30	15	17
2 x 2.0 rm	70/0.193	0.7	0.8	8.2	9.5	127	9.46	18	20
2 x 2.5 rm	50/0.25	0.8	1.0	8.4	10.6	151	7.98	20	22
2 x 3.0 rm	110/0.193	0.8	1.1	9.8	11.2	174	6.01	24	26
2 x 4.0 rm	56/0.30	0.8	1.1	10.5	11.8	200	4.95	25	27

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
3 x 0.4 rm	14/0.193	0.6	0.8	5.6	7.1	57	47.33	2	3
3 x 0.5 rm	16/0.20	0.6	0.8	5.8	7.3	64	39.00	3	4
3 x 0.65 rm	23/0.193	0.6	0.8	5.9	7.4	70	28.79	6	7
3 x 0.75 rm	24/0.20	0.6	0.8	6.0	7.6	75	26.00	7	8
3 x 1.0 rm	32/0.20	0.6	0.8	6.3	8.0	88	19.50	10	11
3 x 1.2 rm	40/0.193	0.6	0.9	6.8	8.6	100	16.56	13	15
3 x 1.5 rm	30/0.25	0.7	0.9	7.4	9.4	124	13.30	15	17
3 x 2.0 rm	70/0.193	0.7	1.0	8.8	10.2	155	9.46	18	20
3 x 2.5 rm	50/0.25	0.8	1.0	9.2	11.4	184	7.98	20	22
3 x 3.0 rm	110/0.193	0.8	1.1	10.5	11.9	215	6.01	24	26
3 x 4.0 rm	56/0.30	0.8	1.2	11.2	12.7	254	4.95	25	27

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature, Flame Retardant, Maximum Short circuit, Lead free, Skin Coated, Flexible, Resistance to Solar Radiation, Test 1.5-2kV

Installation condition

Home Use, Outdoor Installation, Open air, In conduit

FLEXIBLE CORD or FLEXIBLE CORD-FR or FLEXIBLE CORD-FRLS

4 Core (Cu/PVC/PVC)
PVC (Skin Coated) Insulated PVC Sheathed Four core Flexible cord

APPLICATION

Use on household appliances in covered, dry, steamed and humid areas where low mechanical stress exists.

STANDARD

BS 6500

BDS 899

IEC 60332 & IEC 61034

VOLTAGE GRADE

U_0/U : 300/500V

COLOR

Insulation (Red, Yellow, Blue & Black)

Sheath (White or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible , Plain annealed copper, Class-5 to IEC 60228

Insulation: PVC (Skin Coated), TI2 to BS 7655

Sheath:

PVC, TM2 to BS 7655

PVC-FR, TM2-FR to BS 7655

PVC-FRLS, TM2-FRLS to BS 7655

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of		Overall Diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current rating at 35 °C	
		Insulation	Sheath	Lower limit	Upper limit			in conduit	in air
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	ohm/km	amps	amps
4 x 0.4 rm	14/0.193	0.6	0.8	6.2	7.7	68	47.33	2	3
4 x 0.5 rm	16/0.20	0.6	0.8	6.3	7.8	76	39.00	3	4
4 x 0.65 rm	23/0.193	0.6	0.8	6.5	8.2	86	28.79	6	7
4 x 0.75 rm	24/0.20	0.6	0.8	6.6	8.3	92	26.00	7	8
4 x 1.0 rm	32/0.20	0.6	0.9	7.1	9.0	112	19.50	10	11
4 x 1.2 rm	40/0.193	0.6	0.9	7.9	9.4	124	16.56	13	15
4 x 1.5 rm	30/0.25	0.7	1.0	8.4	10.5	158	13.30	15	17
4 x 2.0 rm	70/0.193	0.7	1.0	9.6	11.2	188	9.46	18	20
4 x 2.5 rm	50/0.25	0.8	1.1	10.1	12.5	228	7.98	20	22
4 x 3.0 rm	110/0.193	0.8	1.2	11.8	13.4	274	6.01	24	26
4 x 4.0 rm	56/0.30	0.8	1.2	12.3	13.9	315	4.95	25	27

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature · Flame Retardant · Maximum Short circuit · Lead free · Skin Coated · Flexible · Resistance to Solar Radiation · Test 1.5-2.5kV

Installation condition

Home Use · Outdoor Installation · Open air · In conduit

PARTEX Cables powering with safety

LOW VOLTAGE CABLES

PVC Insulated: PARTEX CABLES low voltage PVC insulated cables are widely used and have a long term permissible operational temperature of up to 70˚C. These cables can be used either indoors or outdoors as buried, in ducts or cable trays in power and switching stations, local distribution systems, industrial plants and commercial buildings for voltage requirements of 0.6/1.0 kV and up to 1.8/3.0 kV. The cables have perfect bending properties for easy installation and maintenance, which make them the preferred choice for indoor machinery and control equipment application.

XLPE Insulated: PARTEX CABLES low voltage XLPE insulated cables are excellent insulated material that has several advantages over conventional thermoplastic insulated materials. Some of these advantages include zero halogen, higher durability, longer operational life and excellent chemical resistance. It also has a higher permissible operational temperature of up to 90˚C and hence allows the cables to withstand a greater current rating compared to PVC cables. This variance gets wider as the conductor size increases. This is also the reason XLPE-insulated cables are widely chosen where bigger cables are required for main power supply.

Should there be a requirement for ground emplacement; the armored cable is preferred for higher electrical and mechanical protection.

On the other hand, XLPE-insulated cables are less flexible compared to PVC cables, hence making it a less favorable choice for smaller conductor size cables where the current rating advantage is less significant.

PARTEX™ Cables *powering with safety*

partexcables.com
partexstargroup.com

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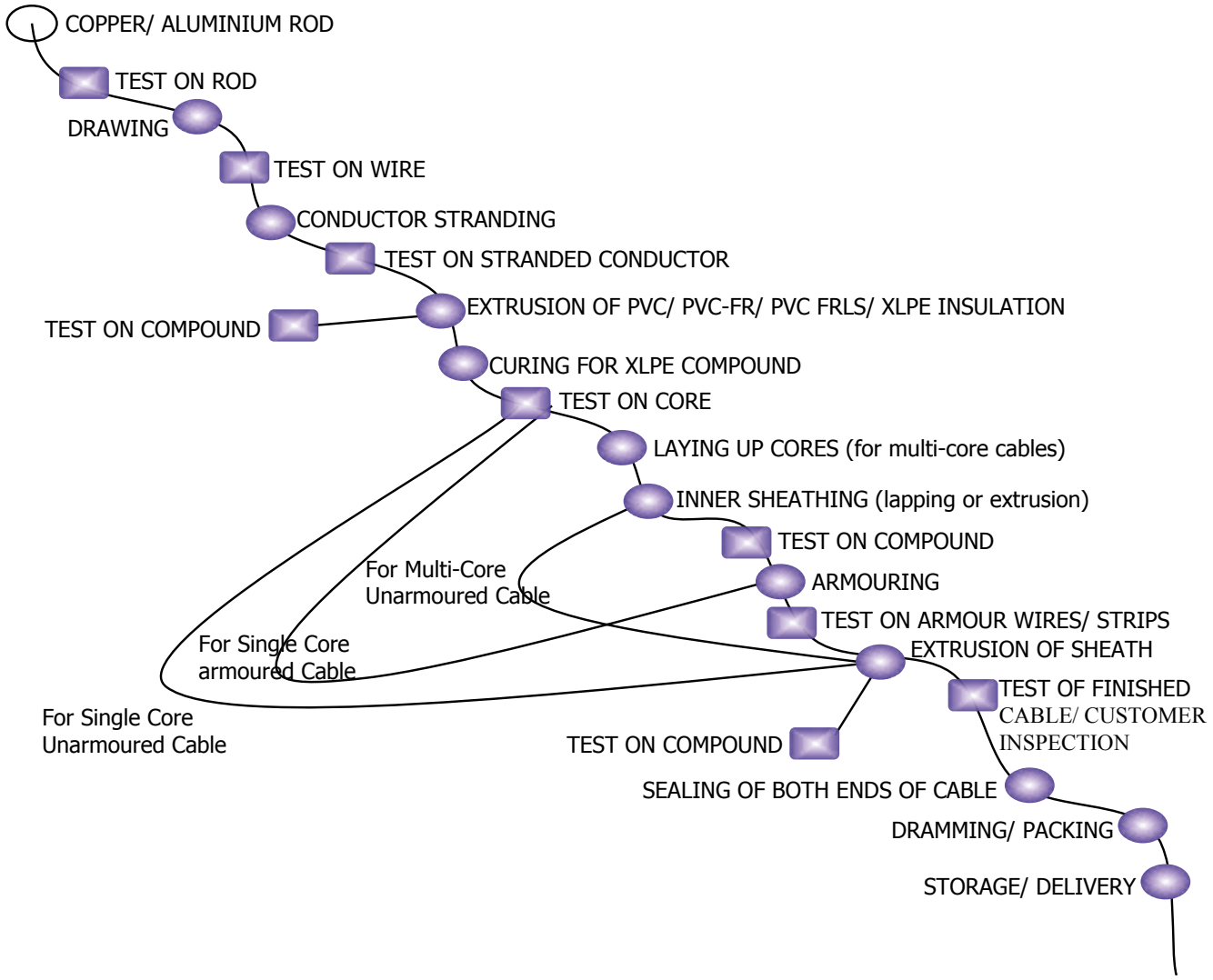
LOW VOLTAGE CABLES

Voltage Rating U_0/U (Um) : 0.6/1.0 (1.2) kV up to and including 1.8/3 (3.6) kV

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
IEC 60502-1 VDE 0271/3.69 DIN VDE 0276/603 IEC 60228	IEC 60811 BS 7655	IEC 60332 BS EN 50265

LOW VOLTAGE CABLES MANUFACTURING PROCESS



NYY / NAYY

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

VDE 0271/3.69

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV
Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
1 x 1.5	re	1/1.38	0.8	1.8	6.6	65	56
1 x 1.5	rm	7/0.52	0.8	1.8	6.8	68	58
1 x 2.5	re	1/1.78	0.8	1.8	7.2	80	69
1 x 2.5	rm	7/0.68	0.8	1.8	7.4	86	71
1 x 4	rm	7/0.85	1.0	1.8	8.2	113	88
1 x 6	rm	7/1.04	1.0	1.8	8.7	140	102
1 x 10	rm	7/1.35	1.0	1.8	9.7	190	126
1 x 16	rm	7/1.70	1.0	1.8	10.7	262	158
1 x 16	rm	19/1.04	1.0	1.8	11.0	268	160
1 x 25	rm	7/2.14	1.2	1.8	12.4	375	216
1 x 25	rm	19/1.30	1.2	1.8	12.8	385	220
1 x 35	rmc	min. 6	1.2	1.8	13.7	472	262
1 x 50	rmc	min. 6	1.4	1.8	15.6	610	342
1 x 70	rmc	min. 12	1.4	1.8	17.3	846	425
1 x 95	rmc	min. 15	1.6	1.8	19.4	1095	542
1 x 120	rmc	min. 18/15	1.6	1.8	21.0	1338	638
1 x 150	rmc	min. 18/15	1.8	1.8	23.1	1640	790
1 x 185	rmc	min. 30	2.0	2.0	25.6	2026	954
1 x 240	rmc	min. 34/30	2.2	2.0	28.6	2640	1194
1 x 300	rmc	min. 34/30	2.4	2.0	31.3	3250	1451
1 x 400	rmc	min. 53	2.6	2.2	35.3	4220	1880
1 x 500	rmc	min. 53	2.8	2.2	38.0	5283	2320
1 x 630	rmc	min. 53	2.8	2.2	42.0	6515	2775
1 x 800	rmc	min. 53	2.8	2.4	46.2	8162	3190
1 x 1000	rmc	min. 53	3.0	2.6	51.1	10285	3350

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

PARTEX Cables powering with safety

NYY / NAYY

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

VDE 0271/3.69

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV
Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)
Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 1.5	re	12.1	18.1	27	20	-	-	22	17	-	-
1 x 1.5	rm	12.1	18.1	27	20	-	-	22	17	-	-
1 x 2.5	re	7.41	12.1	36	30	-	-	30	23	-	-
1 x 2.5	rm	7.41	12.1	36	30	-	-	30	23	-	-
1 x 4	rm	4.61	7.41	47	36	37	29	39	29	31	23
1 x 6	rm	3.08	4.61	59	45	48	36	50	36	41	29
1 x 10	rm	1.83	3.08	78	60	60	46	69	50	53	38
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 25	rm	0.727	1.20	130	101	101	80	125	89	97	68
1 x 25	rm	0.727	1.20	130	101	101	90	125	89	97	68
1 x 35	rmc	0.524	0.868	155	119	120	93	160	114	124	87
1 x 50	rmc	0.387	0.641	185	144	144	114	195	138	151	105
1 x 70	rmc	0.268	0.443	225	175	175	138	245	171	190	130
1 x 95	rmc	0.193	0.320	270	211	210	167	300	204	232	153
1 x 120	rmc	0.153	0.253	310	243	240	190	350	242	272	184
1 x 150	rmc	0.124	0.206	350	275	270	216	405	280	314	212
1 x 185	rmc	0.0991	0.164	390	306	302	240	460	320	357	244
1 x 240	rmc	0.0754	0.125	450	351	349	275	555	386	430	292
1 x 300	rmc	0.0601	0.100	515	402	386	306	640	448	448	304
1 x 400	rmc	0.0470	0.0778	585	453	439	345	770	546	540	374
1 x 500	rmc	0.0366	0.0605	680	526	510	400	900	643	630	440
1 x 630	rmc	0.0283	0.0469	800	615	600	467	1030	740	721	510
1 x 800	rmc	0.0221	0.0367	945	724	708	550	1160	836	812	575
1 x 1000	rmc	0.0176	0.0291	1095	835	821	630	1310	949	917	655

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Rigid
Meter Marking
Flame Retardant
Lead free
Test 3.5kV

Installation condition

Industrial Use
Outdoor Installation
Open air
Buried
In Duct
In water

YY / AYY

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
1 x 1.5	re	1/1.38	0.8	1.4	6.0	50	-
1 x 1.5	rm	7/0.52	0.8	1.4	6.3	53	-
1 x 2.5	re	1/1.78	0.8	1.4	6.5	65	-
1 x 2.5	rm	7/0.68	0.8	1.4	6.7	68	-
1 x 4	rm	7/0.85	1.0	1.4	7.7	95	64
1 x 6	rm	7/1.04	1.0	1.4	8.4	120	75
1 x 10	rm	7/1.35	1.0	1.4	9.2	171	97
1 x 16	rm	7/1.70	1.0	1.4	10.5	250	130
1 x 16	rm	19/1.04	1.0	1.4	10.6	255	134
1 x 25	rm	7/2.14	1.2	1.4	12.2	350	175
1 x 25	rm	19/1.30	1.2	1.4	12.8	360	190
1 x 35	rmc	min. 6	1.2	1.4	12.7	453	218
1 x 50	rmc	min. 6	1.4	1.4	14.5	624	90
1 x 70	rmc	min. 12	1.4	1.4	16.1	831	362
1 x 95	rmc	min. 15	1.6	1.5	18.2	1104	488
1 x 120	rmc	min. 18/15	1.6	1.5	19.7	1357	580
1 x 150	rmc	min. 18/15	1.8	1.6	21.9	1689	708
1 x 185	rmc	min. 30	2.0	1.7	24.1	2070	875
1 x 240	rmc	min. 34/30	2.2	1.8	26.9	2650	1115
1 x 300	rmc	min. 34/30	2.4	1.9	29.8	3289	1375
1 x 400	rmc	min. 53	2.6	2.0	33.5	4314	1720
1 x 500	rmc	min. 53	2.8	2.1	38.0	5350	2125
1 x 630	rmc	min. 53	2.8	2.2	42.0	6780	2620
1 x 800	rmc	min. 53	2.8	2.3	46.2	8510	3195
1 x 1000	rmc	min. 53	3.0	2.4	51.1	10530	3890

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

YY / AYY

Single Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 1.5	re	12.1	18.1	27	20	-	-	22	17	-	-
1 x 1.5	rm	12.1	18.1	27	20	-	-	22	17	-	-
1 x 2.5	re	7.41	12.1	36	30	-	-	30	23	-	-
1 x 2.5	rm	7.41	12.1	36	30	-	-	30	23	-	-
1 x 4	rm	4.61	7.41	47	36	37	29	39	29	31	23
1 x 6	rm	3.08	4.61	59	45	48	36	50	36	41	29
1 x 10	rm	1.83	3.08	78	60	60	46	69	50	53	38
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 16	rm	1.15	1.91	100	76	78	60	94	67	73	51
1 x 25	rm	0.727	1.20	130	101	101	80	125	89	97	68
1 x 25	rm	0.727	1.20	130	101	101	90	125	89	97	68
1 x 35	rmc	0.524	0.868	155	119	120	93	160	114	124	87
1 x 50	rmc	0.387	0.641	185	144	144	114	195	138	151	105
1 x 70	rmc	0.268	0.443	225	175	175	138	245	171	190	130
1 x 95	rmc	0.193	0.320	270	211	210	167	300	204	232	153
1 x 120	rmc	0.153	0.253	310	243	240	190	350	242	272	184
1 x 150	rmc	0.124	0.206	350	275	270	216	405	280	314	212
1 x 185	rmc	0.0991	0.164	390	306	302	240	460	320	357	244
1 x 240	rmc	0.0754	0.125	450	351	349	275	555	386	430	292
1 x 300	rmc	0.0601	0.100	515	402	386	306	640	448	448	304
1 x 400	rmc	0.0470	0.0778	585	453	439	345	770	546	540	374
1 x 500	rmc	0.0366	0.0605	680	526	510	400	900	643	630	440
1 x 630	rmc	0.0283	0.0469	800	615	600	467	1030	740	721	510
1 x 800	rmc	0.0221	0.0367	945	724	708	550	1160	836	812	575
1 x 1000	rmc	0.0176	0.0291	1095	835	821	630	1310	949	917	655

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYY / NAYY or YY / AYY

2 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
2 x 1.5	re	1/1.38	0.8	1.8	11.0	165	-
2 x 1.5	rm	7/0.52	0.8	1.8	11.2	170	-
2 x 2.5	re	1/1.78	0.8	1.8	12.4	205	-
2 x 2.5	rm	7/0.68	0.8	1.8	12.8	215	-
2 x 4	rm	7/0.85	1.0	1.8	14.5	305	223
2 x 6	rm	7/1.04	1.0	1.8	15.6	375	257
2 x 10	rm	7/1.35	1.0	1.8	17.5	509	314
2 x 16	rm	7/1.70	1.0	1.8	19.5	691	390
2 x 25	rm	7/2.14	1.2	1.8	23.5	1044	518
2 x 35	rmc	min. 6	1.2	1.8	26.0	1330	620

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
2 x 1.5	re	12.1	18.1	25	18	18	-	19	14	16	-
2 x 1.5	rm	12.1	18.1	25	18	18	-	19	14	16	-
2 x 2.5	re	7.41	12.1	34	28	25	-	27	20	21	-
2 x 2.5	rm	7.41	12.1	34	28	25	-	27	20	21	-
2 x 4	rm	4.61	7.41	44	33	33	25	35	25	29	21
2 x 6	rm	3.08	4.61	55	41	42	31	45	31	38	27
2 x 10	rm	1.83	3.08	74	56	58	45	62	43	51	36
2 x 16	rm	1.15	1.91	97	73	74	56	84	57	64	42
2 x 25	rm	0.727	1.20	125	96	97	76	110	74	85	56
2 x 35	rmc	0.524	0.868	150	114	119	92	140	94	108	71

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

NYY / NAYY or YY / AYY

3 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 1.5	re	1/1.38	0.8	1.8	11.5	195	-
3 x 1.5	rm	7/0.52	0.8	1.8	11.8	200	-
3 x 2.5	re	1/1.78	0.8	1.8	12.7	250	-
3 x 2.5	rm	7/0.68	0.8	1.8	13.2	260	-
3 x 4	rm	7/0.85	1.0	1.8	15.0	360	260
3 x 6	rm	7/1.04	1.0	1.8	16.4	460	305
3 x 10	rm	7/1.35	1.0	1.8	18.5	625	379
3 x 16	rm	7/1.70	1.0	1.8	21.0	920	480
3 x 25	rm	7/2.14	1.2	1.8	25.0	1320	652
3 x 35	sm	min. 6	1.2	1.8	24.2	1400	804
3 x 50	sm	min. 6	1.4	1.8	25.9	1815	1045
3 x 70	sm	min. 12	1.4	2.0	29.2	2444	1325
3 x 95	sm	min. 15	1.6	2.1	33.4	3350	1735
3 x 120	sm	min. 18/15	1.6	2.2	36.3	4110	2040
3 x 150	sm	min. 18/15	1.8	2.3	39.5	5100	2475
3 x 185	sm	min. 30	2.0	2.5	43.5	6260	3040
3 x 240	sm	min. 34/30	2.2	2.7	48.8	7900	3795
3 x 300	sm	min. 34/30	2.4	2.9	54.1	10000	4700

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 1.5	re	12.1	18.1	22	15	16	-	16	11	13	-
3 x 1.5	rm	12.1	18.1	22	15	16	-	16	11	13	-
3 x 2.5	re	7.41	12.1	30	24	22	-	23	16	19	-
3 x 2.5	rm	7.41	12.1	30	24	22	-	23	16	19	-
3 x 4	rm	4.61	7.41	38	27	29	21	32	22	25	17
3 x 6	rm	3.08	4.61	48	34	37	26	41	27	33	21
3 x 10	rm	1.83	3.08	64	46	49	36	56	37	44	29
3 x 16	rm	1.15	1.91	83	59	64	46	75	48	56	34
3 x 25	rm	0.727	1.20	110	81	82	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	99	72	120	74	94	57
3 x 50	sm	0.387	0.641	155	114	119	82	150	93	114	68
3 x 70	sm	0.268	0.443	190	140	146	109	190	116	142	82
3 x 95	sm	0.193	0.320	225	166	178	135	230	134	169	90
3 x 120	sm	0.153	0.253	260	193	201	152	270	162	196	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	223	120
3 x 185	sm	0.0991	0.164	330	246	256	195	350	210	262	148
3 x 240	sm	0.0754	0.125	385	286	300	227	410	241	305	168
3 x 300	sm	0.0601	0.100	425	312	332	253	470	278	343	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYY / NAYY or YY / AYY

3 & half Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	1.8	27	1400	910
		7/1.70	1.0				
3 x 35+16	sm/rm	min. 6	1.2	1.8	26.2	1580	920
		7/1.70	1.0				
3 x 50+25	sm/rm	min. 6	1.4	1.9	28.5	2180	1200
		7/2.14	1.2				
3 x 70+35	sm/rmc	min. 12	1.4	2.0	32.5	2910	1505
		min. 6	1.2				
3 x 95+50	sm/rmc	min. 15	1.6	2.2	38.0	3950	2000
		min. 6	1.4				
3 x 120+70	sm/rmc	min. 18/15	1.6	2.3	40.8	5050	2390
		min. 12	1.4				
3 x 150+70	sm/rmc	min. 18/15	1.8	2.4	45.0	6020	2830
		min. 12	1.4				
3 x 185+95	sm/rmc	min. 30	2.0	2.6	50.5	7450	3510
		min.15	1.6				
3 x 240+120	sm/rmc	min. 34/30	2.2	2.8	56.0	9650	4360
		min.18/15	1.6				
3 x 300+150	sm/rmc	min. 34/30	2.4	3.0	63.0	12100	5404
		min. 18/15	1.8				

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

NYY / NAYY or YY / AYY

4 Core (Cu or Al/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class -1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
4 x 1.5	re	1/1.38	0.8	1.8	12.5	230	-
4 x 1.5	rm	7/0.52	0.8	1.8	13.0	235	-
4 x 2.5	re	1/1.78	0.8	1.8	14.0	305	-
4 x 2.5	rm	7/0.68	0.8	1.8	14.6	312	-
4 x 4	rm	7/0.85	1.0	1.8	16.2	430	290
4 x 6	rm	7/1.04	1.0	1.8	17.5	540	345
4 x 10	rm	7/1.35	1.0	1.8	20.0	760	480
4 x 16	rm	7/1.70	1.0	1.8	23.2	1135	660
4 x 25	rm	7/2.14	1.2	1.8	27.6	1600	900
4 x 35	sm	min. 6	1.2	1.8	26.4	1800	985
4 x 50	sm	min. 6	1.4	1.9	29.0	2460	1310
4 x 70	sm	min. 12	1.4	2.1	33.5	3250	1700
4 x 95	sm	min. 15	1.6	2.2	38.4	4400	2190
4 x 120	sm	min. 18/15	1.6	2.4	41.0	5500	2605
4 x 150	sm	min. 18/15	1.8	2.5	45.2	6800	3210
4 x 185	sm	min. 30	2.0	2.7	50.5	8350	3890
4 x 240	sm	min. 34/30	2.2	2.9	56.0	10700	4925
4 x 300	sm	min. 34/30	2.4	3.1	64.0	13200	5950

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 1.5	re	12.1	18.1	22	15	16	-	16	11	13	-
4 x 1.5	rm	12.1	18.1	22	15	16	-	16	11	13	-
4 x 2.5	re	7.41	12.1	30	24	22	-	23	16	19	-
4 x 2.5	rm	7.41	12.1	30	24	22	-	23	16	19	-
4 x 4	rm	4.61	7.41	38	27	29	21	32	22	25	17
4 x 6	rm	3.08	4.61	48	34	37	26	41	27	33	21
4 x 10	rm	1.83	3.08	64	46	49	36	56	37	44	29
4 x 16	rm	1.15	1.91	83	59	64	46	75	48	56	34
4 x 25	rm	0.727	1.20	110	81	82	61	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	99	72	120	74	94	57
4 x 50	sm	0.387	0.641	155	114	119	82	150	93	114	68
4 x 70	sm	0.268	0.443	190	140	146	109	190	116	142	82
4 x 95	sm	0.193	0.320	225	166	178	135	230	134	169	90
4 x 120	sm	0.153	0.253	260	193	201	152	270	162	196	108
4 x 150	sm	0.124	0.206	295	220	229	175	305	180	223	120
4 x 185	sm	0.0991	0.164	330	246	256	195	350	210	262	148
4 x 240	sm	0.0754	0.125	385	286	300	227	410	241	305	168
4 x 300	sm	0.0601	0.100	425	312	332	253	470	278	343	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYY Flexible

Single Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class-5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
1 x 1.0	rm	32/0.20	0.8	1.8	6.9	60	19.5	15
1 x 1.5	rm	30/0.25	0.8	1.8	7.2	70	13.3	24
1 x 2.5	rm	50/0.25	0.8	1.8	7.8	88	7.98	32
1 x 4.0	rm	56/0.30	1.0	1.8	8.6	110	7.98	41
1 x 6	rm	84/0.30	1.0	1.8	9.3	140	4.95	52
1 x 10	rm	80/0.40	1.0	1.8	10.3	190	3.30	72
1 x 16	rm	126/0.40	1.0	1.8	11.7	265	1.91	98
1 x 25	rm	196/0.40	1.2	1.8	13.6	280	0.780	131
1 x 35	rm	276/0.40	1.2	1.8	15	488	0.554	167
1 x 50	rm	396/0.40	1.4	1.8	17.2	672	0.386	204
1 x 70	rm	360/0.50	1.4	1.8	19.1	890	0.272	256
1 x 95	rm	475/0.50	1.6	1.8	21.6	1170	0.206	314
1 x 120	rm	608/0.50	1.6	1.8	23.4	1428	0.161	366
1 x 150	rm	756/0.50	1.8	1.8	25.7	1750	0.129	423
1 x 185	rm	925/0.50	2.0	2.0	28.5	2190	0.106	478
1 x 240	rm	1221/0.50	2.2	2.0	30.8	2750	0.0801	580
1 x 300	rm	1525/0.50	2.4	2.0	33.5	3400	0.0641	666
1 x 400	rm	2013/0.50	2.6	2.2	38.4	4450	0.0486	800
1 x 500	rm	1769/0.60	2.8	2.2	42.0	5560	0.0384	935
1 x 630	rm	2257/0.60	2.8	2.2	46.4	6940	0.0287	1068

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

NYY Flexible / YY Flexible

2 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class-5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
2 x 1.0	rm	32/0.20	0.8	1.8	11.4	175	19.5	12
2 x 1.5	rm	30/0.25	0.8	1.8	12.1	196	13.3	20
2 x 2.5	rm	50/0.25	0.8	1.8	13.5	242	7.98	30
2 x 4.0	rm	56/0.30	1.0	1.8	15.0	315	4.95	38
2 x 6	rm	84/0.30	1.0	1.8	16.8	400	3.30	46
2 x 10	rm	80/0.40	1.0	1.8	18.4	525	1.91	65
2 x 16	rm	126/0.40	1.0	1.8	22.0	750	1.21	86
2 x 25	rm	196/0.40	1.2	1.8	26.2	1135	0.780	115
2 x 35	rm	276/0.40	1.2	1.8	28.0	1320	0.554	145

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYY Flexible / YY Flexible

3 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
3 x 1.0	rm	32/0.20	0.8	1.8	12.0	190	19.5	12
3 x 1.5	rm	30/0.25	0.8	1.8	12.5	215	13.3	18
3 x 2.5	rm	50/0.25	0.8	1.8	14.2	290	7.98	25
3 x 4.0	rm	56/0.30	1.0	1.8	16.0	380	4.95	33
3 x 6	rm	84/0.30	1.0	1.8	17.6	485	3.30	44
3 x 10	rm	80/0.40	1.0	1.8	19.8	655	1.91	58
3 x 16	rm	126/0.40	1.0	1.8	23.8	980	1.21	80
3 x 25	rm	196/0.40	1.2	1.8	26.0	1200	0.780	105
3 x 35	rm	276/0.40	1.2	1.8	29.0	1560	0.554	130
3 x 50	rm	396/0.40	1.4	1.8	33.0	2100	0.386	148
3 x 70	rm	360/0.50	1.4	2.0	38.0	2920	0.272	175

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

NYY Flexible / YY Flexible

4 Core (Cu/PVC/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
4 x 1.0	rm	32/0.20	0.8	1.8	13.0	225	19.5	12
4 x 1.5	rm	30/0.25	0.8	1.8	13.6	260	13.3	18
4 x 2.5	rm	50/0.25	0.8	1.8	15.0	245	7.98	25
4 x 4.0	rm	56/0.30	1.0	1.8	17.5	455	4.95	33
4 x 6	rm	84/0.30	1.0	1.8	19.0	575	3.30	44
4 x 10	rm	80/0.40	1.0	1.8	22.0	830	1.91	58
4 x 16	rm	126/0.40	1.0	1.8	25.7	1080	1.21	80
4 x 25	rm	196/0.40	1.2	1.8	28.6	1550	0.780	105
4 x 35	rm	276/0.40	1.2	1.8	32.0	2020	0.554	130
4 x 50	rm	396/0.40	1.4	1.9	37.0	2800	0.386	148
4 x 70	rm	360/0.50	1.4	2.1	42.0	3720	0.272	175

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYRaY / NAYRaY or YRaY / AYRaY

Single Core (Cu or Al/PVC/AWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Aluminium wire to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round aluminium wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
1 x 35	rmc	min. 6	1.2	1.25	1.8	17.3	615	290
1 x 50	rmc	min. 6	1.4	1.25	1.8	19.3	770	370
1 x 70	rmc	min. 12	1.4	1.25	1.8	20.8	1000	455
1 x 95	rmc	min. 15	1.6	1.25	1.8	23.3	1265	570
1 x 120	rmc	min. 18/15	1.6	1.6	1.8	25.5	1575	680
1 x 150	rmc	min. 18/15	1.8	1.6	1.8	27.5	1915	800
1 x 185	rmc	min. 30	2.0	1.6	1.8	29.5	2325	950
1 x 240	rmc	min. 34/30	2.2	1.6	1.9	32.3	2920	1195
1 x 300	rmc	min. 34/30	2.4	2.0	2.0	36.0	3620	1485
1 x 400	rmc	min. 53	2.6	2.0	2.1	40.1	4675	1873
1 x 500	rmc	min. 53	2.8	2.0	2.2	43.6	5725	2270
1 x 630	rmc	min. 53	2.8	2.0	2.4	47.2	7025	2760
1 x 800	rmc	min. 53	2.8	2.5	2.5	54.4	8920	3465
1 x 1000	rmc	min. 53	3.0	2.5	2.7	59.3	11020	4250

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 35	rmc	0.524	0.868	155	119	120	93	160	114	124	87
1 x 50	rmc	0.387	0.641	185	144	144	114	195	138	152	105
1 x 70	rmc	0.268	0.443	225	175	175	138	245	171	191	130
1 x 95	rmc	0.193	0.320	270	211	210	167	300	204	233	153
1 x 120	rmc	0.153	0.253	310	243	240	191	350	242	272	184
1 x 150	rmc	0.124	0.206	350	275	270	216	405	280	314	212
1 x 185	rmc	0.0991	0.164	390	306	302	241	460	320	358	243
1 x 240	rmc	0.0754	0.125	450	351	349	276	555	386	431	292
1 x 300	rmc	0.0601	0.100	515	402	386	307	640	448	448	304
1 x 400	rmc	0.0470	0.0778	585	453	439	345	770	546	540	374
1 x 500	rmc	0.0366	0.0605	680	526	510	400	900	643	630	441
1 x 630	rmc	0.0283	0.0469	800	615	600	467	1030	740	721	508
1 x 800	rmc	0.0221	0.0367	945	724	708	549	1160	836	812	575
1 x 1000	rmc	0.0176	0.0291	1095	835	821	632	1310	949	917	654

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

NYFGbY / NAYFGbY or YFGY / AYFGY

3 Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular / Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	1.2	0.8	1.8	27.0	1800	1281
3 x 35	sm	min. 6	1.2	0.8	1.8	26.0	1900	1330
3 x 50	sm	min. 6	1.4	0.8	1.9	28.0	2500	1600
3 x 70	sm	min. 12	1.4	0.8	2.0	31.0	3115	1963
3 x 95	sm	min.15	1.6	0.8	2.2	36.4	4325	2478
3 x 120	sm	min. 18/15	1.6	0.8	2.3	39.0	5220	2835
3 x 150	sm	min. 18/15	1.8	0.8	2.4	43.0	6375	3336
3 x 185	sm	min. 30	2.0	0.8	2.6	47.0	7650	3995
3 x 240	sm	min. 34/30	2.2	0.8	2.8	53.0	9650	4864
3 x 300	sm	min. 34/30	2.4	0.8	3.0	58.5	12080	5820

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	110	81	86	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	101	72	120	74	93	57
3 x 50	sm	0.387	0.641	155	114	120	82	150	93	116	68
3 x 70	sm	0.268	0.443	190	140	148	109	190	116	148	82
3 x 95	sm	0.193	0.320	225	166	175	135	230	134	179	90
3 x 120	sm	0.153	0.253	260	193	202	152	270	162	210	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	121
3 x 185	sm	0.0991	0.164	330	246	257	195	350	210	272	148
3 x 240	sm	0.0754	0.125	385	286	299	227	410	241	318	167
3 x 300	sm	0.0601	0.100	425	312	329	253	470	278	364	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYFGbY / NAYFGbY or YFGY / AYFGY

3 & half Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	0.8	1.8	28.9	2010	1434
		7/1.70	1.0					
3 x 35+16	sm/rm	min. 6	1.2	0.8	1.8	28.3	2130	1402
		7/1.70	1.0					
3 x 50+25	sm/rm	min. 6	1.4	0.8	1.9	32.2	3060	1804
		7/2.14	1.2					
3 x 70+35	sm/rmc	min. 12	1.4	0.8	2.1	36.1	3950	2176
		min. 6	1.2					
3 x 95+50	sm/rmc	min. 15	1.6	0.8	2.2	41.0	5110	2775
		min. 6	1.4					
3 x 120+70	sm/rmc	min. 18/15	1.6	0.8	2.3	44.4	6490	3323
		min. 12	1.4					
3 x 150+70	sm/rmc	min. 18/15	1.8	0.8	2.4	48.3	7300	3723
		min. 12	1.4					
3 x 185+95	sm/rmc	min. 30	2.0	0.8	2.6	53.5	9050	5019
		min.15	1.6					
3 x 240+120	sm/rmc	min. 34/30	2.2	0.8	2.8	59.5	11100	5812
		min.18/15	1.6					
3 x 300+150	sm/rmc	min. 34/30	2.4	0.8	3.0	68.0	14400	7009
		min. 18/15	1.8					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

NYFGbY / NAYFGbY or YFGY / AYFGY

4 Core (Cu or Al/PVC/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	1.2	0.8	1.8	30.0	2100	1500
4 x 35	sm	min. 6	1.2	0.8	1.8	29.2	2400	1580
4 x 50	sm	min. 6	1.4	0.8	2.0	32.8	3280	2165
4 x 70	sm	min. 12	1.4	0.8	2.1	37.5	4285	2614
4 x 95	sm	min. 15	1.6	0.8	2.2	42.0	5500	3227
4 x 120	sm	min. 18/15	1.6	0.8	2.4	44.4	6800	3687
4 x 150	sm	min. 18/15	1.8	0.8	2.6	48.5	8180	4365
4 x 185	sm	min. 30	2.0	0.8	2.7	54.0	10250	5134
4 x 240	sm	min. 34/30	2.2	0.8	3.0	60.8	12900	6292
4 x 300	sm	min. 34/30	2.4	0.8	3.2	67.5	15400	7394

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	110	81	86	65	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	101	74	120	74	93	56
4 x 50	sm	0.387	0.641	155	114	120	90	150	93	116	70
4 x 70	sm	0.268	0.443	190	140	148	111	190	116	148	88
4 x 95	sm	0.193	0.320	225	166	175	132	230	134	179	100
4 x 120	sm	0.153	0.253	260	193	202	153	270	162	210	122
4 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	135
4 x 185	sm	0.0991	0.164	330	246	257	196	350	210	272	158
4 x 240	sm	0.0754	0.125	385	286	299	226	410	241	318	180
4 x 300	sm	0.0601	0.100	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYRGbY / NAYRGbY or YRGY / AYRGY

3 Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	1.2	1.6	1.8	28.5	1755	1276
3 x 35	sm	min. 6	1.2	1.6	1.9	27.8	2080	1415
3 x 50	sm	min. 6	1.4	1.6	2.0	30.7	2650	1698
3 x 70	sm	min. 12	1.4	2.0	2.1	34.6	3700	2362
3 x 95	sm	min. 15	1.6	2.0	2.2	39.0	4750	2943
3 x 120	sm	min. 18/15	1.6	2.0	2.3	42.1	5660	3382
3 x 150	sm	min. 18/15	1.8	2.5	2.5	47.3	7265	4413
3 x 185	sm	min. 30	2.0	2.5	2.7	50.5	8660	5149
3 x 240	sm	min. 34/30	2.2	2.5	2.9	57.0	10819	6245
3 x 300	sm	min. 34/30	2.4	2.5	3.1	61.0	12993	7204

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	110	81	86	61	98	62	76	47
3 x 35	sm	0.524	0.868	130	94	101	72	120	74	93	57
3 x 50	sm	0.387	0.641	155	114	120	82	150	93	116	68
3 x 70	sm	0.268	0.443	190	140	148	109	190	116	148	82
3 x 95	sm	0.193	0.320	225	166	175	135	230	134	179	90
3 x 120	sm	0.153	0.253	260	193	202	152	270	162	210	108
3 x 150	sm	0.124	0.206	295	220	229	175	305	180	237	121
3 x 185	sm	0.0991	0.164	330	246	257	195	350	210	272	148
3 x 240	sm	0.0754	0.125	385	286	299	227	410	241	318	167
3 x 300	sm	0.0601	0.100	425	312	329	253	470	278	364	199

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

NYRGbY / NAYRGbY or YRGY / AYRGY

3 & half Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	1.2	1.6	1.8	30.8	2010	1590
		7/1.70	1.0					
3 x 35+16	sm/rm	min. 6	1.2	1.6	1.9	30.1	2465	1698
		7/1.70	1.0					
3 x 50+25	sm/rm	min. 6	1.4	2.0	2.0	33.5	3250	2140
		7/2.14	1.2					
3 x 70+35	sm/rmc	min. 12	1.4	2.0	2.1	38.7	4310	2752
		min. 6	1.2					
3 x 95+50	sm/rmc	min. 15	1.6	2.0	2.3	43.3	5601	3480
		min. 6	1.4					
3 x 120+70	sm/rmc	min. 18/15	1.6	2.5	2.5	48.0	7159	4435
		min. 12	1.4					
3 x 150+70	sm/rmc	min. 18/15	1.8	2.5	2.6	51.2	8347	5049
		min. 12	1.4					
3 x 185+95	sm/rmc	min. 30	2.0	2.5	2.7	56.1	10000	5888
		min.15	1.6					
3 x 240+120	sm/rmc	min. 34/30	2.2	2.5	2.9	62.3	12383	7049
		min.18/15	1.6					
3 x 300+150	sm/rmc	min. 34/30	2.4	2.5	3.1	68.2	15100	8380
		min. 18/15	1.8					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	110	81	86	65	98	62	76	47
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	130	94	101	74	120	74	93	56
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	155	114	120	90	150	93	116	70
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	190	140	148	111	190	116	148	88
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	225	166	175	132	230	134	179	100
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	260	193	202	153	270	162	210	122
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	295	220	229	175	305	180	237	135
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	330	246	257	196	350	210	272	158
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	383	284	299	226	410	241	318	180
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	425	312	329	250	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

NYRGbY / NAYRGbY or YRGY / AYRGY

4 Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	1.2	1.6	1.8	30.0	2135	1497
4 x 35	sm	min. 6	1.2	1.6	1.9	30.1	2620	1733
4 x 50	sm	min. 6	1.4	2.0	2.1	34.5	3525	2257
4 x 70	sm	min. 12	1.4	2.0	2.3	39.5	4675	2892
4 x 95	sm	min. 15	1.6	2.5	2.4	45.2	6450	4044
4 x 120	sm	min. 18/15	1.6	2.5	2.5	48.6	7640	4601
4 x 150	sm	min. 18/15	1.8	2.5	2.7	52.0	9150	5348
4 x 185	sm	min. 30	2.0	2.5	2.9	58.3	11050	6369
4 x 240	sm	min. 34/30	2.2	2.5	3.1	63.0	13850	7751
4 x 300	sm	min. 34/30	2.4	2.5	3.3	70.1	17300	9581

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	110	81	86	64.54	98	62	76	47
4 x 35	sm	0.524	0.868	130	94	101	74.1	120	74	93	56
4 x 50	sm	0.387	0.641	155	114	120	89.66	150	93	116	70
4 x 70	sm	0.268	0.443	190	140	148	111	190	116	148	88
4 x 95	sm	0.193	0.320	225	166	175	131.6	230	134	179	100
4 x 120	sm	0.153	0.253	260	193	202	153.2	270	162	210	122
4 x 150	sm	0.124	0.206	295	220	229	174.8	305	180	237	135
4 x 185	sm	0.0991	0.164	330	246	257	195.88	350	210	272	158
4 x 240	sm	0.0754	0.125	385	286	299	226.26	410	241	318	180
4 x 300	sm	0.0601	0.100	425	312	329	249.54	470	278	364	220

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

NYCY / YCY

3 Core (Cu /PVC/CWS/PVC)

APPLICATION

Power cables for increased electrical and also mechanical protection are required. Those cables are installed in open air, in underground, in water, indoors and in cable ducts. The concentric conductor (C) is allowed to be used as neutral-, protective or earthed conductor. Simultaneously, this also is permitted to apply as a screen for example earth-connected protection against contact.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper, Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Inner covering : PVC, ST-1 to IEC 60502-1

Screen: Solid copper wire concentric

Binder: Helically copper tape

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Number & diameter of concentric wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
Core x mm²	-	no./mm	no./mm	mm	mm	mm	kg/km
3 x 25+16C	rm	7/2.14	19/1.05	1.2	1.8	24.3	1302
3 x 35+16C	sm	min. 6	19/1.05	1.2	1.8	26.2	1623
3 x 50+25C	sm	min. 6	29/1.05	1.4	1.9	30.4	2266
3 x 70+35C	sm	min. 12	35/1.13	1.4	2.1	33.7	3011
3 x 95+50C	sm	min. 15	50/1.13	1.6	2.2	38.4	4005
3 x 120+70C	sm	min. 18	70/1.13	1.6	2.4	42.1	5031
3 x 150+70C	sm	min. 18	70/1.13	1.8	2.5	45.3	6013
3 x 185+95C	sm	min. 30	67/1.35	2.0	2.6	50.1	7458
3 x 240+120C	sm	min. 34	65/1.53	2.2	2.8	55.8	9497
3 x 300+150C	sm	min. 34	72/1.63	2.4	3.2	61.3	11730

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
			Direct laid	In duct	Open	In pipes
Core x mm²	-	Ω/km	amp	amp	amp	amp
3 x 25+16C	rm	0.727	110	81	98	62
3 x 35+16C	sm	0.524	130	94	120	74
3 x 50+25C	sm	0.387	155	114	150	93
3 x 70+35C	sm	0.268	190	140	190	116
3 x 95+50C	sm	0.193	225	166	230	134
3 x 120+70C	sm	0.153	260	193	270	162
3 x 150+70C	sm	0.124	295	220	305	180
3 x 185+95C	sm	0.0991	330	246	350	210
3 x 240+120C	sm	0.0754	383	284	410	241
3 x 300+150C	sm	0.0601	425	312	470	278

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

WELDING CABLES

Single Core (Cu/PVC Tape/PVC)

APPLICATION

Easy to use inside visible or embedded piping. Direct burial installation or outdoors in wet environments as well as contact with hot parts in not allowed. It must not to be subject to thermic radiation.

VOLTAGE GRADE

200 V

COLOR

Insulation: ■ (Black)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 6 to IEC 60228

Binder (optional): PVC or Non-woven Tape

Insulation: PVC, PVC/A to IEC 60502-1

PHYSICAL DATA						ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	kg/km	Ω/km	Amp
1 x 25	rm	770/0.20	2.0	12.4	340	0.780	169
1 x 35	rm	1064/0.20	2.0	13.5	440	0.554	215
1 x 50	rm	703/0.30	2.0	15.2	595	0.386	264
1 x 70	rm	988/0.30	2.1	17.4	825	0.272	330
1 x 95	rm	1335/0.30	2.1	19.2	1060	0.206	405
1 x 120	rm	1690/0.3	2.2	21.4	1320	0.161	473
1 x 150	rm	2072/0.30	2.2	22.5	1610	0.129	545
1 x 185	rm	1460/0.40	2.2	25.2	2000	0.106	615
1 x 240	rm	1891/0.40	2.3	27.9	2550	0.0801	730

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

- Operating Temperature -20°C to 70°C
- Maximum Short Circuit 160°C
- Flexible
- Flame Retardant
- Lead free
- Meter Marking

Installation condition

- Industrial Use
- Outdoor Installation
- Open air

PARTEX Cables powering with safety

SUBMERSIBLE CABLE

3 Core (Cu/PVC/PVC)

APPLICATION

These cables are used to connect under water Submersible Pump sets with supply line.

Agriculture, Irrigation, Domestic installation, Outdoor application & Power supply.

STANDARD

IS 694

VOLTAGE GRADE

Working voltage up to 1100 V

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

(Special grade PVC makes it impervious to water, oil etc. making cable highly durable)

PHYSICAL DATA							ELECTRICAL DATA	
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter (WxT)	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity at 35 °C ambient temp.
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	Ω/km	Amp
3 x 1.0	rm	32/0.20	0.6	0.8	9.8 x 4.5	80	19.5	12
3 x 1.5	rm	30/0.25	0.6	0.9	11.0 x 5.0	102	13.3	15
3 x 2.5	rm	50/0.25	0.7	1.0	13.5 x 6.0	154	7.98	20
3 x 4.0	rm	56/0.30	0.8	1.1	16.1 x 6.7	225	4.95	25
3 x 6.0	rm	84/0.30	0.8	1.1	18.0 x 7.6	305	3.30	32
3 x 10	rm	80/0.40	1.0	1.2	22.0 x 9.0	488	1.91	45
3 x 16	rm	126/0.40	1.0	1.3	25.2 x 10.5	700	1.21	57
3 x 25	rm	196/0.40	1.2	1.5	31.2 x 12.5	1065	0.780	72
3 x 35	rm	276/0.40	1.2	1.6	35.0 x 14.2	1420	0.554	90
3 x 50	rm	396/0.40	1.4	1.7	41.5 x 16.2	2000	0.386	115
3 x 70	rm	360/0.50	1.6	1.9	48.8 x 19.1	2805	0.272	143
3 x 95	rm	475/0.50	1.8	2.0	56.0 x 21.5	3650	0.206	165

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

2xY/A2xY or N2xY / NA2xY

Single Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid or Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to EC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
1 x 1.5	re	1/1.38	0.7	1.4	6.1	50	-
1 x 1.5	rm	7/0.52	0.7	1.4	6.2	52	-
1 x 2.5	re	1/1.78	0.7	1.4	6.5	63	-
1 x 2.5	rm	7/0.68	0.7	1.4	6.6	65	-
1 x 4.0	rm	7/0.85	0.7	1.4	7.3	95	55
1 x 6.0	rm	7/1.04	0.7	1.4	7.9	107	66
1 x 10	rm	7/1.35	0.7	1.4	8.8	155	85
1 x 16	rm	7/1.70	0.7	1.4	9.9	227	112
1 x 25	rm	7/2.14	0.9	1.4	11.0	324	160
1 x 35	rmc	min. 6	0.9	1.4	12.1	425	200
1 x 50	rmc	min. 6	1.0	1.4	13.6	584	258
1 x 70	rmc	min. 12	1.1	1.4	15.4	788	335
1 x 95	rmc	min. 15	1.1	1.5	17.1	1041	430
1 x 120	rmc	min. 18/15	1.2	1.5	18.8	1292	531
1 x 150	rmc	min. 18/15	1.4	1.6	21.0	1611	640
1 x 185	rmc	min. 30	1.6	1.6	23.0	1976	775
1 x 240	rmc	min. 34/30	1.7	1.7	25.6	2528	985
1 x 300	rmc	min. 34/30	1.8	1.8	28.3	3136	1210
1 x 400	rmc	min. 53	2.0	1.9	32.0	4130	1525
1 x 500	rmc	min. 53	2.2	2.0	35.4	5134	1890
1 x 630	rmc	min. 53	2.4	2.2	39.5	6415	2420
1 x 800	rmc	min. 53	2.6	2.3	45.0	8116	3000
1 x 1000	rmc	min. 53	2.8	2.4	50.0	10096	3650

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

PARTEX Cables powering with safety

2xY/A2xY or N2xY / NA2xY

Single Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 1.5	re	12.1	18.1	36	27	-		30	22	-	
1 x 1.5	rm	12.1	18.1	36	27	-		30	22	-	
1 x 2.5	re	7.41	12.1	47	36	-		39	27	-	
1 x 2.5	rm	7.41	12.1	47	36	-		39	27	-	
1 x 4.0	rm	4.61	7.41	59	45	47	33	50	35	39	24
1 x 6.0	rm	3.08	4.61	78	60	64	46	69	49	56	36
1 x 10	rm	1.83	3.08	100	76	77	53	94	66	72	44
1 x 16	rm	1.15	1.91	130	100	101	71	125	86	97	58
1 x 25	rm	0.727	1.20	155	116	120	81	160	107	125	72
1 x 35	rmc	0.524	0.868	185	140	144	99	195	129	150	84
1 x 50	rmc	0.387	0.641	225	172	175	122	245	161	190	106
1 x 70	rmc	0.268	0.443	270	206	210	146	300	191	233	124
1 x 95	rmc	0.193	0.320	310	234	240	164	350	232	272	154
1 x 120	rmc	0.153	0.253	350	263	272	185	405	267	315	177
1 x 150	rmc	0.124	0.206	390	295	302	207	460	299	357	196
1 x 185	rmc	0.0991	0.164	450	344	350	244	555	339	430	214
1 x 240	rmc	0.0754	0.125	515	390	400	275	640	393	498	251
1 x 300	rmc	0.0601	0.100	585	443	463	321	770	443	537	210
1 x 400	rmc	0.0470	0.0778	680	524	509	353	900	502	626	228
1 x 500	rmc	0.0366	0.0605	800	606	592	398	1030	566	731	267
1 x 630	rmc	0.0283	0.0469	945	713	696	464	1160	645	837	322
1 x 800	rmc	0.0221	0.0367	1095	847	821	573	1310	788	942	420
1 x 1000	rmc	0.0176	0.0291	1270	1010	952	692	1480	925	1064	509

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

2xY/A2xY or N2xY / NA2xY

2 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
2 x 1.5	re	1/1.38	0.7	1.8	11.2	155	-
2 x 1.5	rm	7/0.52	0.7	1.8	11.6	162	-
2 x 2.5	re	1/1.78	0.7	1.8	12.0	185	-
2 x 2.5	rm	7/0.68	0.7	1.8	12.5	195	-
2 x 4	rm	7/0.85	0.7	1.8	13.6	276	187
2 x 6	rm	7/1.04	0.7	1.8	14.8	349	218
2 x 10	rm	7/1.35	0.7	1.8	16.6	478	271
2 x 16	rm	7/1.70	0.7	1.8	18.1	654	341
2 x 25	rm	7/2.14	0.9	1.8	21.5	996	457
2 x 35	rmc	min. 6	0.9	1.8	23.7	1274	576

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
2 x 1.5	re	12.1	18.1	34	25	-		27	19	-	
2 x 1.5	rm	12.1	18.1	34	25	-		27	19	-	
2 x 2.5	re	7.41	12.1	44	33	-		35	23	-	
2 x 2.5	rm	7.41	12.1	44	33	-		35	23	-	
2 x 4	rm	4.61	7.41	55	41	34	20	45	30	31	16
2 x 6	rm	3.08	4.61	74	56	40	22	62	42	40	20
2 x 10	rm	1.83	3.08	97	73	55	31	84	56	53	25
2 x 16	rm	1.15	1.91	125	95	73	43	110	71	70	31
2 x 25	rm	0.727	1.20	150	111	94	55	140	87	96	43
2 x 35	rmc	0.524	0.868	180	135	114	69	190	124	117	51

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

PARTEX Cables powering with safety

2xY/A2xY or N2xY / NA2xY

3 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 1.5	re	1/1.38	0.7	1.8	11.8	182	-
3 x 1.5	rm	7/0.52	0.7	1.8	12.2	190	-
3 x 2.5	re	1/1.78	0.7	1.8	12.7	235	-
3 x 2.5	rm	7/0.68	0.7	1.8	12.3	246	-
3 x 4	rm	7/0.85	0.7	1.8	14.5	321	213
3 x 6	rm	7/1.04	0.7	1.8	15.6	421	252
3 x 10	rm	7/1.35	0.7	1.8	17.5	568	320
3 x 16	rm	7/1.7	0.7	1.8	19.6	805	410
3 x 25	rm	7/2.14	0.9	1.8	23.0	1100	500
3 x 35	sm	min. 6	0.9	1.8	22.3	1237	576
3 x 50	sm	min. 6	1.0	1.8	25.1	1694	778
3 x 70	sm	min. 12	1.1	1.9	28.4	2315	983
3 x 95	sm	min. 15	1.1	2.0	32.2	3161	1253
3 x 120	sm	min. 18/15	1.2	2.1	35.3	3915	1570
3 x 150	sm	min. 18/15	1.4	2.3	38.7	4866	2000
3 x 185	sm	min. 30	1.6	2.4	42.5	5978	2470
3 x 240	sm	min. 34/30	1.7	2.6	47.6	7534	3165
3 x 300	sm	min. 34/30	1.8	2.8	53.1	9541	3840

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 1.5	re	12.1	18.1	30	21	-		23	15	-	
3 x 1.5	rm	12.1	18.1	30	21	-		23	15	-	
3 x 2.5	re	7.41	12.1	38	27	-		32	20	-	
3 x 2.5	rm	7.41	12.1	38	27	-		32	20	-	
3 x 4	rm	4.61	7.41	48	34	34	20	41	26	31	16
3 x 6	rm	3.08	4.61	64	46	40	22	56	36	40	20
3 x 10	rm	1.83	3.08	83	59	55	31	75	47	53	25
3 x 16	rm	1.15	1.91	110	80	73	43	98	59	70	31
3 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	470	223	400	153
3 x 300	sm	0.0601	0.100	478	336	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xY/A2xY or N2xY / NA2xY

3 & half Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector Shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	1.8	21.7	1110	637
		7/1.70	0.7				
3 x 35+16	sm/rm	min. 6	0.9	1.8	24.0	1412	702
		7/1.70	0.7				
3 x 50+25	sm/rm	min. 6	1.0	1.8	27.0	2035	946
		7/2.14	0.9				
3 x 70+35	sm/rmc	min. 12	1.1	1.9	30.5	2753	1201
		min. 6	0.9				
3 x 95+50	sm/rmc	min. 15	1.1	2.1	34.9	3721	1553
		min. 6	1.0				
3 x 120+70	sm/rmc	min. 18/15	1.2	2.2	38.2	4912	1898
		min. 12	1.1				
3 x 150+70	sm/rmc	min. 18/15	1.4	2.3	42.1	5673	2334
		min. 12	1.1				
3 x 185+95	sm/rmc	min. 30	1.6	2.5	47.3	7105	2831
		min.15	1.1				
3 x 240+120	sm/rmc	min. 34/30	1.7	2.7	53.8	9219	3601
		min.18/15	1.2				
3 x 300+150	sm/rmc	min. 34/30	1.8	2.9	58.6	11563	4387
		min. 18/15	1.4				

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rm	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rm	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rm	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rm	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rm	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rm	0.0754/0.153	0.125/0.253	425	300	327	202	470	223	400	153
3 x 300+150	sm/rm	0.0601/0.124	0.100/0.206	478	336	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

2xY/A2xY or N2xY / NA2xY

4 Core (Cu or Al/XLPE/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
						Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	kg/km	kg/km
4 x 1.5	re	1/1.38	0.7	1.8	12.1	212	-
4 x 1.5	rm	7/0.52	0.7	1.8	12.4	220	-
4 x 2.5	re	1/1.78	0.7	1.8	13.6	280	-
4 x 2.5	rm	7/0.68	0.7	1.8	14.1	288	-
4 x 4	rm	7/0.85	0.7	1.8	15.4	385	246
4 x 6	rm	7/1.04	0.7	1.8	16.8	488	295
4 x 10	rm	7/1.35	0.7	1.8	19.2	690	378
4 x 16	rm	7/1.7	0.7	1.8	21.5	1060	493
4 x 25	rm	7/2.14	0.9	1.8	23.4	1388	516
4 x 35	sm	min. 6	0.9	1.8	24.5	1624	735
4 x 50	sm	min. 6	1.0	1.9	27.3	2224	970
4 x 70	sm	min. 12	1.1	2.0	30.7	3078	1250
4 x 95	sm	min. 15	1.1	2.1	35.8	4068	1641
4 x 120	sm	min. 18/15	1.2	2.3	38.4	5090	1992
4 x 150	sm	min. 18/15	1.4	2.4	42.3	6308	2488
4 x 185	sm	min. 30	1.6	2.6	48.0	7974	3042
4 x 240	sm	min. 34/30	1.7	2.8	53.6	10212	3917
4 x 300	sm	min. 34/30	1.8	3.0	59.6	12588	4705

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 1.5	re	12.1	18.1	30	21	-		23	15	-	
4 x 1.5	rm	12.1	18.1	30	21	-		23	15	-	
4 x 2.5	re	7.41	12.1	38	27	-		32	20	-	
4 x 2.5	rm	7.41	12.1	38	27	-		32	20	-	
4 x 4	rm	4.61	7.41	48	34	34	20	41	26	31	16
4 x 6	rm	3.08	4.61	64	46	40	22	56	36	40	20
4 x 10	rm	1.83	3.08	83	59	55	31	75	47	53	25
4 x 16	rm	1.15	1.91	110	80	73	43	98	59	70	31
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	470	223	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	564	237	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xRaY/A2xRaY or N2xRaY / NA2xRaY

Single Core (Cu or Al/XLPE/AWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Aluminium wire to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round aluminium wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
1 x 35	rmc	min. 6	0.9	1.8	1.4	17.3	587	370
1 x 50	rmc	min. 6	1.0	1.8	1.4	19.3	730	456
1 x 70	rmc	min. 12	1.1	1.8	1.4	20.8	957	550
1 x 95	rmc	min. 15	1.1	1.8	1.4	23.3	1202	655
1 x 120	rmc	min. 18/15	1.2	1.8	1.6	25.5	1510	790
1 x 150	rmc	min. 18/15	1.4	1.8	1.6	27.5	1837	930
1 x 185	rmc	min. 30	1.6	1.8	1.6	29.5	2231	1085
1 x 240	rmc	min. 34/30	1.7	1.9	1.6	32.3	2798	1335
1 x 300	rmc	min. 34/30	1.8	1.9	1.6	36.0	3467	1625
1 x 400	rmc	min. 53	2.0	2.1	2.0	40.1	4491	2080
1 x 500	rmc	min. 53	2.2	2.2	2.0	43.6	5509	2505
1 x 630	rmc	min. 53	2.4	2.3	2.0	47.2	6809	3100
1 x 800	rmc	min. 53	2.6	2.5	2.5	54.0	8695	3875
1 x 1000	rmc	min. 53	2.8	2.7	2.5	58.9	10754	4735

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
1 x 35	rmc	0.524	0.868	185	140	144	99	195	129	150	84
1 x 50	rmc	0.387	0.641	225	172	175	122	245	161	190	106
1 x 70	rmc	0.268	0.443	270	206	210	146	300	191	233	124
1 x 95	rmc	0.193	0.320	310	234	240	164	350	232	272	154
1 x 120	rmc	0.153	0.253	350	263	272	185	405	267	315	177
1 x 150	rmc	0.124	0.206	390	295	302	207	460	299	357	196
1 x 185	rmc	0.0991	0.164	450	344	350	244	555	339	430	214
1 x 240	rmc	0.0754	0.125	515	390	400	275	640	393	498	251
1 x 300	rmc	0.0601	0.100	585	443	463	321	770	443	537	210
1 x 400	rmc	0.0470	0.0778	680	524	509	353	900	502	686	288
1 x 500	rmc	0.0366	0.0605	800	606	592	398	1030	566	785	321
1 x 630	rmc	0.0283	0.0469	945	713	696	464	1160	645	855	340
1 x 800	rmc	0.0221	0.0367	1095	847	821	573	1310	788	925	403
1 x 1000	rmc	0.0176	0.0291	1270	1010	952	692	1480	925	1092	537

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX™ Cables powering with safety

2xFGY/A2xFGY or N2xFGY / NA2xFGY

3 Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	0.9	0.8	1.8	24.8	1487	1071
3 x 35	sm	min. 6	0.9	0.8	1.8	25.4	1757	1117
3 x 50	sm	min. 6	1.0	0.8	1.9	27.2	2329	1394
3 x 70	sm	min. 12	1.1	0.8	2.0	30.4	2986	1690
3 x 95	sm	min.15	1.1	0.8	2.1	35.2	4136	2053
3 x 120	sm	min. 18/15	1.2	0.8	2.2	38.0	5025	2410
3 x 150	sm	min. 18/15	1.4	0.8	2.4	42.2	6141	2862
3 x 185	sm	min. 30	1.6	0.8	2.5	46.0	7368	3398
3 x 240	sm	min. 34/30	1.7	0.8	2.7	51.8	9584	4147
3 x 300	sm	min. 34/30	1.8	0.8	2.9	56.5	11621	4900

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
3 x 300	sm	0.0601	0.100	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

2xFGY/A2xFGY or N2xFGY / NA2xFGY

3 & half Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	0.8	1.8	25.9	1744	1299
		7/1.70	0.7					
3 x 35+16	sm/rm	min. 6	0.9	0.8	1.8	27.7	2028	1236
		7/1.70	0.7					
3 x 50+25	sm/rm	min. 6	1.0	0.8	1.9	31.2	2915	1507
		7/2.14	0.9					
3 x 70+35	sm/rmc	min. 12	1.1	0.8	2.0	35.3	3793	1823
		min. 6	0.9					
3 x 95+50	sm/rmc	min. 15	1.1	0.8	2.2	40.0	4881	2262
		min. 6	1.0					
3 x 120+70	sm/rmc	min. 18/15	1.2	0.8	2.3	43.4	6252	2698
		min. 12	1.1					
3 x 150+70	sm/rmc	min. 18/15	1.4	0.8	2.4	47.3	7023	3205
		min. 12	1.1					
3 x 185+95	sm/rmc	min. 30	1.6	0.8	2.6	52.7	8975	3808
		min.15	1.1					
3 x 240+120	sm/rmc	min. 34/30	1.7	0.8	2.8	58.5	10669	4500
		min.18/15	1.2					
3 x 300+150	sm/rmc	min. 34/30	1.8	0.8	2.9	66.6	13863	5435
		min. 18/15	1.4					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	425	300	327	202	490	243	400	153
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

PARTEX Cables powering with safety

2xFGY/A2xFGY or N2xFGY / NA2xFGY

4 Core (Cu or Al/XLPE/FSA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Flat Galvanized Steel strip to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of flat steel strip armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	0.9	0.8	1.8	25.3	1903	1415
4 x 35	sm	min. 6	0.9	0.8	1.8	27.1	2219	1475
4 x 50	sm	min. 6	1.0	0.8	2.0	32.0	3119	1822
4 x 70	sm	min. 12	1.1	0.8	2.1	35.5	4113	2227
4 x 95	sm	min. 15	1.1	0.8	2.2	39.7	5378	2702
4 x 120	sm	min. 18/15	1.2	0.8	2.4	43.6	7140	3168
4 x 150	sm	min. 18/15	1.4	0.8	2.5	47.5	7868	3720
4 x 185	sm	min. 30	1.6	0.8	2.7	53.0	9874	4408
4 x 240	sm	min. 34/30	1.7	0.8	2.9	59.8	12412	5347
4 x 300	sm	min. 34/30	1.8	0.8	3.1	66.1	14788	6281

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	664	337	445	118

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C

Maximum Short Circuit 250°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

2xRGY/A2xRGY or N2xRGY / NA2xRGY

3 Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25	rm	7/2.14	0.9	1.6	1.8	26.4	1682	1203
3 x 35	sm	min. 6	0.9	1.6	1.8	27.0	1991	1332
3 x 50	sm	min. 6	1.0	1.6	1.9	29.7	2529	1577
3 x 70	sm	min. 12	1.1	2.0	2.1	34.0	3571	2233
3 x 95	sm	min.15	1.1	2.0	2.2	36.8	4561	2756
3 x 120	sm	min. 18/15	1.2	2.0	2.3	41.1	5465	3186
3 x 150	sm	min. 18/15	1.4	2.5	2.5	46.5	7031	4179
3 x 185	sm	min. 30	1.6	2.5	2.6	49.5	8378	4867
3 x 240	sm	min. 34/30	1.7	2.5	2.8	55.8	10453	5879
3 x 300	sm	min. 34/30	1.8	2.5	3.0	59.6	12534	6745

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25	rm	0.727	1.200	130	91	94	55	120	67	96	43
3 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
3 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
3 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
3 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
3 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
3 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
3 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
3 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
3 x 300	sm	0.0601	0.100	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

PARTEX Cables powering with safety

2xRGY/A2xRGY or N2xRGY / NA2xRGY

3 & half Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
3 x 25+16	rm/rm	7/2.14	0.9	1.6	1.8	27.5	1919	1337
		7/1.70	0.7					
3 x 35+16	sm/rm	min. 6	0.9	1.6	1.8	29.3	2363	1596
		7/1.70	0.7					
3 x 50+25	sm/rm	min. 6	1.0	1.6	2.0	31.9	3105	1995
		7/2.14	0.9					
3 x 70+35	sm/rmc	min. 12	1.1	2.0	2.1	37.9	4153	2595
		min. 6	0.9					
3 x 95+50	sm/rmc	min. 15	1.1	2.0	2.2	42.1	5372	3251
		min. 6	1.0					
3 x 120+70	sm/rmc	min. 18/15	1.2	2.0	2.4	45.8	6921	4197
		min. 12	1.1					
3 x 150+70	sm/rmc	min. 18/15	1.4	2.5	2.5	50.2	8070	4772
		min. 12	1.1					
3 x 185+95	sm/rmc	min. 30	1.6	2.5	2.7	55.1	9655	5543
		min.15	1.1					
3 x 240+120	sm/rmc	min. 34/30	1.7	2.5	2.9	61.1	11952	6618
		min.18/15	1.2					
3 x 300+150	sm/rmc	min. 34/30	1.8	2.5	3.0	67.0	14563	7837
		min. 18/15	1.4					

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
3 x 25+16	rm/rm	0.727/1.15	1.20/1.91	130	91	94	55	120	67	96	43
3 x 35+16	sm/rm	0.524/1.15	0.868/1.91	155	110	114	69	150	84	117	51
3 x 50+25	sm/rm	0.387/0.727	0.641/1.20	190	137	133	80	190	106	142	58
3 x 70+35	sm/rmc	0.268/0.524	0.443/0.868	225	161	164	100	230	121	179	70
3 x 95+50	sm/rmc	0.193/0.387	0.320/0.641	260	184	196	120	270	152	221	103
3 x 120+70	sm/rmc	0.153/0.268	0.253/0.443	295	208	223	136	305	167	257	119
3 x 150+70	sm/rmc	0.124/0.268	0.206/0.443	330	235	249	154	350	189	292	131
3 x 185+95	sm/rmc	0.0991/0.193	0.164/0.320	385	279	282	176	410	194	337	121
3 x 240+120	sm/rmc	0.0754/0.153	0.125/0.253	425	300	327	202	490	243	400	153
3 x 300+150	sm/rmc	0.0601/0.124	0.100/0.206	578	436	368	226	664	337	455	128

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

2xRGY/A2xRGY or N2xRGY / NA2xRGY

4 Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal diameter of round steel armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	
							Cu	Al
Core x mm²	-	nos./mm	mm	mm	mm	mm	kg/km	kg/km
4 x 25	rm	7/2.14	0.9	1.6	1.8	28.4	2038	1400
4 x 35	sm	min. 6	0.9	1.6	1.9	29.4	2509	1622
4 x 50	sm	min. 6	1.0	1.6	2.0	33.9	3364	2096
4 x 70	sm	min. 12	1.1	2.0	2.2	38.9	4503	2720
4 x 95	sm	min. 15	1.1	2.0	2.3	43.2	6198	3791
4 x 120	sm	min. 18/15	1.2	2.0	2.5	47.8	7380	4341
4 x 150	sm	min. 18/15	1.4	2.5	2.6	51.2	8838	5036
4 x 185	sm	min. 30	1.6	2.5	2.8	57.5	10674	5993
4 x 240	sm	min. 34/30	1.7	2.5	3.0	62.4	13362	7263
4 x 300	sm	min. 34/30	1.8	2.5	3.2	68.9	16888	8969

ELECTRICAL DATA

Nominal cross sectional area of conductor	Shape of Conductor	Max. D.C resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C				Current Carrying Capacity in Air at 35 °C			
				Copper		Aluminium		Copper		Aluminium	
		Copper	Aluminium	Direct laid	In duct	Direct laid	In duct	Open	In pipes	Open	In pipes
Core x mm²	-	Ω/km	Ω/km	amp	amp	amp	amp	amp	amp	amp	amp
4 x 25	rm	0.727	1.20	130	91	94	55	120	67	96	43
4 x 35	sm	0.524	0.868	155	110	114	69	150	84	117	51
4 x 50	sm	0.387	0.641	190	137	133	80	190	106	142	58
4 x 70	sm	0.268	0.443	225	161	164	100	230	121	179	70
4 x 95	sm	0.193	0.320	260	184	196	120	270	152	221	103
4 x 120	sm	0.153	0.253	295	208	223	136	305	167	257	119
4 x 150	sm	0.124	0.206	330	235	249	154	350	189	292	131
4 x 185	sm	0.0991	0.164	385	279	282	176	410	194	337	121
4 x 240	sm	0.0754	0.125	425	300	327	202	490	243	400	153
4 x 300	sm	0.0601	0.100	578	436	368	226	664	337	445	118

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water

PARTEX Cables powering with safety

NYY-1 / YY-1

Multi Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid or Stranded Circular, Plain annealed Copper, Class 1 or Class-2 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Binder: Polyester or PVC tape

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA & ELECTRICAL DATA						ELECTRICAL DATA				
Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
							Direct laid	In duct	Open	In pipes
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 re	1/1.38	0.8	1.8	12.6	206	12.1	18	14	13	9
7 x 1.5 re	1/1.38	0.8	1.8	13.5	258	12.1	16	12	12	9
10 x 1.5 re	1/1.38	0.8	1.8	16.4	351	12.1	13	10	10	7
12 x 1.5 re	1/1.38	0.8	1.8	16.9	399	12.1	12	9	9	6
16 x 1.5 re	1/1.38	0.8	1.8	18.5	507	12.1	11	8	8	5
21 x 1.5 re	1/1.38	0.8	1.8	20.3	635	12.1	9	6	7	4
24 x 1.5 re	1/1.38	0.8	1.8	22.4	712	12.1	9	6	7	4
30 x 1.5 re	1/1.38	0.8	1.8	23.6	851	12.1	8	5	6	3
5 x 2.5 re	1/1.78	0.8	1.8	14.2	289	7.41	24	19	19	14
7 x 2.5 re	1/1.78	0.8	1.8	15.3	360	7.41	21	16	17	12
10 x 2.5 re	1/1.78	0.8	1.8	18.8	490	7.41	18	14	14	10
12 x 2.5 re	1/1.78	0.8	1.8	19.4	567	7.41	16	12	13	9
16 x 2.5 re	1/1.78	0.8	1.8	21.3	727	7.41	14	10	11	8
21 x 2.5 re	1/1.78	0.8	1.8	23.5	920	7.41	13	9	10	7
24 x 2.5 re	1/1.78	0.8	1.8	26.4	1059	7.41	12	8	9	6
30 x 2.5 re	1/1.78	0.8	1.8	27.8	1274	7.41	10	7	8	5
5 x 4 rm	7/0.85	1.0	1.8	16.8	402	4.61	31	25	25	19
7 x 4 rm	7/0.85	1.0	1.8	18.2	544	4.61	27	22	22	17
10 x 4 rm	7/0.85	1.0	1.8	22.7	708	4.61	23	18	19	15
12 x 4 rm	7/0.85	1.0	1.8	22.4	837	4.61	21	16	17	13

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

NYY-1 Flexible / YY-1 Flexible

Multi Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Binder: Polyester or PVC tape

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA & ELECTRICAL DATA						ELECTRICAL DATA				
Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
							Direct laid	In duct	Open	In pipes
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 rm	30/0.25	0.8	1.8	12.8	220	13.3	20	16	15	11
7 x 1.5 rm	30/0.25	0.8	1.8	13.8	270	13.3	18	14	14	11
10 x 1.5 rm	30/0.25	0.8	1.8	16.7	372	13.3	15	12	12	9
12 x 1.5 rm	30/0.25	0.8	1.8	17.4	420	13.3	14	11	11	8
16 x 1.5 rm	30/0.25	0.8	1.8	19.2	518	13.3	13	10	10	7
21 x 1.5 rm	30/0.25	0.8	1.8	20.6	655	13.3	11	8	9	6
24 x 1.5 rm	30/0.25	0.8	1.8	23.0	750	13.3	10	8	9	6
30 x 1.5 rm	30/0.25	0.8	1.8	24.2	900	13.3	9	7	8	5
5 x 2.5 rm	50/0.25	0.8	1.8	14.4	295	7.98	26	21	21	16
7 x 2.5 rm	50/0.25	0.8	1.8	15.4	370	7.98	23	18	19	14
10 x 2.5 rm	50/0.25	0.8	1.8	19.1	505	7.98	20	16	16	12
12 x 2.5 rm	50/0.25	0.8	1.8	19.8	580	7.98	18	14	15	11
16 x 2.5 rm	50/0.25	0.8	1.8	21.7	740	7.98	16	12	13	10
21 x 2.5 rm	50/0.25	0.8	1.8	24.2	935	7.98	15	11	12	9
24 x 2.5 rm	50/0.25	0.8	1.8	26.8	1070	7.98	14	10	11	8
30 x 2.5 rm	50/0.25	0.8	1.8	28.2	1290	7.98	12	9	10	7
5 x 4 rm	56/0.30	1.0	1.8	16.9	410	4.95	33	27	27	21
7 x 4 rm	56/0.30	1.0	1.8	18.3	550	4.95	29	24	24	19
10 x 4 rm	56/0.30	1.0	1.8	23.0	730	4.95	25	20	21	17
12 x 4 rm	56/0.30	1.0	1.8	33.4	850	4.95	23	18	19	15

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Flexible

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

NYRGbY-1 / YRGY-1

Multi Core (Cu or Al/PVC/SWA/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

VDE 0271/3.69 & DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid Circular, Plain annealed Copper, Class 1 to IEC 60228

Insulation: PVC, PVC/A to IEC 60502-1

Binder (optional): Polyester or Non-woven tape

Inner covering: PVC, ST-1 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA				
Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
						Cu		Direct laid	In duct	Open	In pipes
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 re	1/1.38	0.8	1.25	1.8	16.7	545	12.1	18	14	13	9
7 x 1.5 re	1/1.38	0.8	1.25	1.8	17.5	620	12.1	16	12	12	8
10 x 1.5 re	1/1.38	0.8	1.25	1.8	20.7	805	12.1	13	10	10	7
12 x 1.5 re	1/1.38	0.8	1.25	1.8	21.5	885	12.1	12	9	9	6
19 x 1.5 re	1/1.38	0.8	1.25	1.8	25.0	1280	12.1	10	7	7	5
24 x 1.5 re	1/1.38	0.8	1.25	1.8	27.8	1510	12.1	9	6	6	4
37 x 1.5 re	1/1.38	0.8	1.6	1.9	31.2	1960	12.1	8	5	5	3
5 x 2.5 re	1/1.78	0.8	1.25	1.8	18.0	650	7.41	24	20	19	15
7 x 2.5 re	1/1.78	0.8	1.25	1.8	19.0	750	7.41	21	17	17	13
10 x 2.5 re	1/1.78	0.8	1.25	1.8	22.5	980	7.41	18	14	14	10
12 x 2.5 re	1/1.78	0.8	1.25	1.8	23.0	1060	7.41	16	12	13	10
19 x 2.5 re	1/1.78	0.8	1.6	1.8	26.9	1560	7.41	14	10	12	9
24 x 2.5 re	1/1.78	0.8	1.6	1.9	30.6	1880	7.41	13	9	11	8
37 x 2.5 re	1/1.78	0.8	1.6	2.0	34.5	2480	7.41	9	6	7	5

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature -20°C to 70°C

Maximum Short Circuit 160°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

2xY-1 / N2xY-1

Multi Core (Cu/XLPE/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed Copper, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Binder: Polyester or PVC tape

Sheath: PVC, ST-1 to IEC 60502-1

PHYSICAL DATA & ELECTRICAL DATA						ELECTRICAL DATA				
Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
							Direct laid	In duct	Open	In pipes
Core x mm²	no./mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 re	1/1.38	0.7	1.8	11.6	175	12.1	20	15	14	10
7 x 1.5 re	1/1.38	0.7	1.8	12.4	215	12.1	18	14	13	9
10 x 1.5 re	1/1.38	0.7	1.8	15.2	290	12.1	14	10	11	8
12 x 1.5 re	1/1.38	0.7	1.8	15.7	335	12.1	13	9	10	7
16 x 1.5 re	1/1.38	0.7	1.8	16.4	410	12.1	12	8	9	6
21 x 1.5 re	1/1.38	0.7	1.8	19.0	525	12.1	10	7	8	5
24 x 1.5 re	1/1.38	0.7	1.8	21.0	600	12.1	10	7	8	5
30 x 1.5 re	1/1.38	0.7	1.8	22.0	720	12.1	9	6	7	4
5 x 2.5 re	1/1.78	0.7	1.8	12.8	230	7.41	26	20	21	15
7 x 2.5 re	1/1.78	0.7	1.8	13.7	282	7.41	23	19	19	13
10 x 2.5 re	1/1.78	0.7	1.8	17.1	388	7.41	20	17	15	10
12 x 2.5 re	1/1.78	0.7	1.8	17.4	460	7.41	18	14	14	9
16 x 2.5 re	1/1.78	0.7	1.8	18.2	570	7.41	15	11	12	8
21 x 2.5 re	1/1.78	0.7	1.8	21.0	750	7.41	14	10	11	7
24 x 2.5 re	1/1.78	0.7	1.8	23.5	850	7.41	13	9	10	7
30 x 2.5 re	1/1.78	0.7	1.8	24.8	1040	7.41	11	8	9	6
5 x 4 rm	7/0.85	0.7	1.8	14.8	335	4.61	33	25	27	20
7 x 4 rm	7/0.85	0.7	1.8	16.0	423	4.61	29	22	24	19
10 x 4 rm	7/0.85	0.7	1.8	19.9	589	4.61	25	19	21	16
12 x 4 rm	7/0.85	0.7	1.8	20.5	684	4.61	23	17	19	14

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C

Maximum Short Circuit 250°C

Rigid

Meter Marking

Flame Retardant

Lead free

Test 3.5kV

Installation condition

Industrial Use

Outdoor Installation

Open air

Buried

In Duct

In water

PARTEX Cables powering with safety

2xRGY-1 / N2xRGY-1

Multi Core (Cu or Al/XLPE/SWA/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations, where mechanical damages are not to be expected.

STANDARD

IEC 60502-1

DIN VDE 0276-603

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

Permissible Service Voltage: 0.72/1.2 kV

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid Circular, Plain annealed Copper, Class 1 to IEC 60228

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Binder (optional): Polyester or Non-woven tape

Inner covering: PVC, ST-2 to IEC 60502-1

Armour: Round Galvanized Steel wire to IEC 60502-1

Binder (optional): Galvanized Steel tape to IEC 60502-1

Sheath: PVC, ST-2 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA				
Nominal cross sectional	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal diameter of round steel wire armour	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
								Direct laid	In duct	Open	In pipes
Core x mm²	nos./mm	mm	mm	mm	mm	kg/km	Ω/km	amp	amp	amp	amp
5 x 1.5 re	1/1.38	0.7	1.25	1.8	16.1	520	12.1	20	15	14	10
7 x 1.5 re	1/1.38	0.7	1.25	1.8	17.0	580	12.1	18	14	13	9
10 x 1.5 re	1/1.38	0.7	1.25	1.8	20.0	760	12.1	14	10	11	8
12 x 1.5 re	1/1.38	0.7	1.25	1.8	20.5	810	12.1	13	9	10	7
19 x 1.5 re	1/1.38	0.7	1.25	1.8	21.8	1035	12.1	11	8	9	6
24 x 1.5 re	1/1.38	0.7	1.25	1.8	26.6	1370	12.1	10	7	8	4
37 x 1.5 re	1/1.38	0.7	1.6	1.8	29.4	1760	12.1	8	5	6	3
5 x 2.5 re	1/1.78	0.7	1.25	1.8	17.4	600	7.41	26	20	21	15
7 x 2.5 re	1/1.78	0.7	1.25	1.8	18.3	680	7.41	23	19	19	13
10 x 2.5 re	1/1.78	0.7	1.25	1.8	21.5	900	7.41	20	17	15	10
12 x 2.5 re	1/1.78	0.7	1.25	1.8	22.1	980	7.41	18	14	14	9
19 x 2.5 re	1/1.78	0.7	1.6	1.8	25.5	1440	7.41	16	12	12	7
24 x 2.5 re	1/1.78	0.7	1.6	1.8	29.0	1730	7.41	13	9	10	4
37 x 2.5 re	1/1.78	0.7	1.6	1.9	32.5	2280	7.41	10	7	8	5

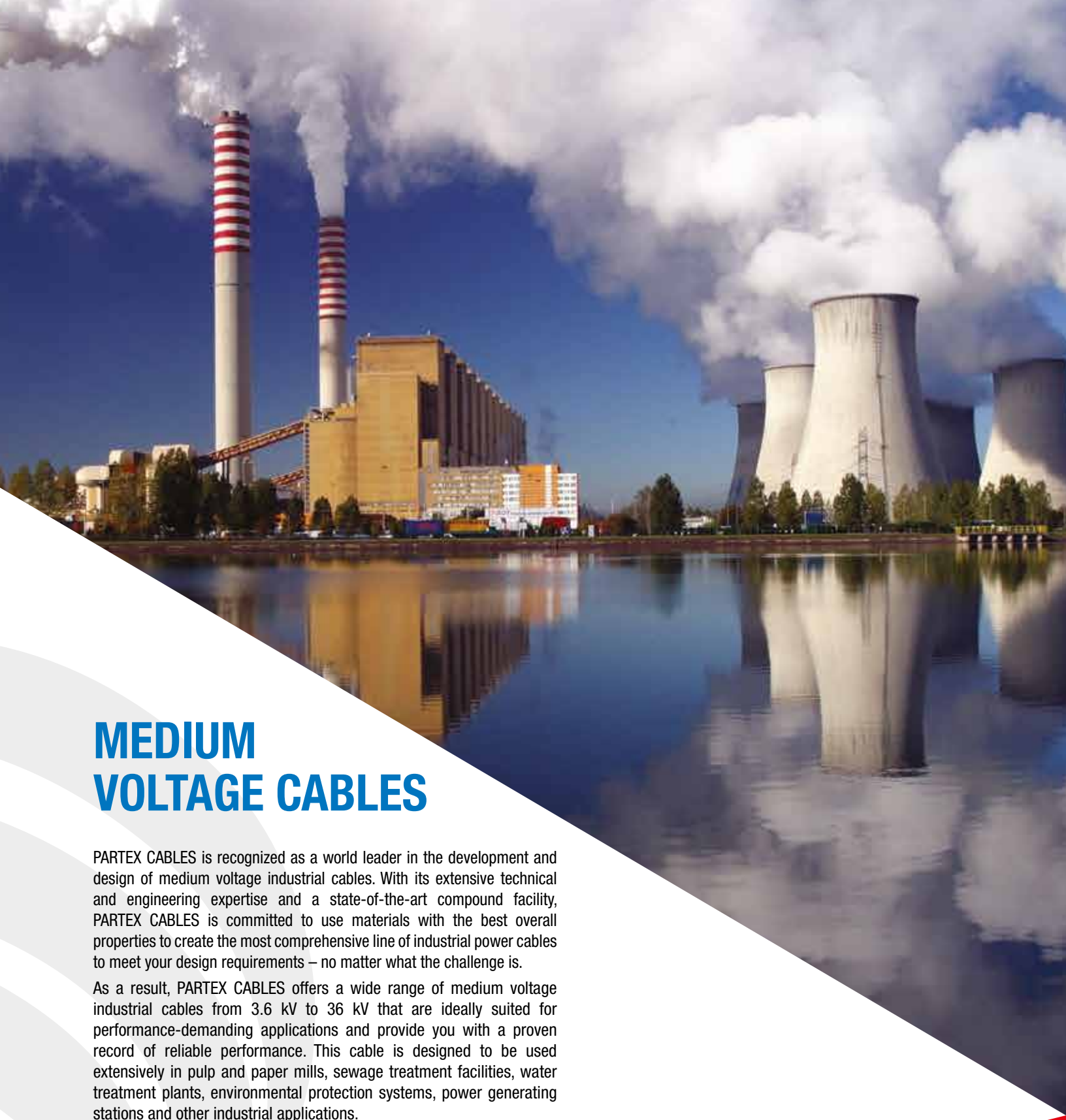
Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Rigid · Meter Marking · Flame Retardant · Lead free · Test 3.5kV

Installation condition

Industrial Use · Outdoor Installation · Open air · Buried · In Duct · In water



MEDIUM VOLTAGE CABLES

PARTEX CABLES is recognized as a world leader in the development and design of medium voltage industrial cables. With its extensive technical and engineering expertise and a state-of-the-art compound facility, PARTEX CABLES is committed to use materials with the best overall properties to create the most comprehensive line of industrial power cables to meet your design requirements – no matter what the challenge is.

As a result, PARTEX CABLES offers a wide range of medium voltage industrial cables from 3.6 kV to 36 kV that are ideally suited for performance-demanding applications and provide you with a proven record of reliable performance. This cable is designed to be used extensively in pulp and paper mills, sewage treatment facilities, water treatment plants, environmental protection systems, power generating stations and other industrial applications.

PARTEX™ Cables powering with safety

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MEDIUM VOLTAGE CABLES

Voltage Rating U_0/U (Um) : 3.6/6 (7.2) kV up to and including 18/30 (36) kV

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
IEC 60502-2 DIN VDE 0276/620 IEC 60228	IEC 60811 BS 7655	IEC 60332 IEC 61034

MEDIUM VOLTAGE CABLES MANUFACTURING PROCESS

2xHSY / A2xHSY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 3.6/6 (7.2) kV
Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	2.5	1.8	0.06	16	19.0	560	400
1 x 35	rmc	6.6	7.5	2.5	1.8	0.06	16	20.0	680	450
1 x 50	rmc	7.7	8.6	2.5	1.8	0.06	16	20.9	820	510
1 x 70	rmc	9.3	10.2	2.5	1.8	0.06	16	22.7	1055	620
1 x 95	rmc	11.0	12.0	2.5	1.8	0.06	16	24.4	1330	730
1 x 120	rmc	12.3	13.5	2.5	1.8	0.06	16	25.8	1560	840
1 x 150	rmc	13.7	15.0	2.5	1.8	0.06	25	27.4	1860	960
1 x 185	rmc	15.3	16.8	2.5	1.8	0.06	25	29.2	2240	1100
1 x 240	rmc	17.6	19.2	2.6	1.9	0.06	25	32.0	2830	1350
1 x 300	rmc	19.7	21.6	2.8	2.0	0.06	25	35.0	3480	1600
1 x 400	rmc	22.3	24.6	3.0	2.1	0.06	35	38.4	4490	2010
1 x 500	rmc	25.3	27.6	3.2	2.2	0.06	35	41.8	5000	2415
1 x 630	rmc	28.7	32.5	3.2	2.3	0.06	35	46.6	6900	2965
1 x 800	rmc	32.6	36.7	3.2	2.4	0.06	50	50.5	8660	3600
1 x 1000	rmc	36.3	40.5	3.2	2.6	0.06	50	55.2	10720	4370

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.433	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.412	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.384	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.363	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.344	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.330	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.320	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.309	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.300	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.294	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.627	0.285	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.654	0.281	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.726	0.272	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.786	0.266	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.856	0.261	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety

2xHSY / A2xHSY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	3.4	1.8	0.06	16	21.0	630	480
1 x 35	rmc	6.6	7.5	3.4	1.8	0.06	16	22.0	750	530
1 x 50	rmc	7.7	8.6	3.4	1.8	0.06	16	23.1	895	600
1 x 70	rmc	9.3	10.2	3.4	1.8	0.06	16	24.5	2240	700
1 x 95	rmc	11.0	12.0	3.4	1.8	0.06	16	26.5	1410	820
1 x 120	rmc	12.3	13.5	3.4	1.8	0.06	16	28.0	1650	930
1 x 150	rmc	13.7	15.0	3.4	1.8	0.06	25	29.4	1950	1050
1 x 185	rmc	15.3	16.8	3.4	1.9	0.06	25	31.3	2350	1210
1 x 240	rmc	17.6	19.2	3.4	2.0	0.06	25	34.0	2940	1440
1 x 300	rmc	19.7	21.6	3.4	2.0	0.06	25	36.1	3530	1670
1 x 400	rmc	22.3	24.6	3.4	2.1	0.06	35	39.4	4530	2060
1 x 500	rmc	25.3	27.6	3.4	2.2	0.06	35	42.2	5520	2430
1 x 630	rmc	28.7	32.5	3.4	2.3	0.06	35	47.0	6900	2980
1 x 800	rmc	32.6	36.7	3.4	2.5	0.06	50	51.0	8700	3650
1 x 1000	rmc	36.3	40.5	3.4	2.6	0.06	50	55.5	10770	4400

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.208	0.452	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.229	0.430	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.252	0.401	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.288	0.379	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.323	0.359	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.353	0.344	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.380	0.333	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.416	0.323	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.460	0.312	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.506	0.301	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.561	0.290	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.619	0.283	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.698	0.274	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.780	0.268	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.860	0.262	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

2xHSY / A2xHSY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	4.5	1.8	0.06	16	23.2	720	570
1 x 35	rmc	6.6	7.5	4.5	1.8	0.06	16	24.0	825	625
1 x 50	rmc	7.7	8.6	4.5	1.8	0.06	16	25.2	990	700
1 x 70	rmc	9.3	10.2	4.5	1.8	0.06	16	26.8	1230	810
1 x 95	rmc	11.0	12.0	4.5	1.8	0.06	16	18.7	1510	930
1 x 120	rmc	12.3	13.5	4.5	1.9	0.06	16	30.2	1780	1050
1 x 150	rmc	13.7	15.0	4.5	1.9	0.06	25	31.8	2080	1180
1 x 185	rmc	15.3	16.8	4.5	2.0	0.06	25	33.8	2490	1350
1 x 240	rmc	17.6	19.2	4.5	2.0	0.06	25	36.2	3070	1580
1 x 300	rmc	19.7	21.6	4.5	2.1	0.06	25	38.6	3700	1830
1 x 400	rmc	22.3	24.6	4.5	2.2	0.06	35	41.8	4700	2230
1 x 500	rmc	25.3	27.6	4.5	2.3	0.06	35	44.8	5710	2620
1 x 630	rmc	28.7	32.5	4.5	2.4	0.06	35	49.5	7100	3190
1 x 800	rmc	32.6	36.7	4.5	2.5	0.06	50	53.3	9000	3840
1 x 1000	rmc	36.3	40.5	4.5	2.7	0.06	50	58.1	11000	4620

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.473	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.451	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.42	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.396	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.376	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.361	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.355	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.339	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.325	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.314	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.439	0.302	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.483	0.295	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.534	0.285	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.590	0.277	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.640	0.271	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety

2xHSY / A2xHSY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 12/20 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 35	rmc	6.6	7.5	5.5	1.8	0.06	16	26.3	930	720
1 x 50	rmc	7.7	8.6	5.5	1.8	0.06	16	27.4	1100	790
1 x 70	rmc	9.3	10.2	5.5	1.8	0.06	16	29.0	1330	905
1 x 95	rmc	11.0	12.0	5.5	1.9	0.06	16	31.0	1620	1050
1 x 120	rmc	12.3	13.5	5.5	1.9	0.06	16	32.5	1900	1160
1 x 150	rmc	13.7	15.0	5.5	2.0	0.06	25	34.2	2240	1320
1 x 185	rmc	15.3	16.8	5.5	2.0	0.06	25	36.0	2600	1470
1 x 240	rmc	17.6	19.2	5.5	2.1	0.06	25	38.6	3210	1730
1 x 300	rmc	19.7	21.6	5.5	2.2	0.06	25	41.0	3850	1990
1 x 400	rmc	22.3	24.6	5.5	2.3	0.06	35	44.1	4880	2400
1 x 500	rmc	25.3	27.6	5.5	2.4	0.06	35	47.0	5900	2800
1 x 630	rmc	28.7	32.5	5.5	2.5	0.06	35	51.8	7320	3390
1 x 800	rmc	32.6	36.7	5.5	2.6	0.06	50	55.7	9100	4050
1 x 1000	rmc	36.3	40.5	5.5	2.7	0.06	50	60.2	11200	4820

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 °C		Maximum A.C resistance of conductor at 90 °C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 °C				Current rating in air at 30 °C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.467	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.436	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.411	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.391	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.375	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.364	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.62	3.75	0.280	0.351	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.338	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.326	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.370	0.313	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.406	0.305	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.449	0.294	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.490	0.286	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.540	0.278	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

2xHSY / A2xHSY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 18/30 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 50	rmc	7.7	8.6	8.0	1.9	0.06	16	32.5	1380	1070
1 x 70	rmc	9.3	10.2	8.0	2.0	0.06	16	34.6	1660	1210
1 x 95	rmc	11.0	12.0	8.0	2.1	0.06	16	36.5	1980	1370
1 x 120	rmc	12.3	13.5	8.0	2.1	0.06	16	38.0	2270	1490
1 x 150	rmc	13.7	15.0	8.0	2.1	0.06	25	39.6	2600	1650
1 x 185	rmc	15.3	16.8	8.0	2.2	0.06	25	41.5	2950	1830
1 x 240	rmc	17.6	19.2	8.0	2.3	0.06	25	44.2	3600	2110
1 x 300	rmc	19.7	21.6	8.0	2.3	0.06	25	46.4	4240	2370
1 x 400	rmc	22.3	24.6	8.0	2.5	0.06	35	49.8	5350	2855
1 x 500	rmc	25.3	27.6	8.0	2.5	0.06	35	52.8	6400	3270
1 x 630	rmc	28.7	32.5	8.0	2.7	0.06	35	57.3	7850	3890
1 x 800	rmc	32.6	36.7	8.0	2.8	0.06	50	61.2	9650	4585
1 x 1000	rmc	36.3	40.5	8.0	2.9	0.06	50	65.6	11800	5400

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.474	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.449	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.427	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.409	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.396	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.62	3.75	0.210	0.382	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.367	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.353	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.273	0.339	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.298	0.328	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.327	0.316	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.350	0.307	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.380	0.298	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Installation condition

PARTEX Cables powering with safety

2xHSYRaY / A2xHSYRaY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 3.6/6 (7.2) kV

Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	2.5	1.6	1.8	0.06	16	24.6	930	750
1 x 35	rmc	6.6	7.5	2.5	1.6	1.8	0.06	16	25.6	1030	810
1 x 50	rmc	7.7	8.6	2.5	1.6	1.8	0.06	16	26.6	1230	880
1 x 70	rmc	9.3	10.2	2.5	1.6	1.8	0.06	16	28.3	1460	1020
1 x 95	rmc	11.0	12.0	2.5	1.6	1.9	0.06	16	30.4	1780	1180
1 x 120	rmc	12.3	13.5	2.5	1.6	1.9	0.06	16	31.8	2060	1300
1 x 150	rmc	13.7	15.0	2.5	1.6	2.0	0.06	25	33.5	2400	1450
1 x 185	rmc	15.3	16.8	2.5	2.0	2.0	0.06	25	36.0	2880	1680
1 x 240	rmc	17.6	19.2	2.6	2.0	2.1	0.06	25	39.2	3560	1980
1 x 300	rmc	19.7	21.6	2.8	2.0	2.2	0.06	25	42.1	4270	2350
1 x 400	rmc	22.3	24.6	3.0	2.0	2.3	0.06	35	45.6	5370	2740
1 x 500	rmc	25.3	27.6	3.2	2.5	2.5	0.06	35	50.2	6650	3480
1 x 630	rmc	28.7	32.5	3.2	2.5	2.6	0.06	35	54.8	8120	4120
1 x 800	rmc	32.6	36.7	3.2	2.5	2.7	0.06	50	58.8	9960	4950
1 x 1000	rmc	36.3	40.5	3.2	2.5	2.9	0.06	50	64.0	12270	5880

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.486	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.463	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.432	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.408	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.388	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.371	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.361	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.352	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.340	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.330	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.627	0.319	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.654	0.318	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.726	0.307	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.786	0.298	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.856	0.291	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

2xHSYRaY / A2xHSYRaY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	3.4	1.6	1.8	0.06	16	26.4	1000	840
1 x 35	rmc	6.6	7.5	3.4	1.6	1.8	0.06	16	27.5	1130	900
1 x 50	rmc	7.7	8.6	3.4	1.6	1.8	0.06	16	28.5	1305	980
1 x 70	rmc	9.3	10.2	3.4	1.6	1.9	0.06	16	30.3	1580	1120
1 x 95	rmc	11.0	12.0	3.4	1.6	1.9	0.06	16	32.1	1890	1280
1 x 120	rmc	12.3	13.5	3.4	1.6	2.0	0.06	16	33.8	2200	1440
1 x 150	rmc	13.7	15.0	3.4	2.0	2.0	0.06	25	35.2	2530	1600
1 x 185	rmc	15.3	16.8	3.4	2.0	2.0	0.06	25	38.2	3050	1900
1 x 240	rmc	17.6	19.2	3.4	2.0	2.1	0.06	25	40.8	3690	2180
1 x 300	rmc	19.7	21.6	3.4	2.0	2.2	0.06	25	43.3	4360	2490
1 x 400	rmc	22.3	24.6	3.4	2.0	2.3	0.06	35	46.5	5440	2940
1 x 500	rmc	25.3	27.6	3.4	2.5	2.5	0.06	35	50.6	6660	3560
1 x 630	rmc	28.7	32.5	3.4	2.5	2.6	0.06	35	55.2	8100	4220
1 x 800	rmc	32.6	36.7	3.4	2.5	2.7	0.06	50	59.0	10000	4950
1 x 1000	rmc	36.3	40.5	3.4	2.5	2.9	0.06	50	64.4	12300	5920

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.208	0.501	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.229	0.478	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.252	0.446	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.288	0.422	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.323	0.400	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.353	0.384	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.380	0.378	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.416	0.364	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.460	0.350	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.506	0.336	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.561	0.323	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.619	0.319	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.698	0.308	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.780	0.299	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.860	0.292	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety

2xHSYRaY / A2xHSYRaY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 25	rmc	5.6	6.5	4.5	1.6	1.8	0.06	16	28.8	1130	970
1 x 35	rmc	6.6	7.5	4.5	1.6	1.9	0.06	16	29.8	1270	1040
1 x 50	rmc	7.7	8.6	4.5	1.6	1.9	0.06	16	31.0	1450	1120
1 x 70	rmc	9.3	10.2	4.5	1.6	1.9	0.06	16	32.6	1730	1250
1 x 95	rmc	11.0	12.0	4.5	2.0	2.0	0.06	16	35.5	2150	1500
1 x 120	rmc	12.3	13.5	4.5	2.0	2.1	0.06	16	37.2	2450	1660
1 x 150	rmc	13.7	15.0	4.5	2.0	2.1	0.06	25	39.1	2840	1850
1 x 185	rmc	15.3	16.8	4.5	2.0	2.2	0.06	25	41.0	3250	2080
1 x 240	rmc	17.6	19.2	4.5	2.0	2.3	0.06	25	43.6	3920	2340
1 x 300	rmc	19.7	21.6	4.5	2.0	2.3	0.06	25	46.0	4580	2680
1 x 400	rmc	22.3	24.6	4.5	2.5	2.5	0.06	35	50.2	5820	3300
1 x 500	rmc	25.3	27.6	4.5	2.5	2.6	0.06	35	53.8	6950	3740
1 x 630	rmc	28.7	32.5	4.5	2.5	2.7	0.06	35	58.0	8450	4340
1 x 800	rmc	32.6	36.7	4.5	2.5	2.8	0.06	50	61.8	10300	5250
1 x 1000	rmc	36.3	40.5	4.5	2.5	3.0	0.06	50	67.0	12600	6200

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.518	144	112	133	103	167	130
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.495	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.462	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.437	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.419	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.403	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.390	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.376	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.362	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.348	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.439	0.339	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.483	0.329	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.534	0.317	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.590	0.308	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.640	0.300	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

2xHSYRaY / A2xHSYRaY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 12/20 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 35	rmc	6.6	7.5	5.5	1.6	1.9	0.06	16	32.0	1400	1180
1 x 50	rmc	7.7	8.6	5.5	1.6	2.0	0.06	16	33.2	1600	1290
1 x 70	rmc	9.3	10.2	5.5	2.0	2.0	0.06	16	35.7	1960	1500
1 x 95	rmc	11.0	12.0	5.5	2.0	2.1	0.06	16	38.2	2340	1740
1 x 120	rmc	12.3	13.5	5.5	2.0	2.1	0.06	16	39.6	2650	1880
1 x 150	rmc	13.7	15.0	5.5	2.0	2.2	0.06	25	41.3	3000	2050
1 x 185	rmc	15.3	16.8	5.5	2.0	2.2	0.06	25	43.0	3430	2240
1 x 240	rmc	17.6	19.2	5.5	2.0	2.3	0.06	25	45.6	4100	2560
1 x 300	rmc	19.7	21.6	5.5	2.5	2.4	0.06	25	49.1	4930	3030
1 x 400	rmc	22.3	24.6	5.5	2.5	2.5	0.06	35	52.6	6050	3570
1 x 500	rmc	25.3	27.6	5.5	2.5	2.6	0.06	35	55.8	7180	4050
1 x 630	rmc	28.7	32.5	5.5	2.5	2.8	0.06	35	60.0	8720	4730
1 x 800	rmc	32.6	36.7	5.5	2.5	2.9	0.06	50	64.5	10600	5550
1 x 1000	rmc	36.3	40.5	5.5	2.5	3.0	0.06	50	69.0	12850	6470

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.509	172	134	159	123	203	157
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.477	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.455	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.432	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.414	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.401	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.280	0.386	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.371	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.363	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.370	0.347	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.406	0.338	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.449	0.325	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.490	0.316	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.540	0.307	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety

2xHSYRaY / A2xHSYRaY

Single Core (Cu or Al/XLPE/CTS or CWS/PVC/AWA/PVC)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 18/30 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : (Natural)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Aluminium wire to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of Al wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
1 x 50	rmc	7.7	8.6	8.0	2.0	2.2	0.06	16	40.0	2120	1800
1 x 70	rmc	9.3	10.2	8.0	2.0	2.2	0.06	16	42.0	24.5	1860
1 x 95	rmc	11.0	12.0	8.0	2.0	2.3	0.06	16	43.6	2780	2060
1 x 120	rmc	12.3	13.5	8.0	2.0	2.3	0.06	16	45.2	3080	2260
1 x 150	rmc	13.7	15.0	8.0	2.5	2.4	0.06	25	48.2	3630	2590
1 x 185	rmc	15.3	16.8	8.0	2.5	2.5	0.06	25	49.8	4080	2760
1 x 240	rmc	17.6	19.2	8.0	2.5	2.5	0.06	25	52.7	4800	3100
1 x 300	rmc	19.7	21.6	8.0	2.5	2.6	0.06	25	55.2	5560	3450
1 x 400	rmc	22.3	24.6	8.0	2.5	2.7	0.06	35	58.4	6650	4100
1 x 500	rmc	25.3	27.6	8.0	2.5	2.8	0.06	35	61.4	7800	4700
1 x 630	rmc	28.7	32.5	8.0	2.5	2.9	0.06	35	66.2	9400	5300
1 x 800	rmc	32.6	36.7	8.0	2.5	3.1	0.06	50	70.0	11300	6280
1 x 1000	rmc	36.3	40.5	8.0	2.5	3.2	0.06	50	74.6	13600	7300

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											Laid direct in flat spaced		Laid in single duct flat touching		Laid direct in flat touching	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.514	203	157	188	146	243	189
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.486	246	192	229	178	303	236
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.462	293	229	274	213	369	287
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.442	332	260	311	242	426	332
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.434	366	288	347	271	481	376
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.210	0.419	410	324	391	307	550	432
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.401	470	373	453	356	647	511
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.387	524	419	510	402	739	586
400	0.0470	0.0778	0.063	0.102	57.2	37.6	0.62	5.25	0.273	0.370	572	466	571	457	837	676
500	0.0366	0.0605	0.050	0.080	71.5	47.0	0.62	5.25	0.298	0.359	672	546	661	537	938	776
630	0.0283	0.0469	0.041	0.064	90.1	59.2	0.62	5.25	0.327	0.345	882	646	771	617	1048	886
800	0.0221	0.0367	0.039	0.051	115.0	75.2	0.62	7.50	0.350	0.334	1002	756	871	717	1148	986
1000	0.0176	0.0291	0.029	0.043	143.0	94.0	0.62	7.50	0.380	0.324	1112	856	971	807	1238	1086

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 63kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

2xSEYY / A2xSEYY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 3.6/6 kV and frequency 50Hz. Suitable for installation in indoors and in cable ducts, outdoors as well as for laying on racks for industrial and switching systems and power plants. Limited use when buried in the earth if the PVC outer jacket could be damaged by high mechanical stress.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 3.6/6 (7.2) kV

Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	2.5	2.1	0.06	16	41.8	2240	1780
3 x 35	rmc	6.6	7.5	2.5	2.1	0.06	16	44.0	2650	1950
3 x 50	rmc	7.7	8.6	2.5	2.2	0.06	16	47.0	3170	2200
3 x 70	rmc	9.3	10.2	2.5	2.3	0.06	16	51.0	4080	2620
3 x 95	rmc	11.0	12.0	2.5	2.5	0.06	16	55.4	5130	3200
3 x 120	rmc	12.3	13.5	2.5	2.6	0.06	16	58.2	5880	3550
3 x 150	rmc	13.7	15.0	2.5	2.7	0.06	25	62.0	6990	3970
3 x 185	rmc	15.3	16.8	2.5	2.8	0.06	25	66.0	8370	4650
3 x 240	rmc	17.6	19.2	2.6	3.0	0.06	25	72.0	10450	5860
3 x 300	rmc	19.7	21.6	2.8	3.2	0.06	25	79.0	12830	6950

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	142	110
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	153	119	133	103	170	132
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	122	204	158
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	221	171	193	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	262	203	231	179	304	236
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.297	298	232	264	205	351	273
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	334	260	297	231	398	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.280	377	294	336	262	455	355
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.270	434	340	390	305	531	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	489	384	441	346	606	475

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 12.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYY / A2xSEYY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/0 kV and frequency 50Hz. Suitable for installation in indoors and in cable ducts, outdoors as well as for laying on racks for industrial and switching systems and power plants. Limited use when buried in the earth if the PVC outer jacket could be damaged by high mechanical stress.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	2.2	0.06	16	44.2	2500	2000
3 x 35	rmc	6.6	7.5	3.4	2.3	0.06	16	47.0	3000	2350
3 x 50	rmc	7.7	8.6	3.4	2.4	0.06	16	51.5	3600	2630
3 x 70	rmc	9.3	10.2	3.4	2.5	0.06	16	53.6	4450	3100
3 x 95	rmc	11.0	12.0	3.4	2.6	0.06	16	57.8	5400	3520
3 x 120	rmc	12.3	13.5	3.4	2.7	0.06	16	61.5	6400	4150
3 x 150	rmc	13.7	15.0	3.4	2.8	0.06	25	64.8	7500	4700
3 x 185	rmc	15.3	16.8	3.4	2.9	0.06	25	68.5	7900	5050
3 x 240	rmc	17.6	19.2	3.4	3.1	0.06	25	74.2	10900	6250
3 x 300	rmc	19.7	21.6	3.4	3.3	0.06	25	80.0	13100	7400

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.208	0.410	129	100	112	87	142	110
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.229	0.391	153	119	133	103	170	132
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.252	0.364	181	140	158	122	204	158
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.288	0.344	221	171	193	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.323	0.327	262	203	231	179	304	236
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.353	0.314	298	232	264	205	351	273
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.380	0.304	334	260	297	231	398	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.416	0.295	377	294	336	262	455	355
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.460	0.284	434	340	390	305	531	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.506	0.275	489	384	441	346	606	475

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 21kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYY / A2xSEYY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 8.7/15 kV and frequency 50Hz. Suitable for installation in indoors and in cable ducts, outdoors as well as for laying on racks for industrial and switching systems and power plants. Limited use when buried in the earth if the PVC outer jacket could be damaged by high mechanical stress.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	2.4	0.06	16	52.5	3075	2500
3 x 35	rmc	6.6	7.5	4.5	2.5	0.06	16	54.5	3540	2820
3 x 50	rmc	7.7	8.6	4.5	2.6	0.06	16	57.0	4120	3180
3 x 70	rmc	9.3	10.2	4.5	2.7	0.06	16	61.0	5080	3650
3 x 95	rmc	11.0	12.0	4.5	2.8	0.06	16	65.0	6190	4200
3 x 120	rmc	12.3	13.5	4.5	2.9	0.06	16	68.0	6990	4700
3 x 150	rmc	13.7	15.0	4.5	3.0	0.06	25	72.0	8100	5150
3 x 185	rmc	15.3	16.8	4.5	3.1	0.06	25	76.4	9550	5880
3 x 240	rmc	17.6	19.2	4.5	3.3	0.06	25	82.5	11700	6760
3 x 300	rmc	19.7	21.6	4.5	3.4	0.06	25	87.0	13950	7800

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	142	110
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.415	153	119	133	103	170	132
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.386	181	140	158	122	204	158
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.365	221	171	193	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.346	262	203	231	179	304	236
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	205	351	273
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	334	260	297	231	398	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	377	294	336	262	455	355
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.299	434	340	390	305	531	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	489	384	441	346	606	475

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 30.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYY / A2xSEYY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 12/20 kV and frequency 50Hz. Suitable for installation in indoors and in cable ducts, outdoors as well as for laying on racks for industrial and switching systems and power plants. Limited use when buried in the earth if the PVC outer jacket could be damaged by high mechanical stress.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 35	rmc	6.6	7.5	5.5	2.6	0.06	16	59.0	4010	3150
3 x 50	rmc	7.7	8.6	5.5	2.7	0.06	16	63.0	4650	3760
3 x 70	rmc	9.3	10.2	5.5	2.8	0.06	16	66.0	5610	4250
3 x 95	rmc	11.0	12.0	5.5	2.9	0.06	16	71.0	6740	4900
3 x 120	rmc	12.3	13.5	5.5	3.0	0.06	16	74.0	7570	5280
3 x 150	rmc	13.7	15.0	5.5	3.1	0.06	25	76.8	8770	5950
3 x 185	rmc	15.3	16.8	5.5	3.3	0.06	25	81.0	10280	6560
3 x 240	rmc	17.6	19.2	5.5	3.4	0.06	25	85.9	12390	7600
3 x 300	rmc	19.7	21.6	5.5	3.6	0.06	25	91.8	14700	8800

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.435	153	119	133	103	170	132
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.405	181	140	158	122	204	158
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.383	221	171	193	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.363	262	203	231	179	304	236
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.347	298	232	264	205	351	273
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.337	334	260	297	231	398	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.280	0.325	377	294	336	262	455	355
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.312	434	340	390	305	531	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.301	489	384	441	346	606	475

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 42kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

2xSEYY / A2xSEYY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 18/30 kV and frequency 50Hz. Suitable for installation in indoors and in cable ducts, outdoors as well as for laying on racks for industrial and switching systems and power plants. Limited use when buried in the earth if the PVC outer jacket could be damaged by high mechanical stress.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_0/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conducting XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum			thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 50	rmc	7.7	8.6	8.0	3.1	0.06	16	76.0	6200	5200
3 x 70	rmc	9.3	10.2	8.0	3.2	0.06	16	80.0	7300	5950
3 x 95	rmc	11.0	12.0	8.0	3.3	0.06	16	84.0	8510	6500
3 x 120	rmc	12.3	13.5	8.0	3.4	0.06	16	87.0	9420	7050
3 x 150	rmc	13.7	15.0	8.0	3.5	0.06	25	91.0	10620	7720
3 x 185	rmc	15.3	16.8	8.0	3.6	0.06	25	95.0	12180	8580
3 x 240	rmc	17.6	19.2	8.0	3.8	0.06	25	100.0	14450	9700
3 x 300	rmc	19.7	21.6	8.0	4.0	0.06	25	105.0	16970	11000

ELECTRICAL DATA

Nominal Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.448	181	140	158	122	204	158
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.423	221	171	193	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.401	262	203	231	179	304	236
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.384	298	232	264	205	351	273
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.371	334	260	297	231	398	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.210	0.358	377	294	336	262	455	355
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.343	434	340	390	305	531	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.330	489	384	441	346	606	475

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 63kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYRGY / A2xSEYRGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 3.6/6 (7.2) kV

Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	2.5	2.0	2.2	0.06	16	46.3	3650	3170
3 x 35	rmc	6.6	7.5	2.5	2.0	2.3	0.06	16	48.5	4160	3490
3 x 50	rmc	7.7	8.6	2.5	2.5	2.4	0.06	16	52.5	5190	4290
3 x 70	rmc	9.3	10.2	2.5	2.5	2.5	0.06	16	56.5	6300	5000
3 x 95	rmc	11.0	12.0	2.5	2.5	2.7	0.06	16	61.0	7520	5720
3 x 120	rmc	12.3	13.5	2.5	2.5	2.8	0.06	16	64.3	8440	6170
3 x 150	rmc	13.7	15.0	2.5	2.5	2.9	0.06	25	68.0	9670	6880
3 x 185	rmc	15.3	16.8	2.5	2.5	3.0	0.06	25	72.1	11240	7700
3 x 240	rmc	17.6	19.2	2.6	2.5	3.2	0.06	25	78.0	13560	8950
3 x 300	rmc	19.7	21.6	2.8	3.15	3.4	0.06	25	86.0	17100	11300

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.297	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.28	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.273	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 12.5kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYRGY / A2xSEYRGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	2.0	2.3	0.06	16	46.3	4150	3660
3 x 35	rmc	6.6	7.5	3.4	2.5	2.4	0.06	16	48.5	5200	4520
3 x 50	rmc	7.7	8.6	3.4	2.5	2.5	0.06	16	52.5	5820	4950
3 x 70	rmc	9.3	10.2	3.4	2.5	2.5	0.06	16	56.5	6900	5620
3 x 95	rmc	11.0	12.0	3.4	2.5	2.8	0.06	16	61.0	8150	6350
3 x 120	rmc	12.3	13.5	3.4	2.5	2.9	0.06	16	64.3	9100	6860
3 x 150	rmc	13.7	15.0	3.4	2.5	3.0	0.06	25	68.0	10350	7540
3 x 185	rmc	15.3	16.8	3.4	2.5	3.1	0.06	25	72.1	11950	8450
3 x 240	rmc	17.6	19.2	3.4	3.15	3.3	0.06	25	78.0	15050	10470
3 x 300	rmc	19.7	21.6	3.4	3.15	3.5	0.06	25	86.0	17700	11900

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.297	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.28	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.273	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 21kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYRGY / A2xSEYRGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	2.5	2.5	0.06	16	58.0	5300	4830
3 x 35	rmc	6.6	7.5	4.5	2.5	2.6	0.06	16	60.0	5880	5220
3 x 50	rmc	7.7	8.6	4.5	2.5	2.7	0.06	16	63.0	6590	5690
3 x 70	rmc	9.3	10.2	4.5	2.5	2.8	0.06	16	67.0	7720	6450
3 x 95	rmc	11.0	12.0	4.5	2.5	3.0	0.06	16	71.5	9020	7230
3 x 120	rmc	12.3	13.5	4.5	2.5	3.1	0.06	16	74.5	9990	7720
3 x 150	rmc	13.7	15.0	4.5	2.5	3.2	0.06	25	78.0	11220	8450
3 x 185	rmc	15.3	16.8	4.5	3.15	3.3	0.06	25	83.4	13740	10240
3 x 240	rmc	17.6	19.2	4.5	3.15	3.5	0.06	25	89.2	16180	11600
3 x 300	rmc	19.7	21.6	4.5	3.15	3.6	0.06	25	94.3	18700	12950

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.415	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.386	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.365	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.346	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.299	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 30.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

2xSEYRGY / A2xSEYRGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 12/20 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 35	rmc	6.6	7.5	5.5	2.5	2.8	0.06	16	65.2	6600	5900
3 x 50	rmc	7.7	8.6	5.5	2.5	2.9	0.06	16	68.5	7360	6470
3 x 70	rmc	9.3	10.2	5.5	2.5	3.0	0.06	16	72.4	8500	7200
3 x 95	rmc	11.0	12.0	5.5	2.5	3.1	0.06	16	76.6	9800	8000
3 x 120	rmc	12.3	13.5	5.5	2.5	3.2	0.06	16	79.5	10750	8500
3 x 150	rmc	13.7	15.0	5.5	3.15	3.4	0.06	25	85.0	13100	10220
3 x 185	rmc	15.3	16.8	5.5	3.15	3.5	0.06	25	89.0	14750	11250
3 x 240	rmc	17.6	19.2	5.5	3.15	3.6	0.06	25	94.0	17200	12560
3 x 300	rmc	19.7	21.6	5.5	3.15	3.8	0.06	25	99.2	19750	14000

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.435	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.405	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.383	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.363	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.347	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.337	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.280	0.325	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.312	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.301	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 42kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

PARTEX Cables powering with safety

2xSEYRGY / A2xSEYRGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/SWA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 18/36 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Round Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal diameter of steel wire armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 50	rmc	7.7	8.6	8.0	2.5	3.3	0.06	16	81.8	9500	8650
3 x 70	rmc	9.3	10.2	8.0	3.15	3.4	0.06	16	86.9	11700	10420
3 x 95	rmc	11.0	12.0	8.0	3.15	3.5	0.06	16	91.0	13200	11380
3 x 120	rmc	12.3	13.5	8.0	3.15	3.6	0.06	16	94.4	14200	11870
3 x 150	rmc	13.7	15.0	8.0	3.15	3.7	0.06	25	97.8	15580	12800
3 x 185	rmc	15.3	16.8	8.0	3.15	3.9	0.06	25	102.0	17480	13950
3 x 240	rmc	17.6	19.2	8.0	3.15	4.0	0.06	25	106.6	19900	15320
3 x 300	rmc	19.7	21.6	8.0	3.15	4.2	0.06	25	113.2	22800	17450

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.448	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.423	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.401	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.384	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.371	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.210	0.358	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.343	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.330	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 63kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYFGY / A2xSEYFGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 3.6/6 (7.2) kV

Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	2.5	0.8	2.1	0.06	16	43.3	3080	2650
3 x 35	rmc	6.6	7.5	2.5	0.8	2.2	0.06	16	45.8	3550	2940
3 x 50	rmc	7.7	8.6	2.5	0.8	2.3	0.06	16	49.9	4150	3380
3 x 70	rmc	9.3	10.2	2.5	0.8	2.4	0.06	16	52.8	5120	3960
3 x 95	rmc	11.0	12.0	2.5	0.8	2.5	0.06	16	57.0	6250	4755
3 x 120	rmc	12.3	13.5	2.5	0.8	2.6	0.06	16	60.0	7130	5070
3 x 150	rmc	13.7	15.0	2.5	0.8	2.7	0.06	25	64.0	8270	5730
3 x 185	rmc	15.3	16.8	2.5	0.8	2.9	0.06	25	68.0	9780	6620
3 x 240	rmc	17.6	19.2	2.6	0.8	3.0	0.06	25	74.0	11900	7680
3 x 300	rmc	19.7	21.6	2.8	0.8	3.2	0.06	25	80.4	14450	9090

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.298	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.281	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.273	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 12.5kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

PARTEX Cables powering with safety

2xSEYFGY / A2xSEYFGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	0.8	2.2	0.06	16	47.5	3460	2940
3 x 35	rmc	6.6	7.5	3.4	0.8	2.3	0.06	16	50.5	4020	3350
3 x 50	rmc	7.7	8.6	3.4	0.8	2.4	0.06	16	53.5	4630	3870
3 x 70	rmc	9.3	10.2	3.4	0.8	2.6	0.06	16	57.0	5570	4430
3 x 95	rmc	11.0	12.0	3.4	0.8	2.7	0.06	16	61.5	6600	5180
3 x 120	rmc	12.3	13.5	3.4	0.8	2.8	0.06	16	65.0	7750	5700
3 x 150	rmc	13.7	15.0	3.4	0.8	2.9	0.06	25	68.0	8830	6360
3 x 185	rmc	15.3	16.8	3.4	0.8	3.0	0.06	25	72.5	10320	7200
3 x 240	rmc	17.6	19.2	3.4	0.8	3.2	0.06	25	77.5	12470	8250
3 x 300	rmc	19.7	21.6	3.4	0.8	3.3	0.06	25	83.0	14900	9500

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.410	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.391	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0,363	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.344	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.327	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.313	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.304	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.294	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.284	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.275	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 21kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYFGY / A2xSEYFGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	0.8	2.4	0.06	16	54.0	4100	3680
3 x 35	rmc	6.6	7.5	4.5	0.8	2.5	0.06	16	56.0	4620	4000
3 x 50	rmc	7.7	8.6	4.5	0.8	2.6	0.06	16	59.0	5250	4500
3 x 70	rmc	9.3	10.2	4.5	0.8	2.7	0.06	16	63.0	6280	5160
3 x 95	rmc	11.0	12.0	4.5	0.8	2.8	0.06	16	67.0	7500	5930
3 x 120	rmc	12.3	13.5	4.5	0.8	2.9	0.06	16	70.5	8420	6400
3 x 150	rmc	13.7	15.0	4.5	0.8	3.0	0.06	25	73.5	9550	7060
3 x 185	rmc	15.3	16.8	4.5	0.8	3.2	0.06	25	78.0	11100	8000
3 x 240	rmc	17.6	19.2	4.5	0.8	3.3	0.06	25	83.5	13400	9200
3 x 300	rmc	19.7	21.6	4.5	0.8	3.5	0.06	25	89.0	15700	10400

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.416	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.387	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.366	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.347	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.300	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 30.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYFGY / A2xSEYFGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 12/20 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 35	rmc	6.6	7.5	5.5	0.8	2.7	0.06	16	61.0	5180	4560
3 x 50	rmc	7.7	8.6	5.5	0.8	2.8	0.06	16	64.4	5900	5160
3 x 70	rmc	9.3	10.2	5.5	0.8	2.9	0.06	16	68.0	6930	5820
3 x 95	rmc	11.0	12.0	5.5	0.8	3.0	0.06	16	71.8	8170	6600
3 x 120	rmc	12.3	13.5	5.5	0.8	3.1	0.06	16	75.3	9120	7110
3 x 150	rmc	13.7	15.0	5.5	0.8	3.2	0.06	25	78.9	10330	7850
3 x 185	rmc	15.3	16.8	5.5	0.8	3.3	0.06	25	83.0	11900	8820
3 x 240	rmc	17.6	19.2	5.5	0.8	3.5	0.06	25	88.5	14100	9900
3 x 300	rmc	19.7	21.6	5.5	0.80	3.6	0.06	25	93.5	16500	11200

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.435	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.405	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.383	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.363	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.347	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.337	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.280	0.325	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.312	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.301	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 42kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

2xSEYFGY / A2xSEYFGY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/FSA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 18/36 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Flat Galvanized Steel wire to IEC 60502-2

Binder: Steel tape (Optional)

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of flat steel armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 50	rmc	7.7	8.6	8.0	0.8	3.1	0.06	16	76.0	7450	6750
3 x 70	rmc	9.3	10.2	8.0	0.8	3.2	0.06	16	80.6	8650	7600
3 x 95	rmc	11.0	12.0	8.0	0.8	3.4	0.06	16	85.0	10050	8470
3 x 120	rmc	12.3	13.5	8.0	0.8	3.5	0.06	16	88.0	11000	9020
3 x 150	rmc	13.7	15.0	8.0	0.8	3.6	0.06	25	90.8	12250	9800
3 x 185	rmc	15.3	16.8	8.0	0.8	3.7	0.06	25	95.0	13840	10800
3 x 240	rmc	17.6	19.2	8.0	0.8	3.9	0.06	25	100.8	16250	12080
3 x 300	rmc	19.7	21.6	8.0	0.8	4.0	0.06	25	105.6	18800	13600

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.445	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.42	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.398	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.381	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.369	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.210	0.356	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.341	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.328	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 63kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYBY / A2xSEYBY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/STA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 3.6/6 (7.2) kV

Permissible Service Voltage: 3.8/6.5 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Double Steel Tape to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	No. & Nominal thickness of steel tape armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	no. x mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	2.5	2x0.5	2.1	0.06	16	43.0	2900	2480
3 x 35	rmc	6.6	7.5	2.5	2x0.5	2.2	0.06	16	46.0	3380	2780
3 x 50	rmc	7.7	8.6	2.5	2x0.5	2.3	0.06	16	49.0	3960	3200
3 x 70	rmc	9.3	10.2	2.5	2x0.5	2.4	0.06	16	53.0	4950	3780
3 x 95	rmc	11.0	12.0	2.5	2x0.5	2.5	0.06	16	57.5	6040	4430
3 x 120	rmc	12.3	13.5	2.5	2x0.5	2.7	0.06	16	61.0	6870	4800
3 x 150	rmc	13.7	15.0	2.5	2x0.5	2.8	0.06	25	64.5	8050	5510
3 x 185	rmc	15.3	16.8	2.5	2x0.5	2.9	0.06	25	68.5	9500	6320
3 x 240	rmc	17.6	19.2	2.6	2x0.5	3.1	0.06	25	74.5	11650	7440
3 x 300	rmc	19.7	21.6	2.8	2x0.5	3.2	0.06	25	80.5	14120	8750

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.387	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.369	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.343	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.325	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.309	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.297	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.289	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.28	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.273	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.267	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 12.5kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

2xSEYBY / A2xSEYBY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/STA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 6/10 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Double Steel Tape to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	No. & Nominal thickness of steel tape armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	no. x mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	3.4	2x0.5	2.3	0.06	16	48.0	3350	2920
3 x 35	rmc	6.6	7.5	3.4	2x0.5	2.3	0.06	16	51.0	3860	3240
3 x 50	rmc	7.7	8.6	3.4	2x0.5	2.4	0.06	16	54.0	4450	3700
3 x 70	rmc	9.3	10.2	3.4	2x0.5	2.6	0.06	16	57.5	5440	4300
3 x 95	rmc	11.0	12.0	3.4	2x0.5	2.7	0.06	16	61.5	6550	4980
3 x 120	rmc	12.3	13.5	3.4	2x0.5	2.8	0.06	16	65.5	7450	5410
3 x 150	rmc	13.7	15.0	3.4	2x0.5	2.9	0.06	25	69.0	8500	6120
3 x 185	rmc	15.3	16.8	3.4	2x0.5	3.0	0.06	25	73.0	10070	6940
3 x 240	rmc	17.6	19.2	3.4	2x0.5	3.2	0.06	25	78.5	12200	7980
3 x 300	rmc	19.7	21.6	3.4	2x0.5	3.3	0.06	25	84.0	14570	9240

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	µF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.262	0.410	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.291	0.391	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.321	0.364	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.371	0.344	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.417	0.327	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.459	0.314	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.494	0.304	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.543	0.295	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.583	0.284	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.602	0.275	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 21kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYBY / A2xSEYBY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/STA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 8.7/15 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 8.7/15 (17.5) kV

Permissible Service Voltage: 9.2/16.3 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Double Steel Tape to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	No. & Nominal thickness of steel tape armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	no. x mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 25	rmc	5.6	6.5	4.5	2x0.5	2.4	0.06	16	54.0	3930	3500
3 x 35	rmc	6.6	7.5	4.5	2x0.5	2.5	0.06	16	56.5	4450	3820
3 x 50	rmc	7.7	8.6	4.5	2x0.5	2.6	0.06	16	59.0	5050	4310
3 x 70	rmc	9.3	10.2	4.5	2x0.5	2.7	0.06	16	63.0	6100	4980
3 x 95	rmc	11.0	12.0	4.5	2x0.5	2.9	0.06	16	68.0	7300	5720
3 x 120	rmc	12.3	13.5	4.5	2x0.5	3.0	0.06	16	71.0	8170	6140
3 x 150	rmc	13.7	15.0	4.5	2x0.5	3.1	0.06	25	74.5	9320	6830
3 x 185	rmc	15.3	16.8	4.5	2x0.5	3.2	0.06	25	78.5	10840	7730
3 x 240	rmc	17.6	19.2	4.5	2x0.5	3.3	0.06	25	84.0	13070	8850
3 x 300	rmc	19.7	21.6	4.5	2x0.5	3.5	0.06	25	89.5	15450	10160

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
25	0.727	1.20	0.927	1.53	3.6	2.4	0.39	2.40	0.171	0.436	129	100	112	87	143	111
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.187	0.415	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.204	0.386	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.232	0.365	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.258	0.346	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.281	0.332	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.301	0.322	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.329	0.311	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.363	0.299	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.398	0.289	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature · Maximum Short Circuit 250°C · Flame Retardant · Meter Marking · Test 30.5kV · Lead free · Resistance to Solar Radiation · Rigid

Installation condition

Power Station Use · Industrial Use · Outdoor Installation · Buried · In Duct · Open air · In water

2xSEYBY / A2xSEYBY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/STA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 12/20 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Double Steel Tape to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	No. & Nominal thickness of steel tape armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	no. x mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 35	rmc	6.6	7.5	5.5	2x0.5	2.7	0.06	16	62.0	5020	4400
3 x 50	rmc	7.7	8.6	5.5	2x0.5	2.8	0.06	16	65.0	5710	4970
3 x 70	rmc	9.3	10.2	5.5	2x0.5	2.9	0.06	16	68.5	6750	5620
3 x 95	rmc	11.0	12.0	5.5	2x0.5	3.0	0.06	16	72.5	7940	6380
3 x 120	rmc	12.3	13.5	5.5	2x0.5	3.1	0.06	16	76.0	8820	6810
3 x 150	rmc	13.7	15.0	5.5	2x0.5	3.2	0.06	25	79.5	10080	7600
3 x 185	rmc	15.3	16.8	5.5	2x0.5	3.3	0.06	25	83.5	11630	8530
3 x 240	rmc	17.6	19.2	5.5	2x0.5	3.5	0.06	25	89.0	13860	9680
3 x 300	rmc	19.7	21.6	5.5	2x0.8	3.7	0.06	25	95.5	17200	11940

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
35	0.524	0.868	0.668	1.11	5.0	3.3	0.39	2.40	0.162	0.440	154	119	134	104	172	133
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.177	0.410	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.200	0.387	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.222	0.367	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.241	0.351	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.257	0.340	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.280	0.328	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.307	0.314	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.336	0.304	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 42kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

PARTEX Cables powering with safety

2xSEYBY / A2xSEYBY

Three Core (Cu or Al/XLPE/CTS or CWS/PVC/STA/PVC)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 18/36 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 18/30 (36) kV

Permissible Service Voltage: 19/33 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Inner covering: PVC, ST-2 to IEC 60502-2

Armour: Double Steel Tape to IEC 60502-2

Sheath: PVC, ST-2 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	No. & Nominal thickness of steel tape armour	Nominal thickness of sheath	Metallic screen		Approx. overall diameter of cable	Approx. weight of cable	
		Minimum	Maximum				thickness of copper tape	area of copper wire		Cu	Al
Core x mm²	-	mm	mm	mm	no. x mm	mm	mm	mm²	mm	kg/km	kg/km
3 x 50	rmc	7.7	8.6	8.0	2x0.5	3.2	0.06	16	78.0	7500	6780
3 x 70	rmc	9.3	10.2	8.0	2x0.5	3.3	0.06	16	82.0	8680	7620
3 x 95	rmc	11.0	12.0	8.0	2x0.5	3.4	0.06	16	86.0	9950	8430
3 x 120	rmc	12.3	13.5	8.0	2x0.5	3.5	0.06	16	90.0	10920	8950
3 x 150	rmc	13.7	15.0	8.0	2x0.8	3.6	0.06	25	94.0	13100	10680
3 x 185	rmc	15.3	16.8	8.0	2x0.8	3.7	0.06	25	98.0	14770	11720
3 x 240	rmc	17.6	19.2	8.0	2x0.8	3.9	0.06	25	104.0	17180	13010
3 x 300	rmc	19.7	21.6	8.0	2x0.8	4.1	0.06	25	109.0	19850	14670

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C		Maximum A.C resistance of conductor at 90 ˚C		Short circuit rating of conductor in one second		Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Approx. Inductance of cable	Current rating in ground at 20 ˚C				Current rating in air at 30 ˚C	
											In a buried direct		In a buried duct		In air	
	Cu	Al	Cu	Al	Cu	Al	Cu tape	Cu wire			Cu	Al	Cu	Al	Cu	Al
mm²	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	kA	kA	μF/km	mH/km	Amp	Amp	Amp	Amp	Amp	Amp
50	0.387	0.641	0.494	0.822	7.2	4.7	0.39	2.40	0.138	0.448	181	140	158	123	205	159
70	0.268	0.443	0.342	0.568	10.0	6.6	0.39	2.40	0.154	0.423	220	171	194	150	253	196
95	0.193	0.320	0.247	0.411	13.6	8.9	0.39	2.40	0.169	0.401	263	204	232	180	307	238
120	0.153	0.253	0.196	0.325	17.2	11.3	0.39	2.40	0.183	0.384	298	232	264	206	352	274
150	0.124	0.206	0.159	0.265	21.5	14.1	0.39	3.75	0.194	0.371	332	259	296	231	397	309
185	0.0991	0.164	0.127	0.211	26.5	17.4	0.39	3.75	0.210	0.358	374	293	335	262	453	354
240	0.0754	0.125	0.098	0.162	34.3	22.6	0.62	3.75	0.229	0.343	431	338	387	304	529	415
300	0.0601	0.100	0.079	0.130	42.9	28.2	0.62	3.75	0.249	0.330	482	380	435	343	599	472

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

Characteristics

Operating Temperature, Maximum Short Circuit 250°C, Flame Retardant, Meter Marking, Test 63kV, Lead free, Resistance to Solar Radiation, Rigid

Installation condition

Power Station Use, Industrial Use, Outdoor Installation, Buried, In Duct, Open air, In water

AERIAL BUNDLE CABLE (ABC)

Three Core (Al/XLPE/CTS or CWS/HDPE)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 6/10 (12) kV

Permissible Service Voltage: 6.35/11 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Black or as per customer requirements)

CONSTRUCTION

Phase Unit-

Conductor: Stranded Circular Compacted, Plain annealed Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: Cross-linked Polyethylene XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Binder: Non-oven polyester tape

Sheath: Polyethylene (HDPE), ST-7 to IEC 60502-2

Suspension Unit-

Conductor: Stranded Galvanized Steel Wire, Class-A, ASTM B498

Insulation: Polyethylene (HDPE), ST-7 to IEC 60502-2

PHYSICAL DATA

Nominal cross sectional area of conductor	Phase unit								Suspension unit				
	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Metallic screen		Nominal thickness of sheath	Approx. Diameter of single core	Number & diameter of steel wire	Minimum thickness of insulation	Approx. Diameter of core	Approx. Diameter of bundled cable	Approx. weight of cable
					thickness of copper tape	area of copper wire							
		Minimum	Maximum										
Core x mm²	-	mm	mm	mm	mm	mm²	mm	mm	no./ mm	mm	mm	mm	kg/km
3 x 35+ 30	rmc	6.6	7.5	3.4	0.06	16	1.8	21.9	7/2.38	1	9.5	48.8	1800
3 x 50+ 30	rmc	7.7	8.6	3.4	0.06	16	1.8	23.0	7/2.38	1	9.5	51.5	2000
3 x 70+ 50	rmc	9.3	10.2	3.4	0.06	16	1.8	24.6	7/3.10	1	11.8	55.0	2450
3 x 95+ 50	rmc	11.0	12.0	3.4	0.06	16	1.8	26.5	7/3.10	1	11.8	60.2	2800
3 x 120+ 70	rmc	12.3	13.5	3.4	0.06	16	1.8	27.9	7/3.57	1	13.4	62.5	3260
3 x 150+ 70	rmc	13.7	15.0	3.4	0.06	25	1.9	29.5	7/3.57	1	13.4	66.0	3680
3 x 185+ 70	rmc	15.3	16.8	3.4	0.06	25	1.9	31.2	7/3.57	1	13.4	70.2	4120
3 x 240+ 70	rmc	17.6	19.2	3.4	0.06	25	1.9	33.6	7/3.57	1	13.4	80.0	4800

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C	Maximum A.C resistance of conductor at 90 ˚C	Short circuit rating of conductor in one second	Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Inductive reactance at 50 Hz	Minimum breaking load of messenger conductor	Current rating ambient air at 40 ˚C
				Cu tape	Cu wire				
mm²	Ω/km	Ω/km	kA	kA	kA	µF/km	Ω/km	kN	Amp
35	0.868	1.11	3.3	0.39	2.40	0.391	0.145	41.7	145
50	0.641	0.822	4.7	0.39	2.40	0,363	0.126	41.7	170
70	0.443	0.568	6.6	0.39	2.40	0.344	0.119	70.8	215
95	0.320	0.411	8.9	0.39	2.40	0.327	0.113	70.8	260
120	0.253	0.325	11.3	0.39	2.40	0.313	0.108	91.8	305
150	0.206	0.265	14.1	0.39	3.75	0.304	0.105	91.8	340
185	0.164	0.211	17.4	0.39	3.75	0.294	0.101	91.8	390
240	0.125	0.162	22.6	0.62	3.75	0.284	0.097	91.8	445

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety

AERIAL BUNDLE CABLE (ABC)

Three Core (Al/XLPE/CTS or CWS/PE)

APPLICATION

The three core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 3.6/6 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60502-2

BDS IEC 60502-2

VOLTAGE GRADE

U_o/U (Um) : 12/20 (24) kV

Permissible Service Voltage: 12.7/22 kV

COLOR

Insulated core : Red, Yellow & Blue core marking tape

Sheath : (Black or as per customer requirements)

CONSTRUCTION

Phase Unit-

Conductor: Stranded Circular Compacted, Plain annealed Aluminium, Class-2 to IEC 60228

Conductor screen: Semi-conductive XLPE

Insulation: Cross-linked Polyethylene XLPE to IEC 60502-2

Insulation screen: Semi-conductive XLPE

Metallic screen: Copper Tape or Copper wire to IEC 60502-2

Binder: Nonwoven polyester tape

Sheath: Polyethylene (HDPE), ST-7 to IEC 60502-2

Suspension Unit-

Conductor: Stranded Galvanized Steel Wire, Class-A, ASTM B498

Insulation: Polyethylene (HDPE), ST-7 to IEC 60502-2

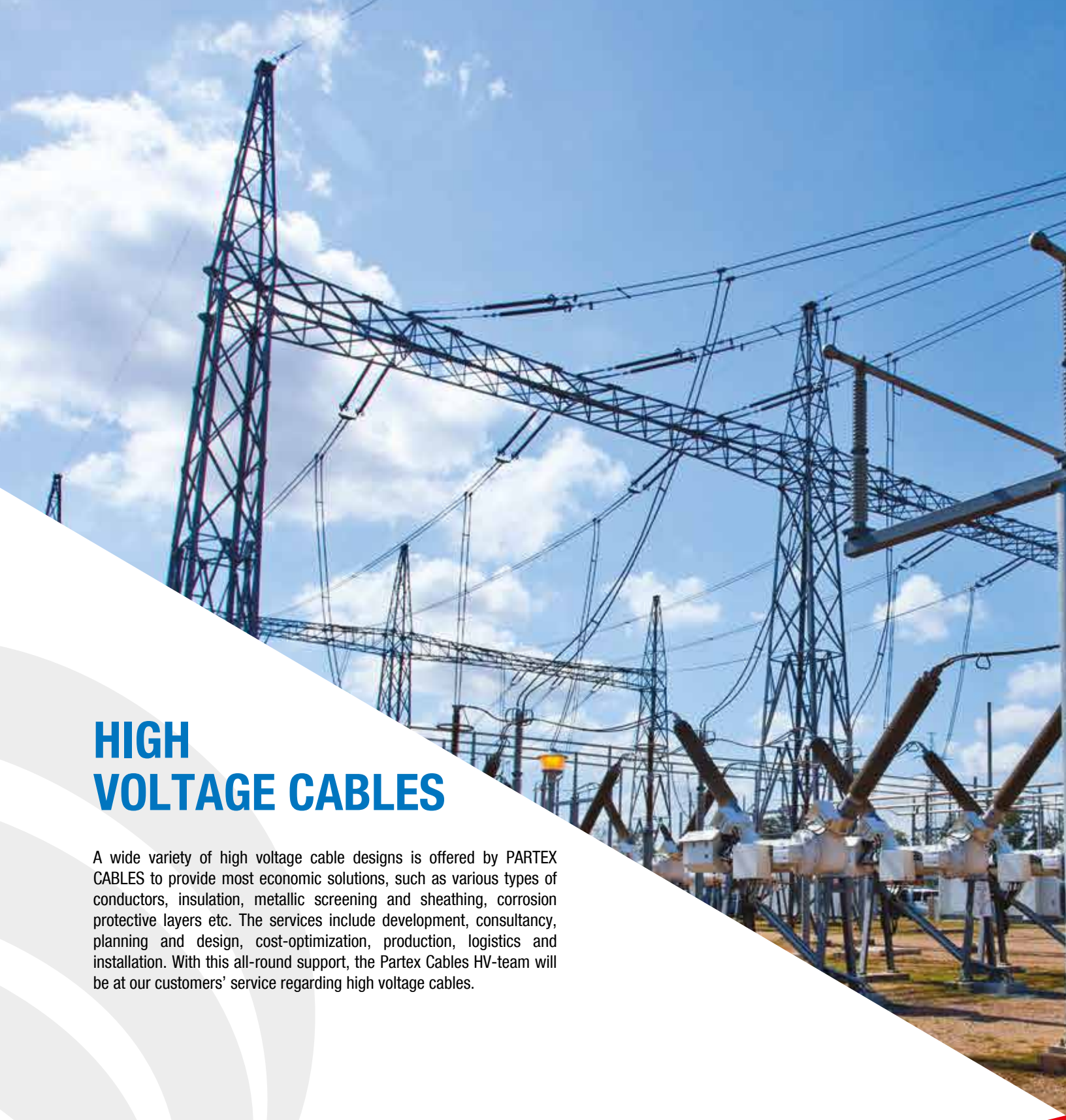
PHYSICAL DATA

Nominal cross sectional area of conductor	Phase unit								Suspension unit				
	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Metallic screen		Nominal thickness of sheath	Approx. Diameter of single core	Number & diameter of steel wire	Minimum thickness of insulation	Approx. Diameter of core	Approx. Diameter of bundled cable	Approx. weight of cable
					thickness of copper tape	area of copper wire							
		Minimum	Maximum										
Core x mm²	-	mm	mm	mm	mm	mm²	mm	mm	no./ mm	mm	mm	mm	kg/km
3 x 35+ 30	rmc	6.6	7.5	5.5	0.06	16	1.8	26.2	7/2.38	1	9.5	58.5	2250
3 x 50+ 30	rmc	7.7	8.6	5.5	0.06	16	1.8	27.2	7/2.38	1	9.5	61.0	2500
3 x 70+ 50	rmc	9.3	10.2	5.5	0.06	16	1.8	29.0	7/3.10	1	11.8	64.8	3020
3 x 95+ 50	rmc	11.0	12.0	5.5	0.06	16	1.9	31.0	7/3.10	1	11.8	69.0	3400
3 x 120+ 70	rmc	12.3	13.5	5.5	0.06	16	1.9	32.3	7/3.57	1	13.4	72.0	3920
3 x 150+ 70	rmc	13.7	15.0	5.5	0.06	25	2.0	34.2	7/3.57	1	13.4	76.1	4360
3 x 185+ 70	rmc	15.3	16.8	5.5	0.06	25	2.0	35.7	7/3.57	1	13.4	80.0	4810

ELECTRICAL DATA

Nominal cross sectional area	Maximum D.C resistance of conductor at 20 ˚C	Maximum A.C resistance of conductor at 90 ˚C	Short circuit rating of conductor in one second	Short circuit rating of metallic screen in one second		Approx. Capacitance of cable	Inductive reactance at 50 Hz	Minimum breaking load of messenger conductor	Current rating ambient air at 40 ˚C
				Cu tape	Cu wire				
mm²	Ω/km	Ω/km	kA	kA	kA	µF/km	Ω/km	kN	Amp
35	0.868	1.11	3.3	0.39	2.40	0.162	0.165	41.7	145
50	0.641	0.822	4.7	0.39	2.40	0.177	0.157	41.7	170
70	0.443	0.568	6.6	0.39	2.40	0.200	0.145	70.8	215
95	0.320	0.411	8.9	0.39	2.40	0.222	0.138	70.8	260
120	0.253	0.325	11.3	0.39	2.40	0.241	0.133	91.8	305
150	0.206	0.265	14.1	0.39	3.75	0.257	0.128	91.8	340
185	0.164	0.211	17.4	0.39	3.75	0.280	0.124	91.8	390

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.



HIGH VOLTAGE CABLES

A wide variety of high voltage cable designs is offered by PARTEX CABLES to provide most economic solutions, such as various types of conductors, insulation, metallic screening and sheathing, corrosion protective layers etc. The services include development, consultancy, planning and design, cost-optimization, production, logistics and installation. With this all-round support, the Partex Cables HV-team will be at our customers' service regarding high voltage cables.

PARTEX™ Cables powering with safety

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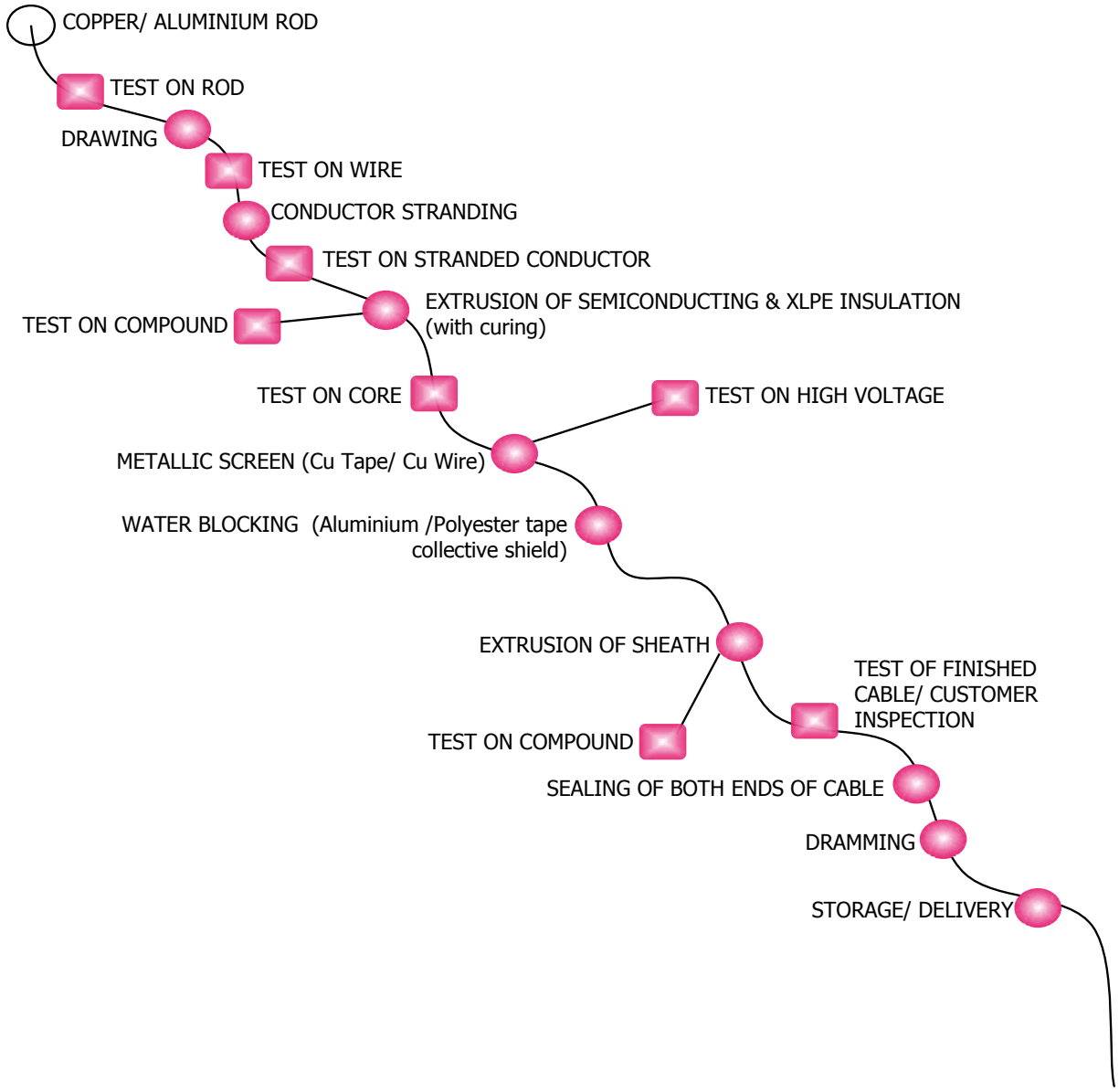
HIGH VOLTAGE CABLES

Voltage Rating U (U_m) : above 36 (36) kV up to and including 150 (170) kV

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
IEC 60840 IEC 60228	IEC 60811 BS 7655	IEC 60332 IEC 61034

HIGH VOLTAGE CABLES MANUFACTURING PROCESS



HV CABLES WITH LONGITUDINAL WATER BLOCKING

Single Core (Cu /XLPE/CWS/APL/HDPE)

APPLICATION

The single core cables are designed for distribution of electrical power with nominal voltage U_o/U ranging from 38/66 kV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

STANDARD

IEC 60840

VOLTAGE GRADE

U_o/U (Um) : 38/66 (72.5) kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular Compacted or Segmental (Milliken), Plain annealed copper, Class-2 to IEC 60228

Conductor screen: Semi-conducting XLPE

Insulation: XLPE to IEC 60840

Insulation screen: Semi-conducting XLPE

Semi-conductive water-blocking tape

Metallic screen: Copper wire & Cu tape

Water-blocking: Non-conductive tape

Water shield: Copolymer aluminium tape

Sheath: HDPE & Graphite coat, ST-7 to IEC 60840

PHYSICAL DATA

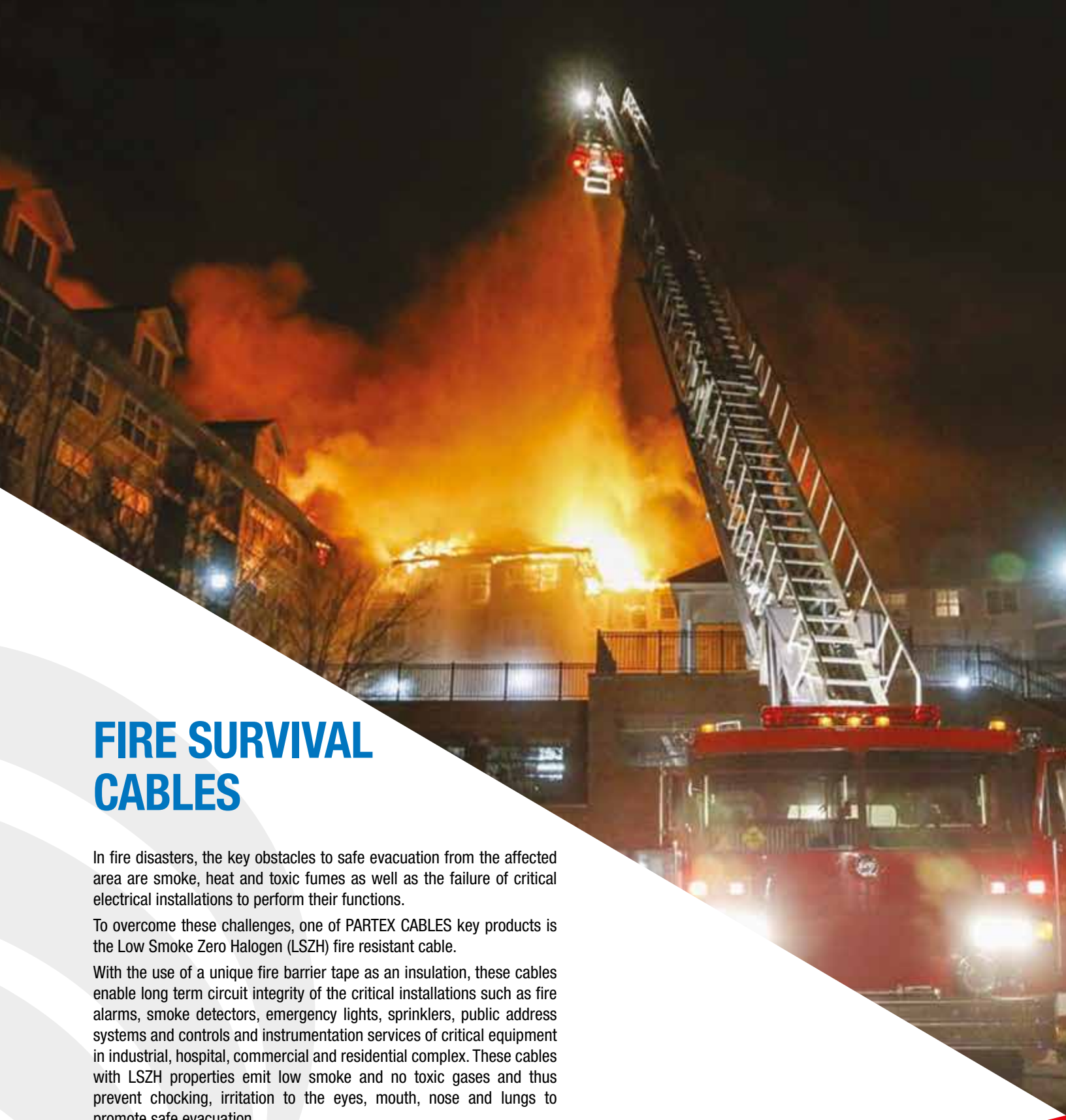
Nominal cross sectional area of conductor	Shape of conductor	Conductor diameter		Nominal thickness of insulation	Nominal thickness of sheath	Approx. Metallic screen area of copper wire	Approx. overall diameter of cable	Approx. weight of cable
		Minimum	Maximum					
Core x mm²	-	mm	mm	mm	mm	mm²	mm	kg/km
1 x 120	rmc	12.3	13.5	13	2.6	116	54.5	3980
1 x 150	rmc	13.7	15.0	12	2.6	116	55.1	4380
1 x 185	rmc	15.3	16.8	12	2.6	116	57.2	4820
1 x 240	rmc	17.6	19.2	12	2.7	116	59.4	5430
1 x 300	rmc	19.7	21.6	11	2.7	116	59.8	5950
1 x 400	rmc	22.3	24.6	11	2.8	116	62.8	6870
1 x 500	rmc	25.3	27.6	11	2.9	116	66.2	8000
1 x 630	rmc	28.7	32.5	11	3.0	116	69.9	9530
1 x 800	rmc	32.6	36.7	10	3.1	116	72.8	11500
1 x 1000	rmc	36.3	40.5	10	3.2	116	77.4	13400
1 x 1200	rmc	40.2	44.5	10	3.3	116	84.2	15500
1 x 1600	rmc	46.0	50.5	10	3.5	116	89.2	19600
1 x 2000	rmc	52.0	56.6	10	3.7	116	95.6	23600

ELECTRICAL DATA

Cross sectional area	Maximum D.C resistance of conductor at 20 ˚C	Maximum A.C resistance of conductor at 90 ˚C	Short circuit rating of conductor in one second	Short circuit rating of metallic screen in one second	Approx. Capacitance of cable	Approx. Inductive reactance at 50Hz of cable	Current rating in ground at 20 ˚C		Current rating in air at 30 ˚C
							Laid direct in flat spaced	Laid in single duct flat touching	Laid direct in flat touching
mm²	Ω/km	Ω/km	kA	kA	μF/km	Ω/km	Amp	Amp	Amp
120	0.153	0.196	17.2	17.4	0.116	0.163	370	350	435
150	0.124	0.159	21.5	17.4	0.124	0.158	385	366	492
185	0.0991	0.127	26.5	17.4	0.133	0.156	415	400	500
240	0.0754	0.098	34.3	17.4	0.144	0.150	480	460	590
300	0.0601	0.079	42.9	17.4	0.172	0.140	535	530	680
400	0.0470	0.063	57.2	17.4	0.189	0.134	586	595	770
500	0.0366	0.050	71.5	17.4	0.204	0.130	690	680	890
630	0.0283	0.041	90.1	17.4	0.232	0.122	770	760	1020
800	0.0221	0.039	115	17.4	0.263	0.117	850	840	1160
1000	0.0176	0.029	143	17.4	0.274	0.115	970	960	1340
1200	0.0151	0.020	172	17.4	0.298	0.113	1050	1030	1470
1600	0.0113	0.016	229	17.4	0.326	0.112	1360	1290	2055
2000	0.0090	0.013	286	17.4	0.356	0.110	1490	1420	2305

Current ratings are valid for cables laid under defined conditions at page no. 171. For current ratings at deviated conditions, apply correction factor as given on page no.171-175.

PARTEX Cables powering with safety



FIRE SURVIVAL CABLES

In fire disasters, the key obstacles to safe evacuation from the affected area are smoke, heat and toxic fumes as well as the failure of critical electrical installations to perform their functions.

To overcome these challenges, one of PARTEX CABLES key products is the Low Smoke Zero Halogen (LSZH) fire resistant cable.

With the use of a unique fire barrier tape as an insulation, these cables enable long term circuit integrity of the critical installations such as fire alarms, smoke detectors, emergency lights, sprinklers, public address systems and controls and instrumentation services of critical equipment in industrial, hospital, commercial and residential complex. These cables with LSZH properties emit low smoke and no toxic gases and thus prevent chocking, irritation to the eyes, mouth, nose and lungs to promote safe evacuation.

PARTEX™ Cables powering with safety

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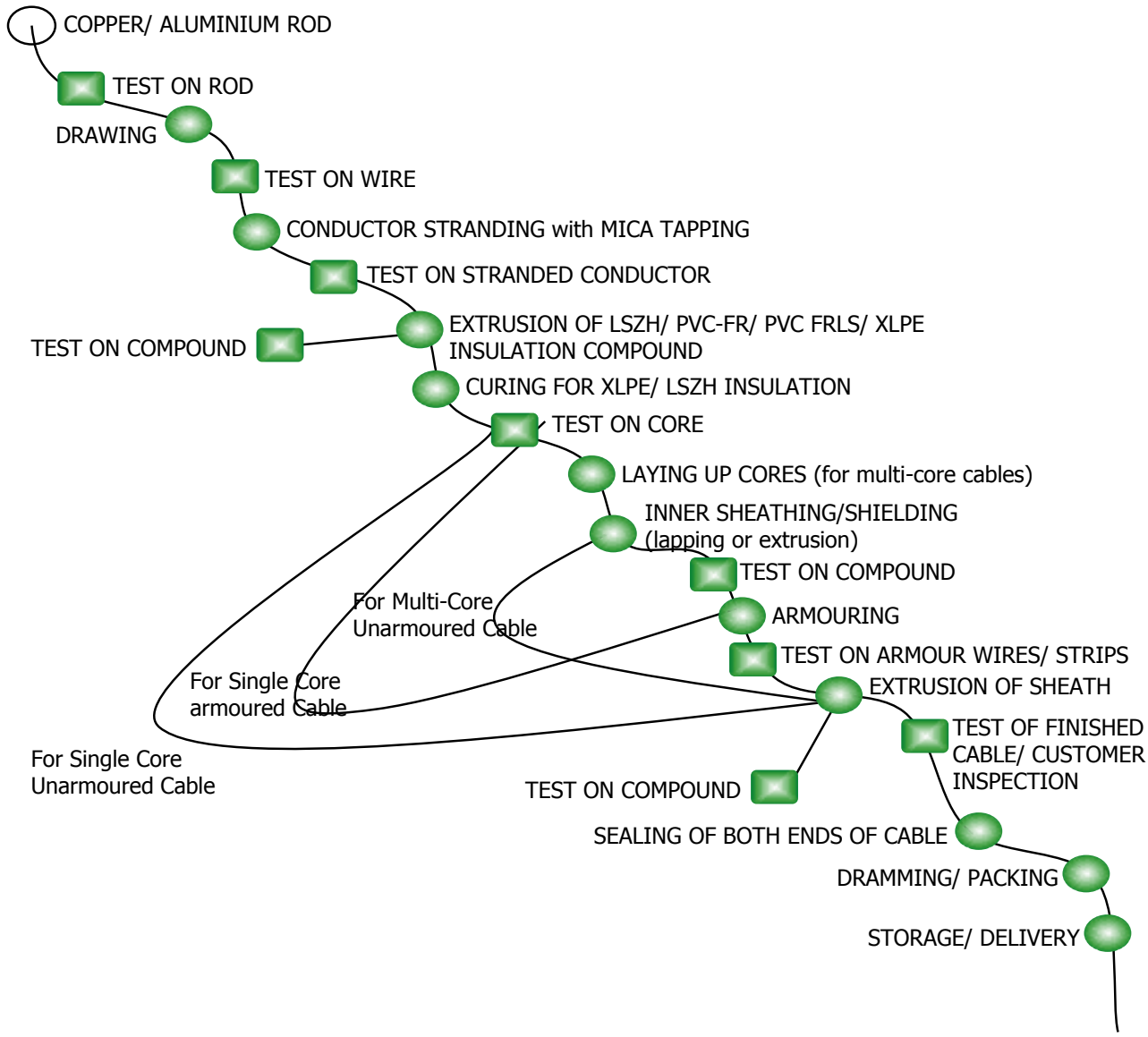
FIRE SURVIVAL CABLES

Voltage Rating U_0/U (U_m) : 300/500 (550) V up to and including 1.8/3.0 (3.6) kV

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
IEC 60502-2 DIN VDE 0276/603 BS 6004 BS 7629-1 BS 5308 BS 7211 IEC 60228	IEC 60811 BS 7655	IEC 60332 IEC 61034 IEC 60754 IEC 60331 BS 6387 BS EN 50200

FIRE SURVIVAL CABLES MANUFACTURING PROCESS



PARTEX Cables powering with safety

BYA-FiR

Single Core (Cu/Mica Tape/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

BS 6004

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U : 450/750V

COLOR

Insulated core : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, TI1-FR to BS 7655

PHYSICAL DATA							ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & Diameter of wire	Thickness of Mica Tape	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current carrying capacity in conduit at 35 °C	Current Carrying Capacity in Air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps
1 x 1.5	re	1/1.38	0.11	0.7	3.2	25	12.1	16	20
1 x 1.5	rm	7/0.52	0.11	0.7	3.2	26	12.1	16	20
1 x 2.5	re	1/1.78	0.11	0.8	3.8	38	7.41	22	28
1 x 2.5	rm	7/0.67	0.11	0.8	4.0	39	7.41	22	28
1 x 4	rm	7/0.85	0.11	0.8	4.5	56	4.61	30	37
1 x 6	rm	7/1.04	0.11	0.8	5.2	77	3.08	38	47
1 x 10	rm	7/1.35	0.11	1.0	6.5	125	1.83	52	63
1 x 16	rm	7/1.70	0.11	1.0	7.5	186	1.15	70	85
1 x 25	rm	7/2.14	0.11	1.2	9.3	290	0.727	91	110
1 x 35	rmc	min. 6	0.11	1.2	10.0	376	0.524	112	136
1 x 50	rmc	min. 6	0.11	1.4	11.6	524	0.387	136	164
1 x 70	rmc	min. 12	0.11	1.4	13.2	715	0.268	173	207
1 x 95	rmc	min. 15	0.11	1.6	15.7	970	0.193	216	253
1 x 120	rmc	min. 18	0.11	1.6	16.9	1200	0.153	244	291
1 x 150	rmc	min. 18	0.11	1.8	19.0	1517	0.124	-	333
1 x 185	rmc	min. 30	0.11	2.0	21.0	1858	0.0991	-	381
1 x 240	rmc	min. 34	0.11	2.2	24.1	2425	0.0754	-	452
1 x 300	rmc	min. 34	0.11	2.4	26.5	3003	0.0601	-	526
1 x 400	rmc	min. 53	0.11	2.6	30.1	4000	0.047	-	639
1 x 500	rmc	min. 53	0.11	2.8	33.3	4950	0.0366	-	752
1 x 630	rmc	min. 53	0.11	2.8	37.0	4185	0.0283	-	855

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Installation condition

PARTEX Cables powering with safety

NYY-FiR

Single Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

VDE 0271/3.69

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Black)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
1 x 1.5	re	1/1.38	0.11	0.8	1.8	7.2	75	12.1	27	20	22	17
1 x 1.5	rm	7/0.52	0.11	0.8	1.8	7.4	78	12.1	27	20	22	17
1 x 2.5	re	1/1.78	0.11	0.8	1.8	7.6	90	7.41	36	30	30	23
1 x 2.5	rm	7/0.67	0.11	0.8	1.8	7.9	95	7.41	36	30	30	23
1 x 4	rm	7/0.85	0.11	1.0	1.8	8.7	126	4.61	47	36	39	29
1 x 6	rm	7/1.04	0.11	1.0	1.8	9.5	154	3.08	59	45	50	36
1 x 10	rm	7/1.35	0.11	1.0	1.8	10.4	200	1.83	78	60	69	50
1 x 16	rm	7/1.70	0.11	1.0	1.8	11.0	271	1.15	100	76	94	67
1 x 25	rm	7/2.14	0.11	1.2	1.8	13.2	390	0.727	130	101	125	89
1 x 35	rmc	min. 6	0.11	1.2	1.8	13.8	486	0.524	155	119	160	114
1 x 50	rmc	min. 6	0.11	1.4	1.8	15.6	652	0.387	185	144	195	138
1 x 70	rmc	min. 12	0.11	1.4	1.8	17.1	865	0.268	225	175	245	171
1 x 95	rmc	min. 15	0.11	1.6	1.8	19.4	1140	0.193	270	211	300	204
1 x 120	rmc	min. 18	0.11	1.6	1.8	21.1	1400	0.153	310	243	350	242
1 x 150	rmc	min. 18	0.11	1.8	1.8	23.1	1726	0.124	350	275	405	280
1 x 185	rmc	min. 30	0.11	2.0	2.0	25.6	2126	0.0991	390	306	460	320
1 x 240	rmc	min. 34	0.11	2.2	2.0	28.2	2714	0.0754	450	351	555	386
1 x 300	rmc	min. 34	0.11	2.4	2.0	31.0	3342	0.0601	515	402	640	448
1 x 400	rmc	min. 53	0.11	2.6	2.2	35.0	4385	0.0470	585	453	770	546
1 x 500	rmc	min. 53	0.11	2.8	2.2	38.0	5400	0.0366	680	526	900	643
1 x 630	rmc	min. 53	0.11	2.8	2.2	42.0	6715	0.0283	800	615	1030	740
1 x 800	rmc	min. 53	0.11	2.8	2.4	48.9	8628	0.0221	945	724	1160	836
1 x 1000	rmc	min. 53	0.11	3.0	2.6	54.3	10800	0.0176	1095	835	1310	949

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 70°C / -40°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

YY-FiR

Single Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

IEC 60502-1

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Black)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
1 x 1.5	re	1/1.38	0.11	0.8	1.4	6.2	60	12.1	27	20	22	17
1 x 1.5	rm	7/0.52	0.11	0.8	1.4	6.5	64	12.1	27	20	22	17
1 x 2.5	re	1/1.78	0.11	0.8	1.4	6.8	75	7.41	36	30	30	23
1 x 2.5	rm	7/0.67	0.11	0.8	1.4	7.0	78	7.41	36	30	30	23
1 x 4	rm	7/0.85	0.11	1.0	1.4	8.0	105	4.61	47	36	39	29
1 x 6	rm	7/1.04	0.11	1.0	1.4	8.5	132	3.08	59	45	50	36
1 x 10	rm	7/1.35	0.11	1.0	1.4	9.5	180	1.83	78	60	69	50
1 x 16	rm	7/1.70	0.11	1.0	1.4	10.6	250	1.15	100	76	94	67
1 x 25	rm	7/2.14	0.11	1.2	1.4	12.3	360	0.727	130	101	125	89
1 x 35	rmc	min. 6	0.11	1.2	1.4	13.0	470	0.524	155	119	160	114
1 x 50	rmc	min. 6	0.11	1.4	1.4	14.5	620	0.387	185	144	195	138
1 x 70	rmc	min. 12	0.11	1.4	1.4	16.1	840	0.268	225	175	245	171
1 x 95	rmc	min. 15	0.11	1.6	1.5	18.5	1100	0.193	270	211	300	204
1 x 120	rmc	min. 18	0.11	1.6	1.5	20.0	1370	0.153	310	243	350	242
1 x 150	rmc	min. 18	0.11	1.8	1.6	22.0	1700	0.124	350	275	405	280
1 x 185	rmc	min. 30	0.11	2.0	1.7	24.3	2075	0.0991	390	306	460	320
1 x 240	rmc	min. 34	0.11	2.2	1.8	27.5	2670	0.0754	450	351	555	386
1 x 300	rmc	min. 34	0.11	2.4	1.9	30.3	3310	0.0601	515	402	640	448
1 x 400	rmc	min. 53	0.11	2.6	2.0	34.0	4340	0.0470	585	453	770	546
1 x 500	rmc	min. 53	0.11	2.8	2.1	37.5	5378	0.0366	680	526	900	643
1 x 630	rmc	min. 53	0.11	2.8	2.2	41.5	6680	0.0283	800	615	1030	740
1 x 800	rmc	min. 53	0.11	2.8	2.3	48.3	8600	0.0221	945	724	1160	836
1 x 1000	rmc	min. 53	0.11	3.0	2.5	53.6	10780	0.0176	1095	835	1310	949

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 70°C / 30°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

PARTEX Cables powering with safety

NYY-FiR / YY-FiR

2 Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

IEC 60502-1

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red & Black)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
2 x 1.5	re	1/1.38	0.11	0.8	1.8	11.0	165	12.1	25	18	19.0	14
2 x 1.5	rm	7/0.52	0.11	0.8	1.8	11.2	170	12.1	25	18	19.0	14
2 x 2.5	re	1/1.78	0.11	0.8	1.8	12.4	205	7.41	34	28	27.0	20
2 x 2.5	rm	7/0.68	0.11	0.8	1.8	12.8	215	7.41	34	28	27.0	20
2 x 4	rm	7/0.85	0.11	1.0	1.8	14.5	305	4.61	44	33	35.0	25
2 x 6	rm	7/1.04	0.11	1.0	1.8	15.6	375	3.08	55	41	45.0	31
2 x 10	rm	7/1.35	0.11	1.0	1.8	17.5	509	1.83	74	56	62.0	43
2 x 16	rm	7/1.70	0.11	1.0	1.8	19.5	691	1.15	97	73	84.0	57
2 x 25	rm	7/2.14	0.11	1.2	1.8	23.5	1044	0.727	125	96	110.0	74
2 x 35	rmc	min. 6	0.11	1.2	1.8	26.0	1330	0.524	150	114	140.0	94

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 70°C 40°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

NYY-FiR / YY-FiR

3 Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

IEC 60502-1

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular/ Sector shaped, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
3 x 1.5	re	1/1.38	0.11	0.8	1.8	11.5	195	12.1	22.0	15	16.0	11
3 x 1.5	rm	7/0.52	0.11	0.8	1.8	11.8	200	12.1	22.0	15	16.0	11
3 x 2.5	re	1/1.78	0.11	0.8	1.8	12.7	250	7.41	30.0	24	23.0	16
3 x 2.5	rm	7/0.68	0.11	0.8	1.8	13.2	260	7.41	30.0	24	23.0	16
3 x 4.0	rm	7/0.85	0.11	1.0	1.8	15.0	360	4.61	38.0	27	32.0	22
3 x 6.0	rm	7/1.04	0.11	1.0	1.8	16.4	460	3.08	48.0	34	41.0	27
3 x 10	rm	7/1.35	0.11	1.0	1.8	18.5	625	1.83	64.0	46	56.0	37
3 x 16	rm	7/1.70	0.11	1.0	1.8	21.0	920	1.15	83.0	59	75.0	48
3 x 25	rm	7/2.14	0.11	1.2	1.8	25.0	1320	0.727	110.0	81	98.0	62
3 x 35	sm	min. 6	0.11	1.2	1.8	24.2	1400	0.524	130.0	94	120.0	74
3 x 50	sm	min. 6	0.11	1.4	1.8	25.9	1815	0.387	155.0	114	150.0	93
3 x 70	sm	min. 12	0.11	1.4	2.0	29.2	2444	0.268	190.0	140	190.0	116
3 x 95	sm	min. 15	0.11	1.6	2.1	33.4	3350	0.193	225.0	166	230.0	134
3 x 120	sm	min. 18	0.11	1.6	2.2	36.3	4110	0.153	260.0	193	270.0	162
3 x 150	sm	min. 18	0.11	1.8	2.3	39.5	5100	0.124	295.0	220	305.0	180
3 x 185	sm	min. 30	0.11	2.0	2.5	43.5	6260	0.0991	330.0	246	350.0	210
3 x 240	sm	min. 34	0.11	2.2	2.7	48.8	7900	0.0754	385.0	286	410.0	241
3 x 300	sm	min. 34	0.11	2.4	2.9	54.1	10000	0.0601	425.0	312	470.0	278

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C 30°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

PARTEX Cables powering with safety

NYY-FiR / YY-FiR

3 & half Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

IEC 60502-1

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted/ Sector shaped, Plain annealed copper, Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
3 x 25+16	rm/rm	min. 6	0.11	1.2	1.8	27.0	1400	0.727/1.15	110	81	98	62
		min. 6	0.11	1.0								
3 x 35+16	sm/rm	min. 6	0.11	1.2	1.8	26.2	1580	0.524/1.15	130	94	120	74
		min. 6	0.11	1.0								
3 x 50+25	sm/rm	min. 6	0.11	1.4	1.9	28.5	2180	0.387/0.727	155	114	150	93
		min. 6	0.11	1.2								
3 x 70+35	sm/rmc	min. 12	0.11	1.4	2.0	32.5	2910	0.268/0.524	190	140	190	116
		min. 6	0.11	1.2								
3 x 95+50	sm/rmc	min. 15	0.11	1.6	2.2	38.0	3950	0.193/0.387	225	166	230	134
		min. 6	0.11	1.4								
3 x 120+70	sm/rmc	min. 18	0.11	1.6	2.3	40.8	5050	0.153/0.268	260	193	270	162
		min. 12	0.11	1.4								
3 x 150+70	sm/rmc	min. 18	0.11	1.8	2.4	45.0	6020	0.124/0.268	295	220	305	180
		min. 12	0.11	1.4								
3 x 185+95	sm/rmc	min. 30	0.11	2.0	2.6	50.5	7450	0.0991/0.193	330	246	350	210
		min.15	0.11	1.6								
3 x 240+120	sm/rmc	min. 34	0.11	2.2	2.8	56.0	9650	0.0754/0.153	383	284	410	241
		min.18	0.11	1.6								
3 x 300+150	sm/rmc	min. 34	0.11	2.4	3.0	63.0	12100	0.0601/0.124	425	312	470	278
		min. 18	0.11	1.8								

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C 30°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

NYY-FiR / YY-FiR

4 Core (Cu/Mica Tape/PVC-FR/PVC-FR)

APPLICATION

These cables are designed for emergency lighting, fire alarms and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

During fire, electric circuits and the associated lighting may be damaged. Power and data communications may be suspended. Human safety may depend on continued operation of lighting, elevators and escalators, fire fighting water pumps, fire alarm and ventilation fans.

STANDARD

IEC 60502-1

IEC 60331-21 & BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Sector shaped, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, PVC/A-FR to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-1-FR to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
4 x 1.5	re	1/1.38	0.11	0.8	1.8	12.5	230	12.1	22	15	16	11
4 x 1.5	rm	7/0.52	0.11	0.8	1.8	13.0	235	12.1	22	15	16	11
4 x 2.5	re	1/1.78	0.11	0.8	1.8	14.0	305	7.41	30	24	23	16
4 x 2.5	rm	7/0.67	0.11	0.8	1.8	14.6	312	7.41	30	24	23	16
4 x 4	rm	7/0.85	0.11	1.0	1.8	16.2	430	4.61	38	27	32	22
4 x 6	rm	7/1.04	0.11	1.0	1.8	17.5	540	3.08	48	34	41	27
4 x 10	rm	7/1.35	0.11	1.0	1.8	20.0	760	1.83	64	46	56	37
4 x 16	rm	7/1.70	0.11	1.0	1.8	23.2	1135	1.15	83	59	75	48
4 x 25	rm	7/2.14	0.11	1.2	1.8	27.6	1600	0.727	110	81	98	62
4 x 35	sm	min. 6	0.11	1.2	1.8	26.4	1800	0.524	130	94	120	74
4 x 50	sm	min. 6	0.11	1.4	1.9	29.0	2460	0.387	155	114	150	93
4 x 70	sm	min. 12	0.11	1.4	2.1	33.5	3250	0.268	190	140	190	116
4 x 95	sm	min. 15	0.11	1.6	2.2	38.4	4400	0.193	225	166	230	134
4 x 120	sm	min. 18	0.11	1.6	2.4	41.0	5500	0.153	260	193	270	162
4 x 150	sm	min. 18	0.11	1.8	2.5	45.2	6800	0.124	295	220	305	180
4 x 185	sm	min. 30	0.11	2.0	2.7	50.5	8350	0.0991	330	246	350	210
4 x 240	sm	min. 34	0.11	2.2	2.9	56.0	10700	0.0754	385	286	410	241
4 x 300	sm	min. 34	0.11	2.4	3.1	64.0	13200	0.0601	425	312	470	278

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 70°C 30°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 3.5kV

Installation condition

Industrial Use

Fire Fighting Use

Outdoor Installation

Open air

In Duct

Buried

PARTEX Cables powering with safety

2xY-FiR

Single Core (Cu/Mica Tape/XLPE/PVC-FR)

APPLICATION

Suitable for use in fixed installations, in applications where maintenance of power supply during a fire is required for a defined period of time such as for essential safety circuits, fire alarm systems and sprinkler systems etc.

STANDARD

IEC 60502-1
IEC 60331-21
BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Natural)
Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular / Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linkd Polyethylene, XLPE to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
1 x 1.5	re	1/1.38	0.11	0.7	1.4	6.2	59	12.1	36	27	30	22
1 x 1.5	rm	7/0.52	0.11	0.7	1.4	6.5	61	12.1	36	27	30	22
1 x 2.5	re	1/1.78	0.11	0.7	1.4	6.7	73	7.41	47	36	39	27
1 x 2.5	rm	7/0.67	0.11	0.7	1.4	6.9	76	7.41	47	36	39	27
1 x 4	rm	7/0.85	0.11	0.7	1.4	7.5	96	4.61	59	45	50	35
1 x 6	rm	7/1.04	0.11	0.7	1.4	8.1	121	3.08	78	60	69	49
1 x 10	rm	7/1.35	0.11	0.7	1.4	9.0	166	1.83	100	76	94	66
1 x 16	rm	7/1.70	0.11	0.7	1.4	10.1	235	1.15	130	100	125	86
1 x 25	rm	7/2.14	0.11	0.9	1.4	11.8	342	0.727	155	116	160	107
1 x 35	rmc	min. 6	0.11	0.9	1.4	12.3	431	0.524	185	140	195	129
1 x 50	rmc	min. 6	0.11	1.0	1.4	13.7	585	0.387	225	172	245	161
1 x 70	rmc	min. 12	0.11	1.1	1.4	15.4	793	0.268	270	206	300	191
1 x 95	rmc	min. 15	0.11	1.1	1.5	17.1	1040	0.193	310	234	350	232
1 x 120	rmc	min. 18	0.11	1.2	1.5	18.8	1296	0.153	350	263	405	267
1 x 150	rmc	min. 18	0.11	1.4	1.6	21.0	1612	0.124	390	295	460	299
1 x 185	rmc	min. 30	0.11	1.6	1.6	23.0	1979	0.0991	450	344	555	339
1 x 240	rmc	min. 34	0.11	1.7	1.7	25.6	2537	0.0754	515	390	640	393
1 x 300	rmc	min. 34	0.11	1.8	1.8	28.3	3140	0.0601	585	443	770	443
1 x 400	rmc	min. 53	0.11	2.0	1.9	32.0	4137	0.0470	680	524	900	502
1 x 500	rmc	min. 53	0.11	2.2	2.0	35.4	5142	0.0366	800	606	1030	566
1 x 630	rmc	min. 53	0.11	2.4	2.2	39.5	6448	0.0283	945	713	1160	645
1 x 800	rmc	min. 53	0.11	2.6	2.3	48.1	8355	0.0221	1095	847	1310	788
1 x 1000	rmc	min. 53	0.11	2.8	2.4	53.5	10450	0.0176	1270	1010	1480	925

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C
Maximum Short Circuit 750°C
Fire Resistant IEC 60331 BS 6387
Flames don't Spread IEC 60332-3-24
Lead free
Rigid
Flame Retardant IEC 60332-1-2
Test 3.5kV

Installation condition

Industrial Use
Fire Fighting Use
Outdoor Installation
Open air
In Duct
Buried

2xY-FiR

2 Core (Cu/Mica Tape/XLPE/PVC-FR/PVC-FR)

APPLICATION

Suitable for use in fixed installations, in applications where maintenance of power supply during a fire is required for a defined period of time such as for essential safety circuits, fire alarm systems and sprinkler systems etc.

STANDARD

IEC 60502-1
IEC 60331-21
BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red & Black)
Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	1.8	13.2	210	12.1	34	25	27	19
2 x 1.5	rm	7/0.52	0.11	0.7	1.8	13.5	215	12.1	34	25	27	19
2 x 2.5	re	1/1.78	0.11	0.7	1.8	14.0	245	7.41	44	33	35	23
2 x 2.5	rm	7/0.68	0.11	0.7	1.8	14.4	252	7.41	44	33	35	23
2 x 4	rm	7/0.85	0.11	0.7	1.8	15.5	304	4.61	55	41	45	30
2 x 6	rm	7/1.04	0.11	0.7	1.8	16.6	365	3.08	74	56	62	42
2 x 10	rm	7/1.35	0.11	0.7	1.8	18.4	478	1.83	97	73	84	56
2 x 16	rm	7/1.70	0.11	0.7	1.8	20.6	640	1.15	125	95	110	71
2 x 25	rm	7/2.14	0.11	0.9	1.8	24.2	890	0.727	150	111	140	87
2 x 35	rmc	min. 6	0.11	0.9	1.8	25.3	1100	0.524	180	135	190	124

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C
Maximum Short Circuit 750°C
Fire Resistant IEC 60331 BS 6387
Flames don't Spread IEC 60332-3-24
Lead free
Rigid
Flame Retardant IEC 60332-1-2
Test 3.5kV

Installation condition

Industrial Use
Fire Fighting Use
Outdoor Installation
Open air
In Duct
Buried

PARTEX Cables powering with safety

2xY-FiR

3 Core (Cu/Mica Tape/XLPE/PVC-FR/PVC-FR)

APPLICATION

Suitable for use in fixed installations, in applications where maintenance of power supply during a fire is required for a defined period of time such as for essential safety circuits, fire alarm systems and sprinkler systems etc.

STANDARD

IEC 60502-1
IEC 60331-21
BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow & Blue)
Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

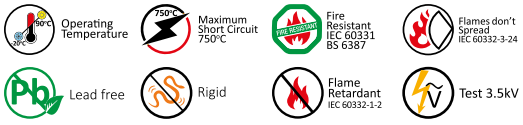
Inner covering: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
3 x 1.5	re	1/1.38	0.11	0.7	1.8	13.8	235	12.1	30	21	23	15
3 x 1.5	rm	7/0.52	0.11	0.7	1.8	14.0	240	12.1	30	21	23	15
3 x 2.5	re	1/1.78	0.11	0.7	1.8	14.6	280	7.41	38	27	32	20
3 x 2.5	rm	7/0.68	0.11	0.7	1.8	14.9	286	7.41	38	27	32	20
3 x 4.0	rm	7/0.85	0.11	0.7	1.8	16.0	350	4.61	48	34	41	26
3 x 6.0	rm	7/1.04	0.11	0.7	1.8	17.4	438	3.08	64	46	56	36
3 x 10	rm	7/1.35	0.11	0.7	1.8	19.2	586	1.83	83	59	75	47
3 x 16	rm	7/1.70	0.11	0.7	1.8	21.5	805	1.15	110	80	98	59
3 x 25	rm	7/2.14	0.11	0.9	1.8	25.5	1160	0.727	130	91	120	67
3 x 35	sm	min. 6	0.11	0.9	1.8	26.0	1365	0.524	155	110	150	84
3 x 50	sm	min. 6	0.11	1.0	1.8	26.5	1850	0.387	190	137	190	106
3 x 70	sm	min. 12	0.11	1.1	1.9	30.2	2540	0.268	225	161	230	121
3 x 95	sm	min. 15	0.11	1.1	2.0	33.8	3210	0.193	260	184	270	152
3 x 120	sm	min. 18	0.11	1.2	2.1	37.4	4120	0.153	295	208	305	167
3 x 150	sm	min. 18	0.11	1.4	2.3	41.5	5140	0.124	330	235	350	189
3 x 185	sm	min. 30	0.11	1.6	2.4	44.4	6255	0.0991	385	279	410	194
3 x 240	sm	min. 34	0.11	1.7	2.6	50.2	8095	0.0754	425	300	470	223
3 x 300	sm	min. 34	0.11	1.8	2.8	54.5	9900	0.0601	478	336	564	237

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics



Installation condition

2xY-FiR

3 & half Core (Cu/Mica Tape/XLPE/PVC-FR/PVC-FR)

APPLICATION

Suitable for use in fixed installations, in applications where maintenance of power supply during a fire is required for a defined period of time such as for essential safety circuits, fire alarm systems and sprinkler systems etc.

STANDARD

IEC 60502-1
IEC 60331-21
BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)
Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Compacted, Plain annealed copper, Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
3 x 25+16	rm/rm	min. 6	0.11	0.9	1.8	25.8	1372	0.727/1.15	130	91	120	67
		min. 6	0.11	0.7								
3 x 35+16	sm/rm	min. 6	0.11	0.9	1.8	26.5	1630	0.524/1.15	155	110	150	84
		min. 6	0.11	0.7								
3 x 50+25	sm/rm	min. 6	0.11	1.0	1.8	28.3	2215	0.387/0.727	190	137	190	106
		min. 6	0.11	0.9								
3 x 70+35	sm/rmc	min. 12	0.11	1.1	1.9	34.5	3055	0.268/0.524	225	161	230	121
		min. 6	0.11	0.9								
3 x 95+50	sm/rmc	min. 15	0.11	1.1	2.1	37.1	3980	0.193/0.387	260	184	270	152
		min. 6	0.11	1.0								
3 x 120+70	sm/rmc	min. 18	0.11	1.2	2.2	40.5	5030	0.153/0.268	295	208	305	167
		min. 12	0.11	1.1								
3 x 150+70	sm/rmc	min. 18	0.11	1.4	2.3	44.0	5995	0.124/0.268	330	235	350	189
		min. 12	0.11	1.1								
3 x 185+95	sm/rmc	min. 30	0.11	1.6	2.5	49.4	7465	0.0991/0.193	385	279	410	194
		min.15	0.11	1.1								
3 x 240+120	sm/rmc	min. 34	0.11	1.7	2.7	54.7	9545	0.0754/0.153	425	300	470	223
		min.18	0.11	1.2								
3 x 300+150	sm/rmc	min. 34	0.11	1.8	2.9	60.6	11795	0.0601/0.124	478	336	564	237
		min. 18	0.11	1.4								

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature
Maximum Short Circuit 750°C
Fire Resistant IEC 60331 BS 6387
Flames don't Spread IEC 60332-3-24
Lead free
Rigid
Flame Retardant IEC 60332-1-2
Test 3.5kV

Installation condition

Industrial Use
Fire Fighting Use
Outdoor Installation
Open air
In Duct
Buried

PARTEX Cables powering with safety

2xY-FiR

4 Core (Cu/Mica Tape/XLPE/PVC-FR/PVC-FR)

APPLICATION

Suitable for use in fixed installations, in applications where maintenance of power supply during a fire is required for a defined period of time such as for essential safety circuits, fire alarm systems and sprinkler systems etc.

STANDARD

IEC 60502-1
IEC 60331-21
BS 6387

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)
Sheath : (Red or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Sector shaped, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene, XLPE to IEC 60502-1

Inner covering: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

Sheath: Flame retardant (FR) PVC, ST-2 to IEC 60502-1

PHYSICAL DATA								ELECTRICAL DATA				
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness Of Mica Tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
									Direct laid	In duct	Open	In pipes
Core x mm²	-	no./mm	mm	mm	mm	mm	Kg/Km	Ω/Km	amps	amps	amps	amps
4 x 1.5	re	1/1.38	0.11	0.7	1.8	14.4	270	12.1	30	21	23	15
4 x 1.5	rm	7/0.52	0.11	0.7	1.8	14.9	280	12.1	30	21	23	15
4 x 2.5	re	1/1.78	0.11	0.7	1.8	15.5	330	7.41	38	27	32	20
4 x 2.5	rm	7/0.67	0.11	0.7	1.8	16.0	345	7.41	38	27	32	20
4 x 4	rm	7/0.85	0.11	0.7	1.8	17.3	415	4.61	48	34	41	26
4 x 6	rm	7/1.04	0.11	0.7	1.8	18.8	525	3.08	64	46	56	36
4 x 10	rm	7/1.35	0.11	0.7	1.8	21.0	730	1.83	83	59	75	47
4 x 16	rm	7/1.70	0.11	0.7	1.8	23.2	1000	1.15	110	80	98	59
4 x 25	rm	7/2.14	0.11	0.9	1.8	27.8	1450	0.727	130	91	120	67
4 x 35	sm	min. 6	0.11	0.9	1.8	27.0	1775	0.524	155	110	150	84
4 x 50	sm	min. 6	0.11	1.0	1.9	29.5	2380	0.387	190	137	190	106
4 x 70	sm	min. 12	0.11	1.1	2.0	35.2	3320	0.268	225	161	230	121
4 x 95	sm	min. 15	0.11	1.1	2.1	38.3	4310	0.193	260	184	270	152
4 x 120	sm	min. 18	0.11	1.2	2.3	42.2	5455	0.153	295	208	305	167
4 x 150	sm	min. 18	0.11	1.4	2.4	44.8	6700	0.124	330	235	350	189
4 x 185	sm	min. 30	0.11	1.6	2.6	51.2	8235	0.0991	385	279	410	194
4 x 240	sm	min. 34	0.11	1.7	2.8	56.0	10600	0.0754	425	300	470	223
4 x 300	sm	min. 34	0.11	1.8	3.0	62.8	13100	0.0601	578	436	564	237

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Operating Temperature 90°C
Maximum Short Circuit 750°C
Fire Resistant IEC 60331 BS 6387
Flames don't Spread IEC 60332-3-24
Lead free
Rigid
Flame Retardant IEC 60332-1-2
Test 3.5kV

Installation condition

Industrial Use
Fire Fighting Use
Outdoor Installation
Open air
In Duct
Buried

FIRE ALARM-FiR (UN-SHIELD)

2 Core (Cu/Mica Tape/PVC-FR/PVC-FRLS)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed. For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 5308-2 & BS 7629-1

BS 6387

IEC 60331-21

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : ■ ■ or ■ ■ (Red & Black or Brown & Blue)

Sheath : ■ or ■ (Red or Orange or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed copper, Class-1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, TI1-FR to BS 7655

Sheath: Flame retardant Low Smoke (FRLS) PVC, TM1-FRLS to BS 7655

PHYSICAL DATA								ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	0.9	8.5	98	12.1	14	22
2 x 1.5	rm	7/0.52	0.11	0.7	0.9	9.0	105	12.1	14	22
2 x 2.5	re	1/1.78	0.11	0.8	1.0	10.2	135	7.41	18	30
2 x 2.5	rm	7/0.67	0.11	0.8	1.0	10.8	145	7.41	18	30

FIRE ALARM-FiR-LSZH (UN-SHIELD)

2 Core (Cu/Mica Tape/XLPE/LSZH)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 7629-1

BS 6387

IEC 60331

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : ■ ■ or ■ ■ (Red & Black or Brown & Blue)

Sheath : ■ or ■ (Red or Orange or Other Colors available on request)

CONSTRUCTION

Conductor: Solid or Stranded Circular, Plain annealed copper, Class-1 or Class-2, IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene (XLPE), GP-8, BS 7655

Sheath: Low Smoke Zero Halogen (LSZH) Polyolefin, LTS-3, BS 7655

PHYSICAL DATA								ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	0.9	8.5	94	12.1	16	25
2 x 1.5	rm	7/0.52	0.11	0.7	0.9	9.0	101	12.1	16	25
2 x 2.5	re	1/1.78	0.11	0.8	1.0	10.2	130	7.41	20	33
2 x 2.5	rm	7/0.67	0.11	0.8	1.0	10.8	140	7.41	20	33

Characteristics

Installation condition

PARTEX Cables powering with safety

FIRE ALARM-FiR (SHIELD)

2 Core (Cu/Mica Tape/PVC-FR/CAM+ATC Drain wire/PVC-FRLS)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed. For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 5308-2 & BS 7629-1

BS 6387

IEC 60331-21

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : ■ ■ or ■ ■ (Red & Black or Brown & Blue)

Sheath : ■ or ■ (Red or Orange or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed copper, Class-1 or Class-2 to IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Flame retardant (FR) PVC, TI1-FR to BS 7655

Drain wire: Annealed Tinned Copper, Class 1 to IEC 60228

Collective Shield: Aluminium Mylar Tape

Sheath: Flame retardant (FR) PVC, TM1-FRLS to BS 7655

PHYSICAL DATA									ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal size of circuit protective conductor	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm²	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	1.5 re	0.9	9.2	125	12.1	14	22
2 x 1.5	rm	7/0.52	0.11	0.7	1.5 re	0.9	9.5	130	12.1	14	22
2 x 2.5	re	1/1.78	0.11	0.8	2.5 re	1.0	10.5	175	7.41	18	30
2 x 2.5	rm	7/0.67	0.11	0.8	2.5 re	1.0	11.0	182	7.41	18	30

FIRE ALARM-FiR-LSZH (UN-SHIELD)

2 Core (Cu/Mica Tape/XLPE/LSZH)

APPLICATION

These cables are designed for emergency lighting, fire alarms, fire detection, audio circuits, control circuits and essential equipment in fire situations where an uninterrupted power supply has to be guaranteed.

For fixed installation typically in fire alarm and emergency lighting circuits where circuit integrity must be maintained.

STANDARD

BS 7629-1

BS 6387

IEC 60331

VOLTAGE GRADE

U_0/U (Um) : 300/500 (550) V

COLOR

Insulated core : ■ ■ or ■ ■ (Red & Black or Brown & Blue)

Sheath : ■ or ■ (Red or Orange or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded Circular, Plain annealed copper, Class-1 or Class-2 To IEC 60228

Fire barrier: Mica tape (Synthetic or Glass)

Insulation: Cross-linked Polyethylene (XLPE), GP-8 to BS 7655

Drain wire: Annealed Tinned Copper, Class 1 to IEC 60228

Collective Shield: Aluminium Mylar Tape

Sheath: Low Smoke Zero Halogen (LSZH) Polyolefin, LTS-3 to BS 7655

PHYSICAL DATA									ELECTRICAL DATA		
Nominal cross sectional area of conductor	Shape of Conductor	No. of strands & diameter of wire	Thickness of Mica tape	Nominal thickness of insulation	Nominal size of circuit protective conductor	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C	Current Carrying Capacity in conduit at 30 °C	Current Carrying Capacity in air at 35 °C
Core x mm²	-	no./mm	mm	mm	mm²	mm	mm	kg/km	Ω/Km	amps	amps
2 x 1.5	re	1/1.38	0.11	0.7	1.5 re	0.9	9.2	120	12.1	16	25
2 x 1.5	rm	7/0.52	0.11	0.7	1.5 re	0.9	9.5	125	12.1	16	25
2 x 2.5	re	1/1.78	0.11	0.8	2.5 re	1.0	10.5	170	7.41	20	33
2 x 2.5	rm	7/0.67	0.11	0.8	2.5 re	1.0	11.0	175	7.41	20	33

Characteristics

Operating Temperature 90°C / 30°C

Maximum Short Circuit 750°C

Fire Resistant IEC 60331 BS 6387

Flames don't Spread IEC 60332-3-24

Lead free

Rigid

Flame Retardant IEC 60332-1-2

Test 1.5-2kV

Installation condition

Industrial Use

Home Use

Fire Fighting Use

Open air

In Duct

In Conduit

BHA/BAHA

Single Core (Cu or Al/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

BS 7211

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 450/750 (825) V

COLOR

Insulation

(Red, Yellow, Blue, Black, Green)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Low Smoke Zero Halogen (LSZH) to BS 7655

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Overall Diameter		Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current carrying capacity in conduit at 35 °C		Current Carrying Capacity in Air at 35 °C	
			Lower limit	Higher Limit	Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	Ω/Km	Ω/Km	Ω/Km	Ω/Km
1 x 1.0 re	1/1.13	0.7	2.5	3.0	16	-	18.1	-	14	8	17	10
1 x 1.5 re	1/1.38	0.7	2.6	3.2	22	12	12.1	-	17	12	21	14
1 x 1.5 rm	7/0.52	0.7	2.7	3.4	23	13	12.1	18.1	17	12	21	14
1 x 2.5 re	1/1.78	0.8	3.2	4.0	32	17	7.41	-	23	16	29	19
1 x 2.5 rm	7/0.67	0.8	3.3	4.1	33	19	7.41	12.1	23	16	29	19
1 x 4.0 rm	7/0.85	o.8	3.8	4.7	51	25	4.61	7.41	31	21	39	25
1 x 6.0 rm	7/1.04	0.8	4.3	5.4	71	34	3.08	5.99	40	26	49	32
1 x 10 rm	7/1.35	1.0	5.6	7.0	117	53	1.83	3.08	54	36	67	43
1 x 16 rm	7/1.70	1.0	6.4	8.0	179	77	1.15	1.91	73	47	89	57
1 x 25 rm	7/2.14	1.2	8.1	10.1	276	116	0.727	1.20	96	63	116	76
1 x 35 rmc	min. 6	1.2	9.0	11.3	373	153	0.524	0.868	118	76	143	92
1 x 50 rmc	min. 6	1.4	10.6	13.2	352	216	0.387	0.641	143	92	172	110
1 x 70 rmc	min. 12	1.4	12.1	15.1	732	285	0.268	0.443	182	118	217	144
1 x 95 rmc	min. 15	1.6	14.1	17.6	985	382	0.193	0.32	227	147	266	173
1 x 120 rmc	min. 18/15	16.0	15.6	19.4	1227	470	0.153	0.253	256	166	306	198
1 x 150 rmc	min. 18/15	1.8	17.3	21.6	1535	572	0.124	0.206	-	-	350	228
1 x 185 rmc	min. 30	2.0	19.3	24.1	1891	705	0.0991	0.164	-	-	400	260
1 x 240 rmc	min. 34/30	2.2	22.0	27.5	2458	910	0.0754	0.125	-	-	475	310
1 x 300 rmc	min. 34/30	2.4	24.5	30.6	3055	1125	0.0601	0.100	-	-	550	360
1 x 400 rmc	min. 53	2.6	27.5	34.3	4078	1505	0.0470	0.0778	-	-	668	440
1 x 500 rmc	min. 53	2.8	30.5	38.2	5048	1865	0.0366	0.0605	-	-	792	515
1 x 630 rmc	min. 53	2.8	34.0	42.5	6063	2310	0.0283	0.0469	-	-	900	585

Current ratings are valid for cables laid under defined conditions at page no.163. For current ratings at deviated conditions, apply correction factor as given on page no. 164.

Characteristics

Operating Temperature 90°C; Maximum Short Circuit 250°C; Low Smoke Zero Halogen (LSZH) IEC 60754-1; Flames don't Spread IEC 60332-3-24; Low Smoke Emission IEC 61034; Lead free; Rigid; Low Toxicity IEC 60754-2; Low Corrosive Gases Emission; Test 1.5-2.5kV

Installation condition

Home Use; Fire Fighting Use; Open air; In Conduit

PARTEX Cables powering with safety

2xH / A2xH

Single Core (Cu or Al/XLPE/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

IEC 60502-1

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Natural)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded Circular/ Compacted, Plain annealed copper, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, (XLPE) to IEC 60502-1

Sheath: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	amp	amp	amp	amp
1 x 1.5 re	1/1.38	0.7	1.4	6.1	50	-	12.1	18.1	36	-	30	-
1 x 1.5 rm	7/0.52	0.7	1.4	6.2	52	-	12.1	18.1	36	-	30	-
1 x 2.5 re	1/1.78	0.7	1.4	6.5	63	-	7.41	12.1	47	-	39	-
1 x 2.5 rm	7/0.68	0.7	1.4	6.6	65	-	7.41	12.1	47	-	39	-
1 x 4.0 rm	7/0.85	0.7	1.4	7.3	95	55	4.61	7.41	59	47	50	39
1 x 6.0 rm	7/1.04	0.7	1.4	7.9	107	66	3.08	4.61	78	64	69	56
1 x 10 rm	7/1.35	0.7	1.4	8.8	155	85	1.83	3.08	100	77	94	72
1 x 16 rm	7/1.70	0.7	1.4	9.9	227	112	1.15	1.91	130	101	125	97
1 x 25 rm	7/2.14	0.9	1.4	11.0	324	160	0.727	1.20	155	120	160	125
1 x 35 rmc	min. 6	0.9	1.4	12.1	425	200	0.524	0.868	185	144	195	150
1 x 50 rmc	min. 6	1.0	1.4	13.6	584	258	0.387	0.641	225	175	245	190
1 x 70 rmc	min. 12	1.1	1.4	15.4	788	335	0.268	0.443	270	210	300	233
1 x 95 rmc	min. 15	1.1	1.5	17.1	1041	430	0.193	0.320	310	240	350	272
1 x 120 rmc	min. 18/15	1.2	1.5	18.8	1292	531	0.153	0.253	350	272	405	315
1 x 150 rmc	min. 18/15	1.4	1.6	21.0	1611	640	0.124	0.206	390	302	460	357
1 x 185 rmc	min. 30	1.6	1.6	23.0	1976	775	0.0991	0.164	450	350	555	430
1 x 240 rmc	min. 34/30	1.7	1.7	25.6	2528	985	0.0754	0.125	515	400	640	498
1 x 300 rmc	min. 34/30	1.8	1.8	28.3	3136	1210	0.0601	0.100	585	463	770	537
1 x 400 rmc	min. 53	2.0	1.9	32.0	4130	1525	0.0470	0.0778	680	509	900	626
1 x 500 rmc	min. 53	2.2	2.0	35.4	5134	1890	0.0366	0.0605	800	592	1030	731
1 x 630 rmc	min. 53	2.4	2.2	39.5	6415	2420	0.0283	0.0469	945	696	1160	837
1 x 800 rmc	min. 53	2.6	2.3	45.0	8116	3000	0.0221	0.0367	1095	821	1310	942
1 x 1000 rmc	min. 53	2.8	2.4	50.0	10096	3650	0.0176	0.0291	1270	952	1480	1064

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

2xH / A2xH

2 Core (Cu or Al/XLPE/LSZH/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

IEC 60502-1

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded circular/ Compacted, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, (XLPE) to IEC 60502-1

Inner covering: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

Sheath: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	amp	amp	amp	amp
2 x 1.5 re	1/1.38	0.7	1.8	11.2	155	-	12.1	18.1	34	-	27	-
2 x 1.5 rm	7/0.52	0.7	1.8	11.6	162	-	12.1	18.1	34	-	27	-
2 x 2.5 re	1/1.78	0.7	1.8	12.0	185	-	7.41	12.1	44	-	35	-
2 x 2.5 rm	7/0.68	0.7	1.8	12.5	195	-	7.41	12.1	44	-	35	-
2 x 4.0 rm	7/0.85	0.7	1.8	13.6	276	187	4.61	7.41	55	34	45	31
2 x 6.0 rm	7/1.04	0.7	1.8	14.8	349	218	3.08	4.61	74	40	62	40
2 x 10 rm	7/1.35	0.7	1.8	16.6	478	271	1.83	3.08	97	55	84	53
2 x 16 rm	7/1.70	0.7	1.8	18.1	654	341	1.15	1.91	125	73	110	70
2 x 25 rm	7/2.14	0.9	1.8	21.5	996	457	0.727	1.20	150	94	140	96
2 x 35 rmc	min 6	0.9	1.8	23.7	1274	576	0.524	0.868	180	114	190	117

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

PARTEX Cables powering with safety

2xH / A2xH

3 Core (Cu or Al/XLPE/LSZH/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

IEC 60502-1

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow & Blue)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid / Stranded circular/ Sector shaped, Plain annealed Copper or Aluminium, Class 1 or Class-2, to IEC 60228

Insulation: Cross-linked Polyethylene, (XLPE) to IEC 60502-1

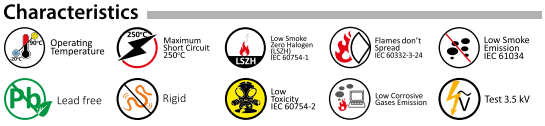
Inner covering: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

Sheath: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

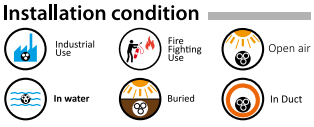
PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	amp	amp	amp	amp
3 x 1.5 re	1/1.38	0.7	1.8	11.8	182	-	12.1	18.1	30	-	23	-
3 x 1.5 rm	7/0.52	0.7	1.8	12.2	190	-	12.1	18.1	30	-	23	-
3 x 2.5 re	1/1.78	0.7	1.8	12.7	235	-	7.41	12.1	38	-	32	-
3 x 2.5 rm	7/0.68	0.7	1.8	12.3	246	-	7.41	12.1	38	-	32	-
3 x 4.0 rm	7/0.85	0.7	1.8	14.5	321	213	4.61	7.41	48	34	41	31
3 x 6.0 rm	7/1.04	0.7	1.8	15.6	421	252	3.08	4.61	64	40	56	40
3 x 10 rm	7/1.35	0.7	1.8	17.5	568	320	1.83	3.08	83	55	75	53
3 x 16 rm	7/1.70	0.7	1.8	19.6	805	410	1.15	1.91	110	73	98	70
3 x 25 rm	7/2.14	0.9	1.8	23.0	1100	500	0.727	1.20	130	94	120	96
3 x 35 sm	min. 6	0.9	1.8	22.3	1237	576	0.524	0.868	155	114	150	117
3 x 50 sm	min. 6	1.0	1.8	25.1	1694	778	0.387	0.641	190	133	190	142
3 x 70 sm	min. 12	1.1	1.9	28.4	2315	983	0.268	0.443	225	164	230	179
3 x 95 sm	min. 15	1.1	2.0	32.2	3161	1253	0.193	0.320	260	196	270	221
3 x 120 sm	min. 18/15	1.2	2.1	35.3	3915	1570	0.153	0.253	295	223	305	257
3 x 150 sm	min. 18/15	1.4	2.3	38.7	4866	2000	0.124	0.206	330	249	350	292
3 x 185 sm	min. 30	1.6	2.4	42.5	5978	2470	0.0991	0.164	385	282	410	337
3 x 240 sm	min. 34/30	1.7	2.6	47.6	7534	3165	0.0754	0.125	425	327	470	400
3 x 300 sm	min. 34/30	1.8	2.8	53.1	9541	3840	0.0601	0.100	478	368	564	455

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics



Installation condition



2xH / A2xH

3 & half Core (Cu or Al/XLPE/LSZH/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

IEC 60502-1

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Stranded Circular/ Sector shaped/ Compacted, Plain annealed Copper or Aluminium, Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, (XLPE) to IEC 60502-1

Inner covering: Low Smoke Zero Halogen (LSZH), ST 8to IEC 60502-1

Sheath: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	amp	amp	amp	amp
3 x 25 rm+ 16 rm	min.6	0.9	1.8	21.7	1110	637	0.727/1.15	1.20/1.91	130	94	120	96
	min.6	0.7										
3 x 35 sm+ 16 rm	min.6	0.9	1.8	24.0	1412	702	0.524/1.15	0.868/1.91	155	114	150	117
	min.6	0.7										
3 x 50 sm+ 25 rm	min.6	1	1.8	27.0	2035	946	0.387/0.727	0.641/1.20	190	133	190	142
	min.6	0.9										
3 x 70 sm+ 35 rmc	min.12	1.1	1.9	30.5	2753	1201	0.268/0.524	0.443/0.868	225	164	230	179
	min. 6	0.9										
3 x 95 sm+ 50 rmc	min. 15	1.1	2.1	34.9	3721	1553	0.193/0.387	0.320/0.641	260	196	270	221
	min. 6	1										
3 x 120 sm+ 70 rmc	min. 18/15	1.2	2.2	38.2	4912	1898	0.153/0.268	0.253/0.443	295	223	305	257
	min. 12	1.1										
3 x 150 sm+ 70 rmc	min. 18/15	1.4	2.3	42.1	5673	2334	0.124/0.268	0.206/0.443	330	249	350	292
	min. 12	1.1										
3 x 185 sm+ 95 rmc	min. 30	1.6	2.5	47.3	7105	2831	0.0991/0.193	0.164/0.320	385	282	410	337
	min. 15	1.1										
3 x 240 sm+ 120 rmc	min. 34/30	1.7	2.7	53.8	9219	3601	0.0754/0.153	0.125/0.253	425	327	470	400
	min. 18/15	1.2										
3 x 300 sm+ 150 rmc	min. 34/30	1.8	2.9	58.6	11563	4387	0.0601/0.124	0.100/0.206	478	368	564	455
	min. 18/15	1.4										

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

PARTEX Cables powering with safety

2xH / A2xH

4 Core (Cu or Al/XLPE/LSZH/LSZH)

APPLICATION

These cables are designed for fixed installation in dry premises for situations in which low emission of smoke and acid gases have to be guaranteed in the case of fire. This cable are highly recommended in following areas- shopping centres, theatres, underground railways, high rise building, tunnels, hospitals, data centres, power stations, switching centre etc.

STANDARD

IEC 60502-1

IEC 60754 & IEC 61034

VOLTAGE GRADE

U_0/U (Um) : 0.6/1.0 (1.2) kV

COLOR

Insulated core : (Red, Yellow, Blue & Black)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Stranded circular/ Sector shaped, Plain annealed Copper or Aluminium, Class 1 or Class-2 to IEC 60228

Insulation: Cross-linked Polyethylene, (XLPE) to IEC 60502-1

Inner covering: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

Sheath: Low Smoke Zero Halogen (LSZH), ST 8 to IEC 60502-1

PHYSICAL DATA							ELECTRICAL DATA					
Nominal cross sectional area of conductor	No. of strands & diameter of wire Cu/Al	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable		Max. DC resistance of conductor at 20 °C		Current Carrying Capacity in Ground at 30 °C		Current Carrying Capacity in Air at 35 °C	
					Cu	Al	Cu	Al	Cu	Al	Cu	Al
Core x mm²	no./mm	mm	mm	mm	kg/km	kg/km	Ω/Km	Ω/Km	amp	amp	amp	amp
4 x 1.5 re	1/1.38	0.7	1.8	12.1	212	-	12.1	18.1	30	-	23	-
4 x 1.5 rm	7/0.52	0.7	1.8	12.4	220	-	12.1	18.1	30	-	23	-
4 x 2.5 re	1/1.78	0.7	1.8	13.6	280	-	7.41	12.1	38	-	32	-
4 x 2.5 rm	7/0.68	0.7	1.8	14.1	288	-	7.41	12.1	38	-	32	-
4 x 4.0 rm	7/0.85	0.7	1.8	15.4	385	246	4.61	7.41	48	34	41	31
4 x 6.0 rm	7/1.04	0.7	1.8	16.8	488	295	3.08	4.61	64	40	56	40
4 x 10 rm	7/1.35	0.7	1.8	19.2	690	378	1.83	3.08	83	55	75	53
4 x 16 rm	7/1.70	0.7	1.8	21.5	1060	493	1.15	1.91	110	73	98	70
4 x 25 rm	7/2.14	0.9	1.8	23.4	1388	516	0.727	1.20	130	94	120	96
4 x 35 sm	min. 6	0.9	1.8	24.5	1624	735	0.524	0.868	155	114	150	117
4 x 50 sm	min. 6	1.0	1.9	27.3	2224	970	0.387	0.641	190	133	190	142
4 x 70 sm	min. 12	1.1	2.0	30.7	3078	1250	0.268	0.443	225	164	230	179
4 x 95 sm	min. 15	1.1	2.1	35.8	4068	1641	0.193	0.320	260	196	270	221
4 x 120 sm	min. 18/15	1.2	2.3	38.4	5090	1992	0.153	0.253	295	223	305	257
4 x 150 sm	min. 18/15	1.4	2.4	42.3	6308	2488	0.124	0.206	330	249	350	292
4 x 185 sm	min. 30	1.6	2.6	48.0	7974	3042	0.0991	0.164	385	282	410	337
4 x 240 sm	min. 34/30	1.7	2.8	53.6	10212	3917	0.0754	0.125	425	327	470	400
4 x 300 sm	min. 34/30	1.8	3.0	59.6	12588	4705	0.0601	0.100	578	368	564	455

Current ratings are valid for cables laid under defined conditions at page no. 165. For current ratings at deviated conditions, apply correction factor as given on page no. 165-170.

Characteristics

Installation condition

COMMUNICATION CABLES

PARTEX CABLES supplies a wide range of communication cables that serve different functions in the communication chain from the exchange station to the subscriber's household.

Jumper wires are typically used to complete a circuit or to bypass a break in a circuit by telecommunication service providers.

Multi-pair telephone cables are used in the distribution network between the exchange station and the subscriber household.

PARTEX™ Cables *powering with safety*

partexcables.com
partexstargroup.com

facebook.com/partexcables

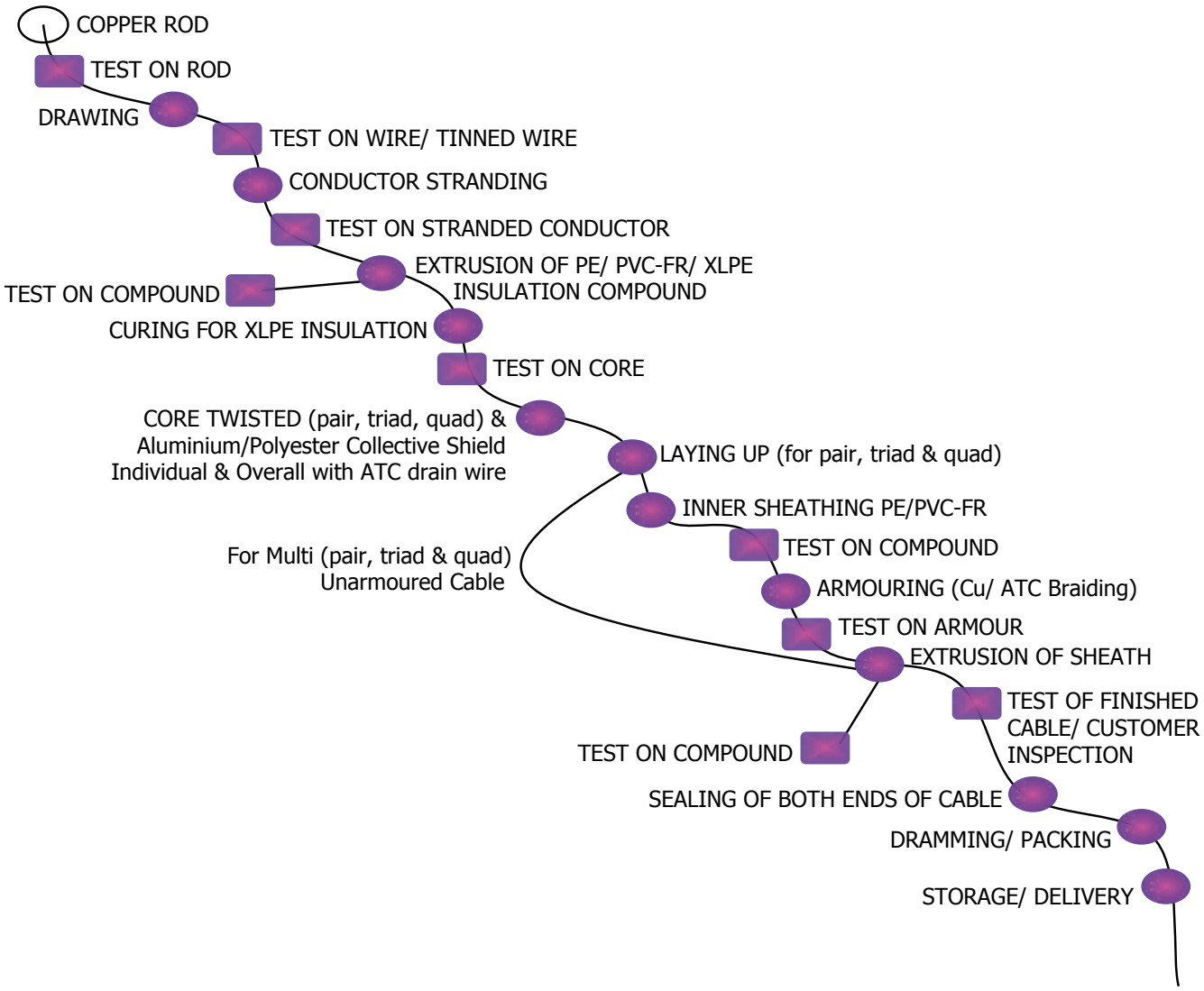
COMMUNICATION CABLES

Voltage Rating: up to and including 200 Volts

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
IEC 11801 ITS S/WJ-1D1C VDE 0815 VDE 0816 MIL C17 BS EN 50288	IEC 60811 BS 7655	IEC 60332 IEC 61034 IEC 60754

COMMUNICATION CABLES MANUFACTURING PROCESS



DROP WIRE

2 Core (Cu/PE)

Polyethylene (PE) insulated, two conductors placed parallel

APPLICATION

These cables are intended for connecting telephone aerial cable to the subscriber's premises

STANDARD

ITS S/WJ-1D1C

VOLTAGE GRADE

200 V

COLOR

Insulation : (Black)

CONSTRUCTION

Conductor: Solid hard drawn copper to ASTM B1

Insulation: Polyethylene (PE) to BS 6234

PHYSICAL DATA					ELECTRICAL DATA
Number of core (pair)	No. of strands & diameter of wire	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C
					Cu
	nos./mm	mm	mm	Kg/Km	ohm/Km
2 core (1 pair)	1/0.6	0.787	2.32x4.11	12	66.6
2 core (1 pair)	1/0.9	1.05	3.0x6.30	25	28.0

JUMPER WIRE

(Cu/PE)

Polyethylene (PE) insulated, cores are uniformly twisted together

APPLICATION

Suitable for use in distribution frames for wiring the speech and signaling connections.

STANDARD

ITS S/WJ-1D1C

VOLTAGE GRADE

200 V

CONSTRUCTION

Conductor: Flexible annealed copper, Class 5 to IEC 60228

Insulation: Polyethylene (PE) to BS 6234

PHYSICAL DATA					ELECTRICAL DATA
Number of core (pair)	Nominal cross sectional area	No. of strands & diameter of wire	Nominal thickness of insulation	Approx. Over-all diameter	Approx. weight of cable
	mm2	nos./mm	mm	mm	Kg/Km
2 core (1 pair)	0.123	9/0.132	0.2	2.30	6
4 core (2 pair)	0.123	9/0.132	0.2	2.80	12
6 core (3 pair)	0.123	9/0.132	0.2	3.50	18
8 core (4 pair)	0.123	9/0.132	0.2	3.65	24
10 core (5 pair)	0.123	9/0.132	0.2	4.00	30

Characteristics

Operating Temperature | Maximum Short circuit | Rigid

Installation condition

Household Wiring | Outdoor Installation | Open air | In Conduit

PARTEX Cables powering with safety

HOUSE WIRING TELEPHONE CABLE

Multipair (Cu/PE/PVC)
PE Insulated PVC Sheathed Cable

APPLICATION

Suitable for telecommunication and signal circuits. They are suitable for exposed or concealed conductor installation permissible voltage 200 V.

STANDARD

VDE 0815

VOLTAGE GRADE

200V

COLOR

Insulated core Individual Pair color

Sheath : ■ or ■ (Grey or Black)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: Polyethylene (PE) to BS 6234

Sheath: PVC, TM1 to BS 7655

PHYSICAL DATA							ELECTRICAL DATA
Number of pair (core)	Nominal cross-sectional area	No. of strands & diameter of wire	Nominal thickness of Insulation	Nominal thickness of Sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C
	mm^2	no./mm	mm	mm	mm	Kg/Km	ohm/Km
1 Pair (2 core)	0.125	1/0.4	0.25	0.8	4.0	18	150
2 Pair (4 core)	0.125	1/0.4	0.25	0.8	4.3	24	150
3 Pair (6 core)	0.125	1/0.4	0.25	1.0	5.4	35	150
4 Pair (8 core)	0.125	1/0.4	0.25	1.2	6.5	47	150
5 Pair (10 core)	0.125	1/0.4	0.25	1.2	7.0	53	150
6 Pair (12 core)	0.125	1/0.4	0.25	1.4	7.7	67	150
7 Pair(14 core)	0.125	1/0.4	0.25	1.4	8.1	74	150
8 Pair (16 core)	0.125	1/0.4	0.25	1.4	8.3	80	150
10 Pair(20 core)	0.125	1/0.4	0.25	1.4	9.3	97	150
15 Pair (30 core)	0.125	1/0.4	0.25	1.4	11.0	130	150
20 Pair (40 core)	0.125	1/0.4	0.25	1.6	13.0	170	150
30 Pair (60 core)	0.125	1/0.4	0.25	1.6	14.5	228	150
1 Pair (2 core)	0.282	1/0.6	0.25	0.8	4.3	22	66.6
2 Pair (4 core)	0.282	1/0.6	0.25	0.8	4.6	31	66.6
3 Pair (6 core)	0.282	1/0.6	0.25	1.0	5.7	44	66.6
4 Pair (8 core)	0.282	1/0.6	0.25	1.2	6.8	70	66.6
5 Pair (10 core)	0.282	1/0.6	0.25	1.2	7.2	75	66.6
6 Pair (12 core)	0.282	1/0.6	0.25	1.4	8.2	90	66.6
7 Pair (14 core)	0.282	1/0.6	0.25	1.4	8.5	99	66.6
8 Pair (16 core)	0.282	1/0.6	0.25	1.4	9.5	105	66.6
10 Pair (20 core)	0.282	1/0.6	0.25	1.4	10.4	132	66.6
15 Pair (30 core)	0.282	1/0.6	0.25	1.4	12.0	185	66.6
20 Pair (40 core)	0.282	1/0.6	0.25	1.6	14.2	245	66.6
25 Pair (50 core)	0.282	1/0.6	0.25	1.6	15.7	300	66.6
30 Pair (60 core)	0.282	1/0.6	0.25	1.6	16.8	352	66.6
40 Pair (80 core)	0.282	1/0.6	0.25	1.6	18.3	438	66.6
50 Pair (100 core)	0.282	1/0.6	0.25	1.6	20.0	525	66.6
100 Pair (200 core)	0.282	1/0.6	0.25	1.6	26.6	935	66.6

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Rigid

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

A-2Y (L) 2Y

SUBSCRIBER CABLE (UNFILLED) (Cu/PE/AF/PE)
PE Insulated, Al foil screen, PVC Sheathed Cable

APPLICATION

Suitable for telecommunication and signal circuits. They are suitable for use in underground conduits.

STANDARD

VDE 0816

VOLTAGE GRADE

200 V

COLOR

Insulated core: Individual Pair color

Sheath: ■ (Black)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: Polyethylene (PE) to BS 6234

Identification strip: Polyester tape

Wrapped: PT foil

Screen: Copolymer Al foil

Sheath: Polyethylene (PE) to BS 6234

PHYSICAL DATA							ELECTRICAL DATA
Number of pair (core)	Diameter of wire	Nominal thickness of Insulation	Approx. Diameter over Al foil	Nominal thickness of Sheath	Approx. Overall diameter	Approx. weight of cable	Max. DC resistance of conductor at 20 °C
	mm	mm	mm	mm	mm	Kg/Km	ohm/Km
10 Pair	0.4	0.25	6.2	1.8	10.2	100	150
	0.5	0.25	6.8	1.8	11.0	120	95.9
	0.6	0.3	8.0	1.8	12.5	150	66.6
	0.9	0.45	11.7	1.8	16.0	270	28
20 Pair	0.4	0.25	8.4	1.8	12.3	145	150
	0.5	0.25	9.2	1.8	13.5	185	95.9
	0.6	0.3	10.9	1.8	15.0	241	66.6
	0.9	0.45	16.0	1.8	20.5	460	28
30 Pair	0.4	0.25	10.1	1.8	14.0	190	150
	0.5	0.25	11.1	1.8	15.1	247	95.9
	0.6	0.3	13.2	1.8	17.5	327	66.6
	0.9	0.45	19.5	1.8	24.0	640	28
40 Pair	0.4	0.25	11.6	1.8	15.5	240	150
	0.5	0.25	12.8	1.8	16.7	308	95.9
	0.6	0.3	15.1	1.8	19.5	410	66.6
	0.9	0.45	22.5	1.8	27.0	816	28
50 Pair	0.4	0.25	12.8	1.8	16.5	280	150
	0.5	0.25	14.2	1.8	18.1	366	95.9
	0.6	0.3	16.8	1.8	20.8	492	66.6
	0.9	0.45	25.0	1.8	29.5	992	28
70 Pair	0.4	0.25	15.0	1.8	19.0	360	150
	0.5	0.25	16.6	1.8	20.5	480	95.9
	0.6	0.3	19.8	1.8	24.0	650	66.6
100 Pair	0.4	0.25	17.8	1.8	21.0	475	150
	0.5	0.25	19.7	1.8	23.5	648	95.9
	0.6	0.3	23.5	1.8	27.0	880	66.6

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Rigid

Installation condition

Household Wiring · Outdoor Installation · Open air · Burried

PARTEX Cables powering with safety

CO-AXIAL

(Cu/Foam PE/SC/PVC)

Foam PE Insulated, Cu Braided screen, PVC Sheathed Cable

APPLICATION

The tried and true coaxial cable can transmit all kinds of signals - HDTV, digital video, composite video, component video, S-video, FM, and more. We have several options of coax to choose from for wherever you need to use them: schools, hospitals, security systems, or even just connecting your home cable TV indoor & outdoor.

STANDARD

MIL C17

COLOR

Insulation: (Natural)

Sheath: (Black)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: Foamed Polyethylene (PE) to BS 6234

Wrapped: Copolymer Al foil

Screen: Copper or Tinned Copper Braided

Sheath: Special PVC, ST5 to IEC 60227

PHYSICAL DATA									ELECTRICAL DATA	
Code name	Nominal cross sectional area of conductor	No. of strands & diameter of wire	Approx. diameter of insulated core	Nominal thickness of sheath	Shield materials	Shield coverage factor	Approx. Overall diameter	Approx. weight of cable	Max. D.C. resistance of conductor at 20 °C	Impedance
	mm^2	mm	mm	mm	–	%	mm	Kg/Km	ohm/Km	ohm
Low Loss 50 Ohm Wireless RF Transmission Cable										
RG 174	0.16	1/0.45	1.55	0.8	Al Mylar+ATC	85	2.90	24	110.99	50
RG 58	0.65	1/0.91	2.95	0.9	Al Mylar+ATC	85	5.00	50	27.32	50
RG 8X	1.65	1/1.45	3.81	1.0	Al Mylar+ATC	85	6.20	90	10.76	50
75 Ohm analog and digital video cable										
3/C	0.2	1/0.5	3.00	0.9	PAC	60	5.40	34	88.79	75
4/C	0.42	1/0.73	3.81	1.0	PAC	60	6.35	50	42.28	75
5/C	0.64	1/0.9	4.20	1.2	PAC	60	7.20	62	27.75	75
6/C	1.23	1/1.25	5.46	1.2	PAC	60	8.20	67	14.44	75
RG 59/U	0.52	1/0.81	3.68	1.0	Al Mylar+PAC	60	6.15	55	34.15	75
RG 6/U	0.78	1/1.02	4.30	1.2	Al Mylar+PAC	60	7.50	80	22.77	75
RG 11/U	2.09	1/1.63	6.65	1.2	Al Mylar+PAC	60	9.80	110	8.50	75

Characteristics

Operating Temperature | Maximum Short circuit | Lead free | Rigid

Installation condition

Household Wiring | Outdoor Installation | In conduit | Open air

UTP CAT. 5

4 Pair x 24 AWG (Cu/HDPE/PVC-FR)
HDPE Insulated, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 100 MHz, for D Class applications in structured cabling systems for buildings. Specifications checked up to 200 MHz.

STANDARD

IEC 11801

BS EN 50288-3-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA					
Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm	mm	mm	Kg/Km
4x2x24 AWG	1/0.50	0.9	0.7	5.20	30

TECHNICAL DATA					
Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard impedance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
84.2	16.8	49.0	500	100 ±5	25

TRANSMISSION SPECIFICATIONS						
Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.10	65.30	62.30	63.80	60.80	-
10	6.30	50.30	47.30	43.80	40.80	25.00
16	8.00	47.30	44.20	39.70	36.70	25.00
31.25	11.40	42.90	39.90	33.90	30.90	23.60
62.5	16.50	38.40	35.40	27.90	24.90	21.50
100	21.30	35.30	32.30	23.80	20.80	20.10

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

PARTEX Cables powering with safety

UTP CAT. 5e

4 Pair x 24 AWG (Cu/HDPE/PVC-FR)
HDPE Insulated, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 100 MHz, for D Class applications in structured cabling systems for buildings. Specifications checked up to 200 MHz.

STANDARD

IEC 11801

BS EN 50288-3-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA					
Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm	mm	mm	Kg/Km
4x2x24 AWG	1/0.52	1.0	0.8	5.40	34

TECHNICAL DATA					
Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard impedance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
84.2	16.8	49.0	500	100 ±5	25

TRANSMISSION SPECIFICATIONS						
Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.05	65.30	62.30	60.80	60.80	20.00
10	6.49	50.30	47.30	40.80	40.80	25.00
16	8.28	47.24	44.24	39.72	36.72	25.00
31.25	11.77	42.88	39.88	33.90	30.90	23.64
62.5	17.07	38.36	35.36	27.88	24.88	21.54
100	22.07	35.30	32.30	23.80	20.80	20.11
200	32.55	30.78	27.78	17.78	14.78	18.00

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

UTP CAT. 6

4 Pair x 23 AWG (Cu/HDPE/PVC-FR)
HDPE Insulated, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 200 MHz, for E Class applications in structured cabling systems for buildings. Specifications checked up to 300 MHz.

STANDARD

IEC 11801

BS EN 50288-5-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Separator: Polyethylene

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA					
Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm	mm	mm	Kg/Km
4x2x23 AWG	1/0.57	1.0	0.8	6.50	38

TECHNICAL DATA					
Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard imped-ance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
71.03	14.5	48.0	500	100 ±15	25

TRANSMISSION SPECIFICATIONS						
Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB		dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.00	38.30	36.30	22.00	19.00	17.30

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

PARTEX Cables powering with safety

UTP CAT. 6e

4 Pair x 23 AWG (Cu/HDPE/PVC-FR)
HDPE Insulated, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 200 MHz, for E Class applications in structured cabling systems for buildings. Specifications checked up to 300 MHz.

STANDARD

IEC 11801

BS EN 50288-5-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Separator: Polyethylene

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA

Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm	mm	mm	Kg/Km
4x2x23 AWG	1/0.57	1.0	0.9	6.60	41

TECHNICAL DATA

Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard imped-ance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
71.03	14.5	48.0	500	100 ±15	25

TRANSMISSION SPECIFICATIONS

Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB		dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.00	38.30	36.30	22.00	19.00	17.30
350	36.00	43.10	41.10	21.00	18.20	17.00
500	42.20	40.80	38.80	20.80	17.80	16.70

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

FTP CAT. 5e

4 Pair x 24 AWG (Cu/HDPE/Al Foil/PVC-FR)
HDPE Insulated, Al Foil Shield, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 100 MHz, for D Class applications in structured cabling systems for buildings. Specifications checked up to 200 MHz

STANDARD

IEC 11801

BS EN 50288-3-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Drain wire: Annealed tinned copper

Shield: Al Foil tape with drain wire

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA

Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Shield	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm		mm	mm	Kg/Km
4x2x24 AWG	1/0.52	1.0	Al Foil Tape	0.9	5.80	36

TECHNICAL DATA

Conductor resistance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard impedance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
84.2	16.8	49.0	500	100 ±15	25

TRANSMISSION SPECIFICATIONS

Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB
1	2.05	65.30	62.30	60.80	60.80	20.00
10	6.49	50.30	47.30	40.80	40.80	25.00
16	8.28	47.24	44.24	39.72	36.72	25.00
31.25	11.77	42.88	39.88	33.90	30.90	23.64
62.5	17.07	38.36	35.36	27.88	24.88	21.54
100	22.07	35.30	32.30	23.80	20.80	20.11
200	32.55	30.78	27.78	17.78	14.78	18.00

Characteristics

Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air

PARTEX Cables powering with safety

FTP CAT. 6e

4 Pair x 23 AWG (Cu/HDPE/Al Foil/PVC-FR)
HDPE Insulated, Al Foil Shield, FR-PVC Sheathed Cable

APPLICATION

This cable is used for the high-speed transmission of voice and data between central and peripheral systems for frequencies up to 200 MHz, for E Class applications in structured cabling systems for buildings. Specifications checked up to 300 MHz

STANDARD

IEC 11801

BS EN 50288-5-1

COLOR

Insulated core: W-Bl, W-Or, W-Br, W-G

Sheath: (Grey)

CONSTRUCTION

Conductor: Solid Plain annealed copper to ASTM B3

Insulation: High Density Polyethylene (HDPE) to EN 50290

Separator: Polyethylene

Drain wire: Annealed tinned copper

Shield: Al Foil tape with drain wire

Sheath: FR-PVC, TM2 to EN 50290

PHYSICAL DATA

Number of pair x Size	Number & diameter of wire	Approx. Core diameter	Shield	Nominal thickness of sheath	Approx. Overall diameter	Approx. weight of cable
no. x AWG	no./mm	mm		mm	mm	Kg/Km
4x2x23 AWG	1/0.57	1.0	Al Foil Tape	1.0	7.00	43

TECHNICAL DATA

Conductor resist-ance	Max. ring resistance	Max. mutual capacitance	Min. Insulation resistance	Standard impedance	Min. bending radius
ohm/km	ohm/100m	pF/100m	M.ohm.km	ohm	mm
71.03	14.5	48.0	500	100 ±15	25

TRANSMISSION SPECIFICATIONS

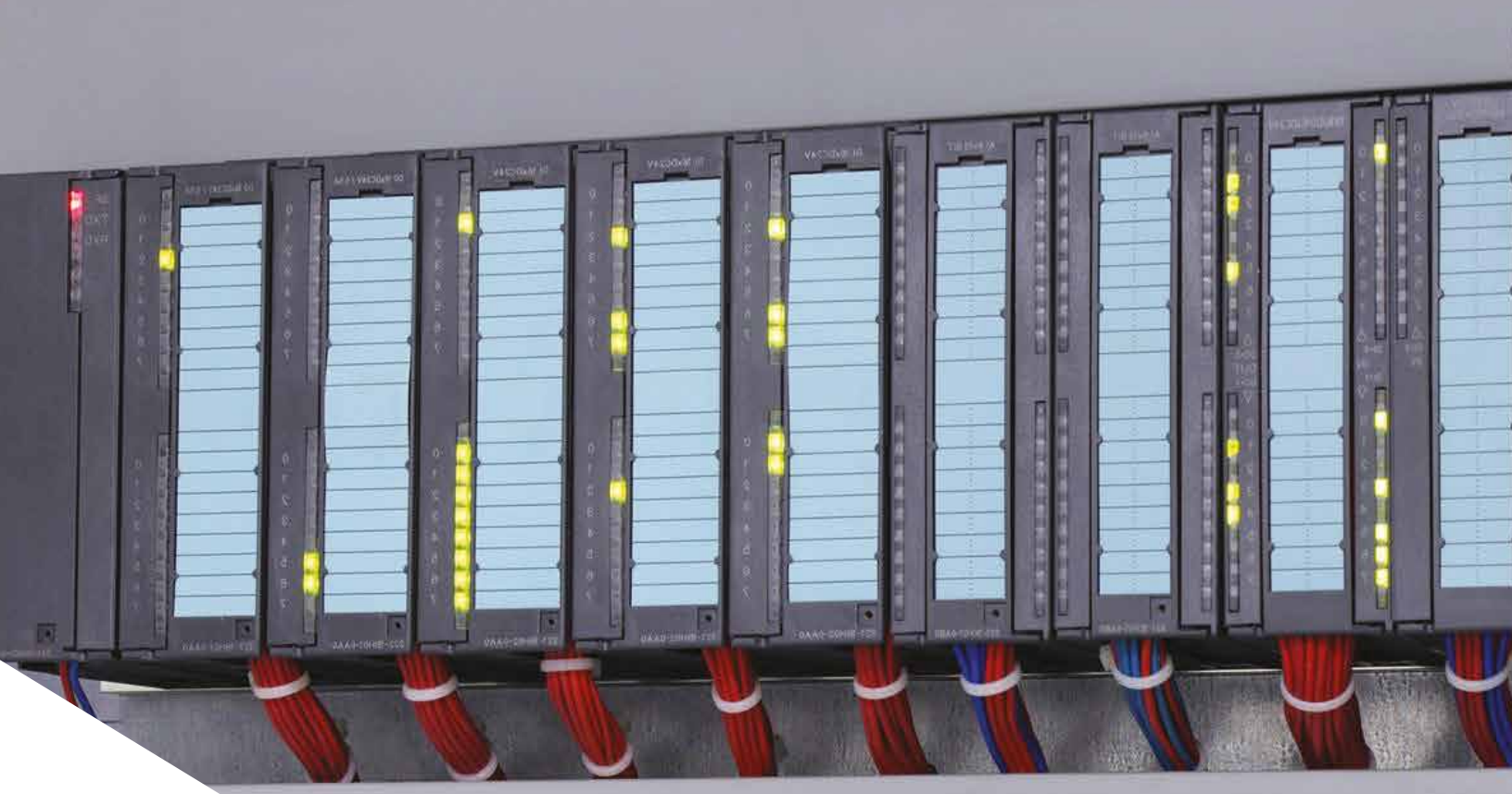
Frequency	Attenuation Minimum value of EN 50288-3-1	NEXT Minimum value of EN 50288-3-1	PS NEXT Minimum value of EN 50288-3-1	ELFEXT Minimum value of EN 50288-3-1	PS ELFEXT Minimum value of EN 50288-3-1	Return loss
MHz	dB/100m	dB	dB		dB/100m	dB
1	2.10	66.00	64.00	66.00	64.00	-
10	6.00	59.30	57.30	50.00	47.00	25.00
16	7.60	56.20	54.20	45.90	43.00	25.00
31.25	10.80	51.90	49.90	40.10	37.10	23.60
62.5	15.50	47.40	45.40	34.10	31.10	21.50
100	19.90	44.30	42.30	30.00	27.00	20.10
155	25.30	41.40	39.40	26.20	23.20	18.80
200	29.10	39.80	37.80	24.00	21.00	18.00
250	33.00	38.30	36.30	22.00	19.00	17.30
350	36.00	43.10	41.10	21.00	18.20	17.00
500	42.20	40.80	38.80	20.80	17.80	16.70

Characteristics

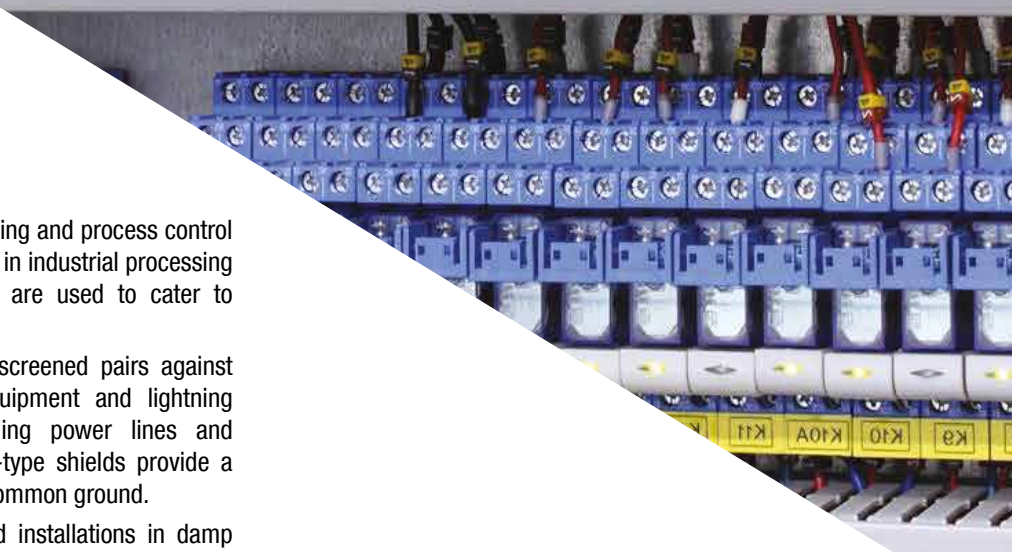
Operating Temperature · Maximum Short circuit · Lead free · Flame don't Spread IEC 60332-3-24

Installation condition

Household Wiring · Outdoor Installation · In conduit · Open air



INSTRUMENTATION CABLES



Instrumentation cables are used in data processing and process control for electrical instruments and control equipment in industrial processing plants. Various designs and plastic materials are used to cater to different requirements.

The shielding screen gives protection to the screened pairs against electro-magnetic radiation from electrical equipment and lightning strikes as well as against fields surrounding power lines and transformers. Drain wires connected to Mylar-type shields provide a simple mean of connecting all the shields to a common ground.

Steel wire armoured cable is suitable for field installations in damp locations and underground. Steel wire braided version provides more flexibility to small compartment installations such as on shipboards and offshore platforms where added protection is required.

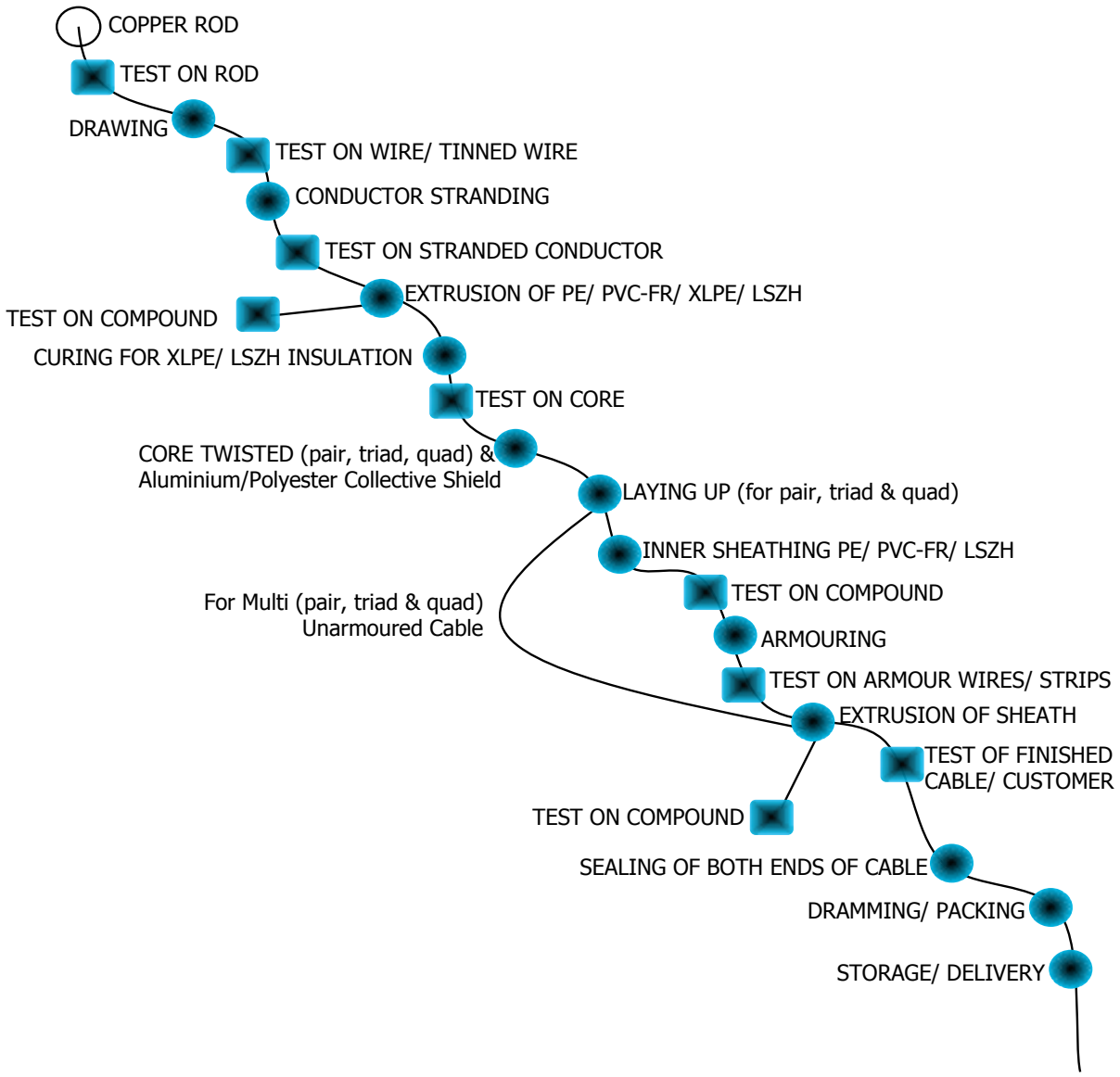
INSTRUMENTATION CABLES

Voltage Rating (U_0/U) : Up to and including 450/750 Volt

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
BS 5308 BS EN 50288 IEC 60227 IEC 60228 BS EN 60228	IEC 60811 BS 7655	IEC 60332 IEC 61034 IEC 60754

INSTRUMENTATION CABLES MANUFACTURING PROCESS



INSTRUMENT (OS)

Multi-Pair (Cu or ATC/PVC/OS/PVC)

APPLICATION

These cables are generally used for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry.

STANDARD

BS 5308 Part-1, Type-1

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class 1 or Class-2 or Class 5 to BS 6360

Insulation: Polyethylene, PE to BS 6234

Pairing: Two insulated core uniformly twisted together

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm²	-	no./mm	mm	mm	mm	kg/km	Ω/km
1Px0.5	re	1/0.8	0.5	0.8	5.5	35	36.8
2Px0.5	re	1/0.8	0.5	0.8	6.8	55	36.8
5Px0.5	re	1/0.8	0.5	1.1	10.9	125	36.8
10Px0.5	re	1/0.8	0.5	1.2	14.4	215	36.8
15Px0.5	re	1/0.8	0.5	1.2	16.5	300	36.8
1Px0.5	rm	16/0.2	0.6	0.8	6.2	60	39.7
2Px0.5	rm	16/0.2	0.6	0.8	7.6	80	39.7
5Px0.5	rm	16/0.2	0.6	1.1	12.4	210	39.7
10Px0.5	rm	16/0.2	0.6	1.2	16.5	340	39.7
15Px0.5	rm	16/0.2	0.6	1.3	19.2	440	39.7
1Px0.75	rm	24/0.2	0.6	0.8	6.7	75	26.5
2Px0.75	rm	24/0.2	0.6	0.9	8.4	100	26.5
5Px0.75	rm	24/0.2	0.6	1.2	13.8	250	26.5
10Px0.75	rm	24/0.2	0.6	1.3	18.4	450	26.5
15Px0.75	rm	24/0.2	0.6	1.5	21.1	600	26.5
1Px1.0	re	1/1.13	0.6	0.8	6.6	85	18.4
2Px1.0	re	1/1.13	0.6	0.8	8.0	115	18.4
5Px1.0	re	1/1.13	0.6	1.2	13.5	290	18.4
10Px1.0	re	1/1.13	0.6	1.2	17.7	500	18.4
15Px1.0	re	1/1.13	0.6	1.3	20.6	670	18.4
1Px1.5	rm	7/0.53	0.6	0.8	7.5	100	12.3
2Px1.5	rm	7/0.53	0.6	0.9	9.3	150	12.3
5Px1.5	rm	7/0.53	0.6	1.2	15.6	360	12.3
10Px1.5	rm	7/0.53	0.6	1.3	20.9	690	12.3
15Px1.5	rm	7/0.53	0.6	1.5	24.6	880	12.3

Characteristics

Operating Temperature -20°C to 70°C · Maximum Short Circuit 160°C · Meter Marking · Lead free · Flame Retardant IEC 60332-1-2 · Test 1.0kV

Installation condition

Industrial Use · Outdoor Installation · In Duct · Open air · In water

PARTEX Cables powering with safety

INSTRUMENT (IS-OS)

Multi-Pair (Cu or ATC/PE/IS-OS/PVC)

APPLICATION

These cables are generally used for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry.

STANDARD

BS 5308 Part-1, Type-1

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class 1 or Class-2 or Class 5 to BS 6360

Insulation: Polyethylene, PE to BS 6234

Pairing: Two insulated core uniformly twisted together

Individual screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal Thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no./mm	mm	mm	mm	kg/km	Ω/km
2Px0.5	re	1/0.8	0.5	0.9	9.7	95	36.8
5Px0.5	re	1/0.8	0.5	1.2	13.0	180	36.8
10Px0.5	re	1/0.8	0.5	1.2	16.9	310	36.8
15Px0.5	re	1/0.8	0.5	1.3	19.7	440	36.8
2Px0.5	rm	16/0.2	0.6	1.1	11.2	110	39.7
5Px0.5	rm	16/0.2	0.6	1.2	14.5	250	39.7
10Px0.5	rm	16/0.2	0.6	1.3	19.3	480	39.7
15Px0.5	rm	16/0.2	0.6	1.5	22.6	570	39.7
2Px1.0	re	1/1.13	0.6	1.1	11.9	200	18.4
5Px1.0	re	1/1.13	0.6	1.2	15.4	290	18.4
10Px1.0	re	1/1.13	0.6	1.3	20.5	580	18.4
15Px1.0	re	1/1.13	0.6	1.5	24.1	780	18.4
2Px1.5	rm	7/0.53	0.6	1.2	13.6	250	12.3
5Px1.5	rm	7/0.53	0.6	1.3	17.7	460	12.3
10Px1.5	rm	7/0.53	0.6	1.5	23.9	760	12.3
15Px1.5	rm	7/0.53	0.6	1.7	28.0	1020	12.3

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.0kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
In water

INSTRUMENT ARMOURED (OS)

Multi-Pair (Cu or ATC/PE/OS/SWA/PVC)

APPLICATION

These armoured cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. The armourd versions are generally use for outdoor installation for direct burial or install in the duct and suitable for wet and damp areas.

STANDARD

BS 5308 Part-1, Type-2

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class 1 or Class-2 or Class 5 to BS 6360

Insulation: Polyethylene, PE to BS 6234

Pairing: Two insulated core uniformly twisted together

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Bedding: Polyethylene (PE) to BS 6234 or PVC, TM-1 to BS 7655

Armour: Round Galvanized Steel wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of bedding	Nominal diameter of round steel wire armour	Nominal Thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm²	-	no./mm	mm	mm	mm	mm	mm	kg/km	Ω/km
1Px0.5	re	1/0.8	0.5	0.8	0.9	1.3	9.9	200	36.8
2Px0.5	re	1/0.8	0.5	0.8	0.9	1.3	11.2	260	36.8
5Px0.5	re	1/0.8	0.5	1.1	0.9	1.4	15.5	460	36.8
10Px0.5	re	1/0.8	0.5	1.2	1.25	1.6	20.1	790	36.8
15Px0.5	re	1/0.8	0.5	1.2	1.25	1.6	22.2	1100	36.8
1Px0.5	rm	16/0.2	0.6	0.8	0.9	1.3	10.6	250	39.7
2Px0.5	rm	16/0.2	0.6	0.8	0.9	1.3	12.0	300	39.7
5Px0.5	rm	16/0.2	0.6	1.1	0.9	1.5	17.2	560	39.7
10Px0.5	rm	16/0.2	0.6	1.2	1.25	1.6	22.2	970	39.7
15Px0.5	rm	16/0.2	0.6	1.3	1.6	1.7	25.8	1240	39.7
1Px0.75	rm	24/0.2	0.6	0.8	0.9	1.4	10.9	280	26.5
2Px0.75	rm	24/0.2	0.6	0.9	0.9	1.4	12.8	330	26.5
5Px0.75	rm	24/0.2	0.6	1.2	1.25	1.6	19.3	750	26.5
10Px0.75	rm	24/0.2	0.6	1.3	1.6	1.8	24.3	1260	26.5
15Px0.75	rm	24/0.2	0.6	1.3	1.6	1.9	27.0	1480	26.5
1Px1.0	re	1/1.13	0.6	0.8	0.9	1.3	11.0	290	18.4
2Px1.0	re	1/1.13	0.6	0.9	0.9	1.4	12.6	345	18.4
5Px1.0	re	1/1.13	0.6	1.2	1.25	1.5	19.0	790	18.4
10Px1.0	re	1/1.13	0.6	1.2	1.25	1.7	23.6	1310	18.4
15Px1.0	re	1/1.13	0.6	1.3	1.6	1.8	27.4	1740	18.4
1Px1.5	rm	7/0.53	0.6	0.8	0.9	12.1	11.9	320	12.3
2Px1.5	rm	7/0.53	0.6	0.9	0.9	13.9	14.1	420	12.3
5Px1.5	rm	7/0.53	0.6	1.2	1.25	21.3	21.6	940	12.3
10Px1.5	rm	7/0.53	0.6	1.3	1.6	27.7	27.4	1500	12.3
15Px1.5	rm	7/0.53	0.6	1.5	1.6	31.6	31.2	1970	12.3

Characteristics

Operating Temperature -20°C to 70°C; Maximum Short Circuit 160°C; Meter Marking; Lead free; Flame Retardant IEC 60332-1-2; Test 1.0kV

Installation condition

Industrial Use; Outdoor Installation; In Duct; Open air; Buried; In water

PARTEX Cables powering with safety

INSTRUMENT ARMOURED (IS-OS)

Multi-Pair (Cu or ATC/PE/IS-OS/SWA/PVC)

APPLICATION

These armoured cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. The armourd versions are generally use for outdoor installation for direct burial or install in the duct and suitable for wet and damp areas.

STANDARD

BS 5308 Part-1, Type-2

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Solid/ Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class 1 or Class-2 or Class 5 to BS 6360

Insulation: Polyethylene, PE to BS 6234

Pairing: Two insulated core uniformly twisted together

Individual screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Bedding: Polyethylene (PE) to BS 6234 or PVC, TM-1 to BS 7655

Armour: Round Galvanized Steel wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of bedding	Nominal diameter of round steel wire armour	Nominal Thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no./mm	mm	mm	mm	mm	mm	kg/km	Ω/km
2Px0.5	re	1/0.8	0.5	0.9	0.9	1.4	14.3	380	36.8
5Px0.5	re	1/0.8	0.5	1.2	1.25	1.5	18.5	640	36.8
10Px0.5	re	1/0.8	0.5	1.2	1.25	1.7	22.8	890	36.8
15Px0.5	re	1/0.8	0.5	1.3	1.6	1.7	26.3	1350	36.8
2Px0.5	rm	16/0.2	0.6	1.1	0.9	1.5	16.0	460	39.7
5Px0.5	rm	16/0.2	0.6	1.2	1.25	1.6	20.2	760	39.7
10Px0.5	rm	16/0.2	0.6	1.3	1.6	1.8	26.1	1300	39.7
15Px0.5	rm	16/0.2	0.6	1.5	1.6	1.8	29.4	1440	39.7
2Px0.75	rm	24/0.2	0.6	1.1	0.9	1.5	16.9	500	26.5
5Px0.75	rm	24/0.2	0.6	1.2	1.25	1.6	21.4	920	26.5
10Px0.75	rm	24/0.2	0.6	1.3	1.6	1.7	27.5	1610	26.5
15Px0.75	rm	24/0.2	0.6	1.5	1.6	1.9	31.6	1960	26.5
2Px1.0	re	1/1.13	0.6	1.1	0.9	1.5	16.7	515	18.2
5Px1.0	re	1/1.13	0.6	1.2	1.25	1.6	21.1	950	18.2
10Px1.0	re	1/1.13	0.6	1.3	1.6	1.8	27.3	1330	18.2
15Px1.0	re	1/1.13	0.6	1.5	1.6	1.9	31.1	1680	18.2
2Px1.5	rm	7/0.53	0.6	1.2	1.25	1.6	19.3	730	12.3
5Px1.5	rm	7/0.53	0.6	1.3	1.6	1.7	24.3	1180	12.3
10Px1.5	rm	7/0.53	0.6	1.5	1.6	1.9	30.9	1820	12.3
15Px1.5	rm	7/0.53	0.6	1.7	2.0	2.0	36.0	2350	12.3

Characteristics

Operating Temperature -20°C to 70°C · Maximum Short Circuit 160°C · Meter Marking · Lead free · Flame Retardant IEC 60332-1-2 · Test 1.0kV

Installation condition

Industrial Use · Outdoor Installation · In Duct · Open air · Buried · In water

INSTRUMENT (OS)

Multi-Core (Cu or ATC/PVC/OS/PVC)

APPLICATION

These cables are generally used for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry.

STANDARD

BS 5308 Part-2, Type-1

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5, BS 6360

Insulation: PVC, TI1 to BS 7655

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm²	-	no./mm	mm	mm	mm	kg/km	Ω/km
2Cx0.5	rm	16/0.2	0.6	0.8	6.2	60	39.7
3Cx0.5	rm	16/0.2	0.6	0.8	6.6	75	39.7
4Cx0.5	rm	16/0.2	0.6	0.8	7.2	80	39.7
6Cx0.5	rm	16/0.2	0.6	0.9	8.6	110	39.7
10Cx0.5	rm	16/0.2	0.6	1.1	11.2	180	39.7
20Cx0.5	rm	16/0.2	0.6	1.2	14.2	310	39.7
2Cx0.75	rm	24/0.2	0.6	0.8	6.7	75	26.5
3Cx0.75	rm	24/0.2	0.6	0.8	7.2	90	26.5
4Cx0.75	rm	24/0.2	0.6	0.8	7.8	100	26.5
6Cx0.75	rm	24/0.2	0.6	0.9	9.4	140	26.5
10Cx0.75	rm	24/0.2	0.6	1.1	12.2	220	26.5
20Cx0.75	rm	24/0.2	0.6	1.2	15.6	390	26.5
2Cx1.5	rm	7/0.53	0.6	0.8	8.0	105	12.3
3Cx1.5	rm	7/0.53	0.6	0.9	8.2	135	12.3
4Cx1.5	rm	7/0.53	0.6	0.9	9.0	150	12.3
6Cx1.5	rm	7/0.53	0.6	1.1	11.0	205	12.3
10Cx1.5	rm	7/0.53	0.6	1.2	14.0	330	12.3
20Cx1.5	rm	7/0.53	0.6	1.3	17.9	580	12.3

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.0kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
In water

PARTEX™ Cables powering with safety

INSTRUMENT (OS)

Multi-Pair (Cu or ATC/PVC/OS/PVC)

APPLICATION

These cables are generally used for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry.

STANDARD

BS 5308 Part-2, Type-1

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible/ Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5 to BS 6360

Insulation: PVC, TI1 to BS 7655

Pairing: Two insulated core uniformly twisted together

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal Thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no./mm	mm	mm	mm	kg/km	Ω/km
1Px0.5	rm	16/0.2	0.6	0.8	6.2	60	39.7
2Px0.5	rm	16/0.2	0.6	0.8	7.6	80	39.7
5Px0.5	rm	16/0.2	0.6	1.1	12.4	200	39.7
10Px0.5	rm	16/0.2	0.6	1.2	16.5	340	39.7
15Px0.5	rm	16/0.2	0.6	1.3	19.2	480	39.7
1Px0.75	rm	24/0.2	0.6	0.8	6.7	75	26.5
2Px0.75	rm	24/0.2	0.6	0.8	8.2	100	26.5
5Px0.75	rm	24/0.2	0.6	1.2	13.8	250	26.5
10Px0.75	rm	24/0.2	0.6	1.3	18.4	450	26.5
15Px0.75	rm	24/0.2	0.6	1.3	21.1	600	26.5
1Px1.5	rm	7/0.53	0.6	0.8	7.5	100	12.3
2Px1.5	rm	7/0.53	0.6	0.9	9.3	150	12.3
5Px1.5	rm	7/0.53	0.6	1.2	15.6	360	12.3
10Px1.5	rm	7/0.53	0.6	1.3	20.9	670	12.3
15Px1.5	rm	7/0.53	0.6	1.5	24.6	970	12.3

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.0kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
In water

INSTRUMENT (IS-OS)

Multi-Pair (Cu or ATC/PVC/IS-OS/PVC)

APPLICATION

These cables are generally used for indoor installation and suitable for wet and damp areas. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry.

STANDARD

BS 5308 Part-2, Type-1

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible or Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5 to BS 6360

Insulation: PVC, TI1 to BS 7655

Pairing: Two insulated core uniformly twisted together

Individual screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal Thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no./mm	mm	mm	mm	kg/km	Ω/km
2Px0.5	rm	16/0.2	0.6	1.1	11.2	170	39.7
5Px0.5	rm	16/0.2	0.6	1.2	14.6	270	39.7
10Px0.5	rm	16/0.2	0.6	1.3	19.4	520	39.7
15Px0.5	rm	16/0.2	0.6	1.5	22.7	650	39.7
2Px0.75	rm	24/0.2	0.6	1.1	12.2	200	26.5
5Px0.75	rm	24/0.2	0.6	1.2	15.8	355	26.5
10Px0.75	rm	24/0.2	0.6	1.3	21.1	560	26.5
15Px0.75	rm	24/0.2	0.6	1.5	24.9	770	26.5
2Px1.5	rm	7/0.53	0.6	1.2	13.6	265	12.3
5Px1.5	rm	7/0.53	0.6	1.3	14.8	490	12.3
10Px1.5	rm	7/0.53	0.6	1.5	24.1	820	12.3
15Px1.5	rm	7/0.53	0.6	1.7	28.2	1110	12.3

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.0kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
In water

PARTEX Cables powering with safety

INSTRUMENT ARMOURED (OS)

Multi-Core (Cu or ATC/PVC/OS/SWA/PVC)

APPLICATION

These armoured cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. The armourd versions are generally use for outdoor installation for direct burial or install in the duct and suitable for wet and damp areas.

STANDARD

BS 5308 Part-2, Type-2

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible or Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5 to BS 6360

Insulation: PVC, TI1 to BS 7655

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Bedding: PVC, TM-1 to BS 7655

Armour: Round Galvanized Steel wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of cores & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of bedding	Nominal diameter of round armour wire	Nominal thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
core x mm²	-	no/mm	mm	mm	mm	mm	mm	kg/km	Ω/km
2Cx0.5	rm	16/0.2	0.6	0.8	0.9	1.3	11.1	255	39.7
3Cx0.5	rm	16/0.2	0.6	0.8	0.9	1.3	11.0	280	39.7
4Cx0.5	rm	16/0.2	0.6	0.8	0.9	1.3	11.6	305	39.7
6Cx0.5	rm	16/0.2	0.6	0.9	0.9	1.4	13.2	360	39.7
10Cx0.5	rm	16/0.2	0.6	1.0	0.9	1.5	16.0	510	39.7
20Cx0.5	rm	16/0.2	0.6	1.2	1.25	1.6	19.9	960	39.7
2Cx0.75	rm	24/0.2	0.6	0.8	0.9	1.3	11.6	280	26.5
3Cx0.75	rm	24/0.2	0.6	0.8	0.9	1.3	11.6	305	26.5
4Cx0.75	rm	24/0.2	0.6	0.8	0.9	1.3	12.4	335	26.5
6Cx0.75	rm	24/0.2	0.6	0.9	0.9	1.4	14.0	400	26.5
10Cx0.75	rm	24/0.2	0.6	1.1	0.9	1.5	17.0	565	26.5
20Cx0.75	rm	24/0.2	0.6	1.2	1.25	1.6	21.3	950	26.5
2Cx1.5	rm	7/0.53	0.6	0.8	0.9	1.4	12.6	330	12.3
3Cx1.5	rm	7/0.53	0.6	0.9	0.9	1.4	12.8	380	12.3
4Cx1.5	rm	7/0.53	0.6	0.9	0.9	1.4	13.6	420	12.3
6Cx1.5	rm	7/0.53	0.6	1.1	0.9	1.4	15.6	540	12.3
10Cx1.5	rm	7/0.53	0.6	1.2	1.25	1.6	19.7	750	12.3
20Cx1.5	rm	7/0.53	0.6	1.3	1.6	1.7	24.5	1260	12.3

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.0kV

Installation condition

Industrial Use
Outdoor Installation
In Duct
Open air
Buried
In water

INSTRUMENT ARMOURED (OS)

Multi-Pair (Cu or ATC/PVC/OS/SWA/PVC)

APPLICATION

These armoured cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. The armourd versions are generally use for outdoor installation for direct burial or install in the duct and suitable for wet and damp areas.

STANDARD

BS 5308 Part-2, Type-2

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible or Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5 to BS 6360

Insulation: PVC, TI1 to BS 7655

Pairing: Two insulated core uniformly twisted together

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Bedding: PVC, TM-1 to BS 7655

Armour: Round Galvanized Steel wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of bedding	Nominal diameter of round armour wire	Nominal thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no/mm	mm	mm	mm	mm	mm	kg/km	Ω/km
1Px0.5	rm	16/0.2	0.6	0.8	0.9	1.3	10.6	260	39.7
2Px0.5	rm	16/0.2	0.6	0.8	0.9	1.3	11.5	305	39.7
5Px0.5	rm	16/0.2	0.6	1.1	0.9	1.5	17.2	610	39.7
10Px0.5	rm	16/0.2	0.6	1.2	1.25	1.6	22.2	1060	39.7
15Px0.5	rm	16/0.2	0.6	1.3	1.6	1.7	25.8	1330	39.7
1Px0.75	rm	24/0.2	0.6	0.8	0.9	1.3	11.1	305	26.5
2Px0.75	rm	24/0.2	0.6	0.8	0.9	1.4	12.3	360	26.5
5Px0.75	rm	24/0.2	0.6	1.2	1.25	1.5	19.3	820	26.5
10Px0.75	rm	24/0.2	0.6	1.3	1.6	1.7	25.0	1250	26.5
15Px0.75	rm	24/0.2	0.6	1.3	1.6	1.8	27.9	1600	26.5
1Px1.5	rm	7/0.53	0.6	0.8	0.9	1.4	12.1	360	12.3
2Px1.5	rm	7/0.53	0.6	0.9	0.9	1.4	13.4	460	12.3
5Px1.5	rm	7/0.53	0.6	1.2	1.25	1.6	21.3	1040	12.3
10Px1.5	rm	7/0.53	0.6	1.3	1.6	1.8	27.7	1610	12.3
15Px1.5	rm	7/0.53	0.6	1.5	1.6	1.9	31.6	2060	12.3

Characteristics

Installation condition

PARTEX Cables powering with safety

INSTRUMENT ARMOURED (IS-OS)

Multi-Pair (Cu or ATC/PE/IS-OS/SWA/PVC)

APPLICATION

These armoured cables are generally used when the risk of mechanical damage is increased. The galvanized steel wire armour provides excellent protection. Generally used within industrial process manufacturing plants for communication, data and voice transmission signals and services. Also used for the interconnection of electrical equipment and instruments, typically in petroleum industry. The armourd versions are generally use for outdoor installation for direct burial or install in the duct and suitable for wet and damp areas.

STANDARD

BS 5308 Part-2, Type-2

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : See color chart of technical information

Sheath : ■ or ■ (Black or Blue or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible or Stranded Circular, Plain annealed Copper or Tinned Copper, Class-2 or Class 5 to BS 6360

Insulation: PVC, TI1 to BS 7655

Pairing: Two insulated core uniformly twisted together

Individual screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Binder: PETP tape

Collective screen: Aluminium/polyester tape is applied over the laid up pairs with tinned copper drain wire

Bedding: PVC, TM-1 to BS 7655

Armour: Round Galvanized Steel wire

Sheath: PVC-FR, TM-1-FR to BS 7655

No. of pairs & Cross sectional area of conductor	Shape of conductor	No.of strands & Diameter of Wire	Nominal thickness of insulation	Nominal thickness of bedding	Nominal diameter of round armour wire	Nominal thickness of sheath	Approx. Overall diameter of cable	Approx. Weight of cable	Max. D.C Resistance of conductor at 20 ˚C
pair x mm^2	-	no/mm	mm	mm	mm	mm	mm	kg/km	Ω/km
2Px0.5	rm	16/0.2	0.6	0.8	0.9	1.3	15.0	505	39.7
5Px0.5	rm	16/0.2	0.6	1.1	0.9	1.5	19.1	830	39.7
10Px0.5	rm	16/0.2	0.6	1.2	1.25	1.6	24.8	1420	39.7
15Px0.5	rm	16/0.2	0.6	1.3	1.6	1.7	28.8	1570	39.7
2Px0.75	rm	24/0.2	0.6	0.8	0.9	1.4	16.1	545	26.5
5Px0.75	rm	24/0.2	0.6	1.2	1.25	1.5	21.2	1005	26.5
10Px0.75	rm	24/0.2	0.6	1.3	1.6	1.7	27.5	1400	26.5
15Px0.75	rm	24/0.2	0.6	1.3	1.6	1.8	31.0	1750	26.5
2Px1.5	rm	7/0.53	0.6	0.9	0.9	1.4	17.6	800	12.3
5Px1.5	rm	7/0.53	0.6	1.2	1.25	1.6	23.2	1290	12.3
10Px1.5	rm	7/0.53	0.6	1.3	1.6	1.8	30.3	1990	12.3
15Px1.5	rm	7/0.53	0.6	1.5	1.6	1.9	34.6	2590	12.3

Characteristics

Operating Temperature -20°C to 70°C · Maximum Short Circuit 160°C · Meter Marking · Lead free · Flame Retardant IEC 60332-1-2 · Test 1.0kV

Installation condition

Industrial Use · Outdoor Installation · In Duct · Open air · Buried · In water

FLEXIBLE CONTROL

Multi-Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder: Polyester or Non-woven tape

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA							ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
				Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 0.5 rm	16/0.2	0.6	0.7	5.2	6.6	35	39.0	7
3 x 0.5 rm	16/0.2	0.6	0.7	5.5	7.0	46	39.0	7
5 x 0.5 rm	16/0.2	0.6	0.8	6.8	8.6	75	39.0	5
7 x 0.5 rm	16/0.2	0.6	0.9	8.3	10.4	95	39.0	4
12 x 0.5 rm	16/0.2	0.6	1.1	10.4	12.9	168	39.0	4
18 x 0.5 rm	16/0.2	0.6	1.2	12.3	15.3	240	39.0	3
36 x 0.5 rm	16/0.2	0.6	1.5	17.0	20.9	472	39.0	2
48 x 0.5 rm	16/0.2	0.6	1.7	19.8	24.3	630	39.0	2
2 x 0.75 rm	24/0.2	0.6	0.8	5.7	7.2	48	26.0	11
3 x 0.75 rm	24/0.2	0.6	0.8	6.0	7.6	60	26.0	11
5 x 0.75 rm	24/0.2	0.6	0.9	7.4	9.3	99	26.0	8
7 x 0.75 rm	24/0.2	0.6	1.0	9.0	11.3	120	26.0	7
12 x 0.75 rm	24/0.2	0.6	1.1	11.0	13.7	208	26.0	5
18 x 0.75 rm	24/0.2	0.6	1.3	13.2	16.4	310	26.0	4
36 x 0.75 rm	24/0.2	0.6	1.6	18.2	22.4	598	26.0	3
48 x 0.75 rm	24/0.2	0.6	1.8	21.2	25.9	800	26.0	3
2 x 1.0 rm	32/0.2	0.6	0.8	5.9	7.5	54	19.5	14
3 x 1.0 rm	32/0.2	0.6	0.8	6.3	8.0	70	19.5	14
5 x 1.0 rm	32/0.2	0.6	0.9	7.8	9.8	110	19.5	11
7 x 1.0 rm	32/0.2	0.6	1.0	9.5	11.8	144	19.5	9
12 x 1.0 rm	32/0.2	0.6	1.2	11.8	14.6	248	19.5	8
18 x 1.0 rm	32/0.2	0.6	1.3	14.0	17.2	360	19.5	6
36 x 1.0 rm	32/0.2	0.6	1.7	19.4	23.8	728	19.5	5
48 x 1.0 rm	32/0.2	0.6	1.9	22.5	27.6	960	19.5	5

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

Characteristics

Operating Temperature -20°C to 70°C; Maximum Short Circuit 160°C; Meter Marking; Lead free; Flame Retardant IEC 60332-1-2; Test 1.5-2kV

Installation condition

Industrial Use; Outdoor Installation; Open air; In Duct

PARTEX Cables powering with safety

FLEXIBLE CONTROL

Multi-Core (Cu/PVC/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder: Polyester or Non-woven tape

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA							ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
				Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 1.5 rm	30/0.25	0.7	0.8	6.8	8.6	73	13.3	17
3 x 1.5 rm	30/0.25	0.7	0.9	7.4	9.4	97	13.3	17
5 x 1.5 rm	30/0.25	0.7	1.0	9.1	11.4	160	13.3	13
7 x 1.5 rm	30/0.25	0.7	1.2	11.3	14.1	205	13.3	11
12 x 1.5 rm	30/0.25	0.7	1.3	13.8	17.0	352	13.3	9
18 x 1.5 rm	30/0.25	0.7	1.5	16.5	20.3	520	13.3	8
36 x 1.5 rm	30/0.25	0.7	2.0	23.0	28.2	1036	13.3	6
48 x 1.5 rm	30/0.25	0.7	2.2	26.2	32.5	1370	13.3	6
2 x 2.5 rm	50/0.25	0.8	0.9	8.2	10.3	102	7.98	24
3 x 2.5 rm	50/0.25	0.8	1.0	9.0	11.2	148	7.98	24
5 x 2.5 rm	50/0.25	0.8	1.1	11.0	13.7	244	7.98	18
7 x 2.5 rm	50/0.25	0.8	1.3	13.6	16.8	315	7.98	16
12 x 2.5 rm	50/0.25	0.8	1.5	16.8	20.6	550	7.98	13
18 x 2.5 rm	50/0.25	0.8	1.8	20.2	24.8	820	7.98	11
36 x 2.5 rm	50/0.25	0.8	2.3	28.0	34.2	1630	7.98	8
48 x 2.5 rm	50/0.25	0.8	2.4	32.1	39.1	2135	7.98	8

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

Characteristics

Operating Temperature -20°C to 70°C
Maximum Short Circuit 160°C
Meter Marking
Lead free
Flame Retardant IEC 60332-1-2
Test 1.5-2kV

Installation condition

Industrial Use
Outdoor Installation
Open air
In Duct

FLEXIBLE CONTROL SHIELD

Multi-Core (Cu/PVC/CWS/PVC)

APPLICATION

The auxiliary cable is used in supervisory electrical equipment and station control circuits, in light, ordinary or heavy duty industry where power distribution device is needed to transmit control signals or measure signal operations

STANDARD

IEC 60227-7

VOLTAGE GRADE

U_0/U : 300/500 V

COLOR

Insulated core : 1 (Black with number print)

Sheath : (Black or Other Colors available on request)

CONSTRUCTION

Conductor: Flexible, Plain annealed Copper, Class 5 to IEC 60228

Insulation: PVC, PVC/D to IEC 60227-1

Binder (Optional): Polyester or Non-woven tape

Inner sheath: PVC, ST-5 to IEC 60227-1

Shielded: Plain annealed Copper or Tinned Copper, Braided

Sheath: PVC, ST-9 to IEC 60227-1

PHYSICAL DATA & ELECTRICAL DATA								ELECTRICAL DATA	
Number of core & Nominal cross sectional area of conductor	No. of strands & diameter of wire	Nominal thickness of insulation	Diameter of braided wire	Nominal thickness of sheath	Approx. Overall diameter		Approx. weight of cable	Max. D.C resistance of conductor at 20 °C	Current Carrying Capacity in Air at 35 °C ambient temp.
					Lower limit	Upper limit			
Core x mm²	no./mm	mm	mm	mm	mm	mm	kg/km	Ω/km	amp
2 x 0.5 rm	16/0.2	0.6	0.15	0.9	7.7	9.6	96	39.0	7
3 x 0.5 rm	16/0.2	0.6	0.15	0.9	8.0	10.0	105	39.0	7
5 x 0.5 rm	16/0.2	0.6	0.15	1.0	9.3	11.6	142	39.0	5
7 x 0.5 rm	16/0.2	0.6	0.15	1.1	10.8	13.5	165	39.0	4
12 x 0.5 rm	16/0.2	0.6	0.2	1.3	13.3	16.5	288	39.0	4
18 x 0.5 rm	16/0.2	0.6	0.2	1.3	15.1	18.6	375	39.0	3
2 x 0.75 rm	24/0.2	0.6	0.15	0.9	8.0	10.0	101	26.0	11
3 x 0.75 rm	24/0.2	0.6	0.15	0.9	8.3	10.4	118	26.0	11
5 x 0.75 rm	24/0.2	0.6	0.15	1.0	9.7	12.1	160	26.0	8
7 x 0.75 rm	24/0.2	0.6	0.15	1.2	11.5	14.3	208	26.0	7
12 x 0.75 rm	24/0.2	0.6	0.2	1.3	13.9	17.2	332	26.0	5
18 x 0.75 rm	24/0.2	0.6	0.2	1.5	16.2	19.9	468	26.0	4
2 x 1.0 rm	32/0.2	0.6	0.15	0.9	8.2	10.3	116	19.5	14
3 x 1.0 rm	32/0.2	0.6	0.15	1.0	8.8	11.0	136	19.5	14
5 x 1.0 rm	32/0.2	0.6	0.15	1.1	10.3	12.8	184	19.5	11
7 x 1.0 rm	32/0.2	0.6	0.15	1.2	12.2	15.1	238	19.5	9
12 x 1.0 rm	32/0.2	0.6	0.2	1.4	14.7	18.1	388	19.5	8
18 x 1.0 rm	32/0.2	0.6	0.2	1.5	16.9	20.8	535	19.5	6
2 x 1.5 rm	30/0.25	0.7	0.15	1.0	9.3	11.6	148	13.3	17
3 x 1.5 rm	30/0.25	0.7	0.15	1.0	9.7	12.1	170	13.3	17
5 x 1.5 rm	30/0.25	0.7	0.15	1.2	11.8	14.7	255	13.3	13
7 x 1.5 rm	30/0.25	0.7	0.2	1.3	14.1	17.4	326	13.3	11
12 x 1.5 rm	30/0.25	0.7	0.2	1.5	16.7	20.5	510	13.3	9
18 x 1.5 rm	30/0.25	0.7	0.2	1.7	19.6	24.1	720	13.3	8
2 x 2.5 rm	50/0.25	0.8	0.15	1.1	10.7	13.3	196	7.98	24
3 x 2.5 rm	50/0.25	0.8	0.15	1.1	11.3	14.0	235	7.98	24
5 x 2.5 rm	50/0.25	0.8	0.2	1.3	13.9	17.2	370	7.98	18
7 x 2.5 rm	50/0.25	0.8	0.2	1.5	16.5	20.3	460	7.98	16
12 x 2.5 rm	50/0.25	0.8	0.2	1.7	19.9	24.4	745	7.98	13
18 x 2.5 rm	50/0.25	0.8	0.2	2.0	23.3	28.5	1060	7.98	11

Current ratings are valid for cables laid under defined conditions at page no. For current ratings at deviated conditions apply correction factor as given on page no.

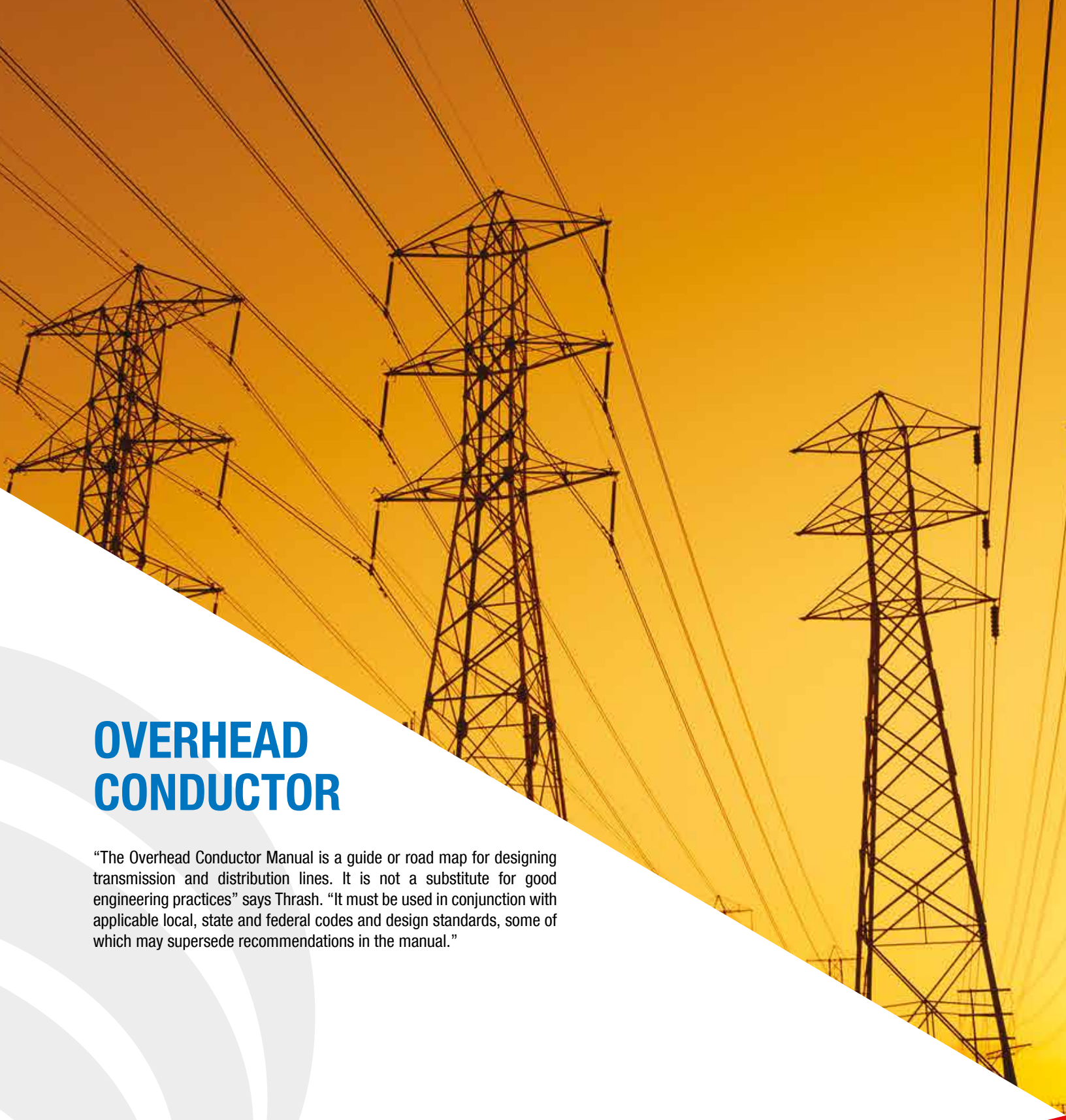
Characteristics

Operating Temperature -20°C to 70°C; Maximum Short Circuit 160°C; Meter Marking; Lead free; Flame Retardant IEC 60332-1-2; Test 1.5-2kV

Installation condition

Industrial Use; Outdoor Installation; In Duct; Open air; Buried; In water

PARTEX Cables powering with safety



OVERHEAD CONDUCTOR

"The Overhead Conductor Manual is a guide or road map for designing transmission and distribution lines. It is not a substitute for good engineering practices" says Thrash. "It must be used in conjunction with applicable local, state and federal codes and design standards, some of which may supersede recommendations in the manual."

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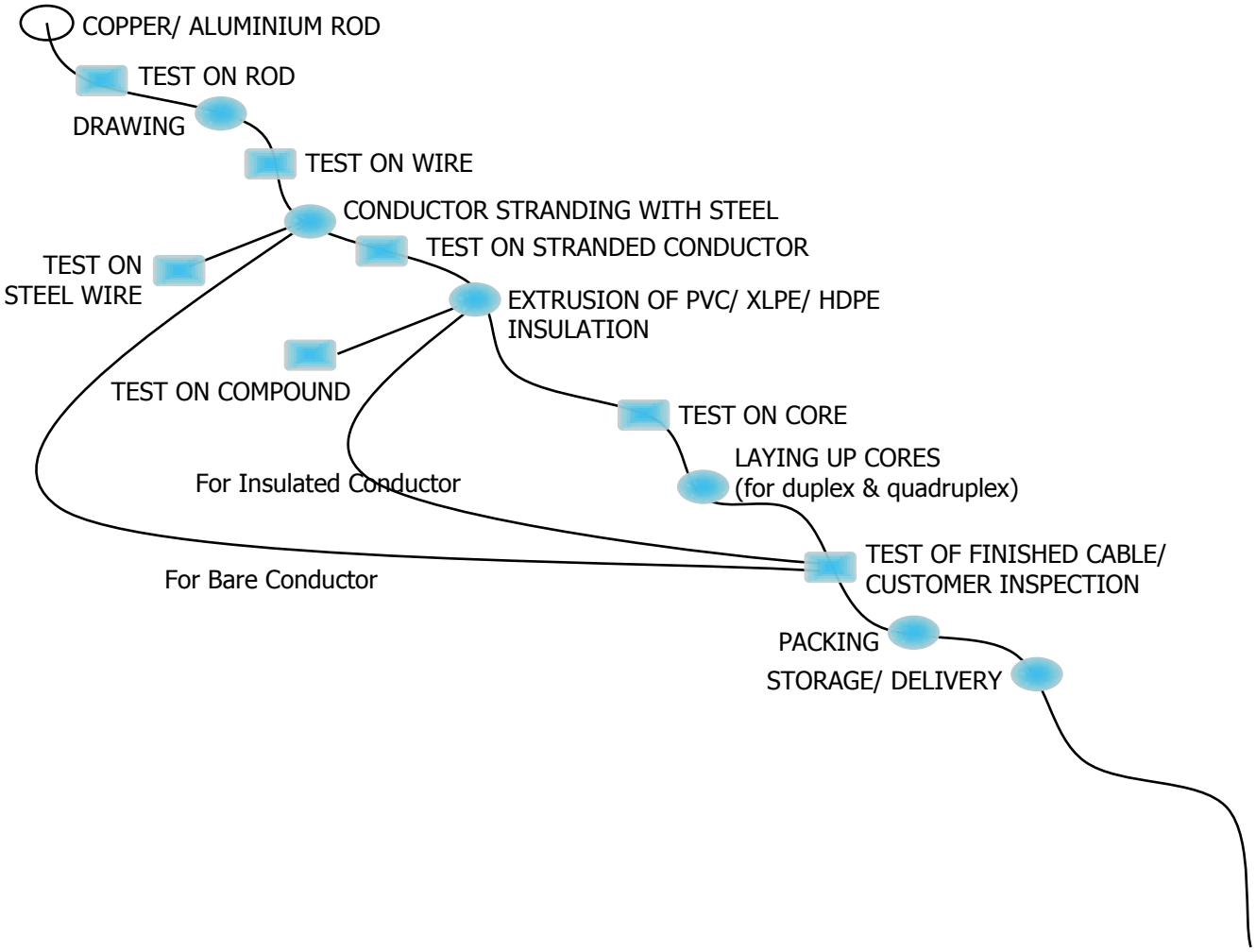
OVERHEAD CONDUCTOR

Voltage Rating : 220 V up to and including 33 kV

Standards Complied

Cable Specification	Materials Test Methods	Fire Performance Test
BDS 1036 BS 215 BS 6485 ASTM B230 ASTM B231 ASTM B232 ASTM B2 NEMA WC7	IEC 60811 BS 7655 ASTM B233 ASTM B609 ASTM B498 BS 183	IEC 60332

COMMUNICATION CABLES MANUFACTURING PROCESS



ALL ALUMINIUM CONDUCTOR (AAC)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

BS 215 part-1

BDS 1036

IEC 61089

CONSTRUCTION

Conductor: Stranded Aluminium wire to BS 2627

PHYSICAL DATA						TECHNICAL DATA		
Code Name	Nominal Aluminium Area	Total Area	No. of Strands & Diameter of Wire	Approx. Overall Diameter	Approx. weight of cable	Nominal Breaking Load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	mm^2	mm^2	no./mm	mm	Kg/Km	kgf	Ω/km	Amp
MIDG	22	23.3	7/2.06	6.2	64	408	1.227	114
APHIS	25	26.4	3/3.35	7.2	73	419	1.081	139
GNAT	25	26.9	7/2.21	6.6	74	468	1.068	124
WEEVIA	30	31.6	3/3.66	7.8	87	496	0.9082	144
MOSQUITO	35	36.9	7/2.59	7.8	102	617	0.7731	147
LADYBIRD	40	42.8	7/2.79	8.4	118	701	0.6694	159
ANT	50	52.8	7/3.10	9.3	145	846	0.5419	181
FLY	60	63.6	7/3.40	10.2	174	1010	0.4505	199
BLUEBOTTLE	70	73.6	7/3.66	11.0	203	1156	0.3884	219
EARWIG	75	78.6	7/3.78	11.4	216	1218	0.3645	227
GRASSHOPPER	80	84.1	7/3.91	11.7	232	1303	0.3405	238
CLEGG	90	95.6	7/4.17	12.5	264	1482	0.2994	256
WASP	100	106.0	7/4.39	13.2	290	1632	0.2702	271
BEETLE	100	106.4	19/ 2.67	13.4	293.3	1776	0.2699	274
BEE	125	132.0	7/4.90	14.7	363.9	2033	0.2169	308
CRICKET	150	157.9	7/5.36	16.1	435.5	2632	0.1814	342
HORNET	150	157.6	19/3.25	16.3	434.6	2519	0.1825	346
CATERPILLER	175	185.9	19/3.53	17.7	412.7	2920	0.1547	380
CHAFER	200	213.2	19/3.78	18.9	578.9	3304	0.1349	414
SPIDER	225	237.0	19/3.99	20.0	655	3672	0.1214	439
COCKROACH	250	265.7	19/4.22	21.1	732.7	4120	0.1083	470
BUTTERFLY	300	322.7	19/4.65	23.3	889.6	4966	0.08916	528
MOTH	350	373.1	19/5.00	25.0	1028.6	5748	0.07709	572
DRONE	350	372.4	37/3.58	25.1	1026.8	5858	0.07723	572
LOCUST	400	428.7	19/5.36	26.8	1182	6601	0.06714	626
CENTIPED	400	415.2	37/3.78	26.5	1144.8	6434	0.06944	619
MAYBUG	450	486.1	37/4.09	28.6	1340.2	7547	0.05921	676
SCORPION	500	529.8	37/4.27	29.9	1460.8	8156	0.05445	710
CICADA	600	628.3	37/4.65	32.6	1732.4	9682	0.04587	784
TARANTULA	750	793.9	37/5.23	36.6	2191.5	12247	0.03628	899

PARTEX™ Cables powering with safety

ALL ALUMINIUM CONDUCTOR (AAC)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

ASTM B 231

BDS 1036

IEC 61089

CONSTRUCTION

Conductor: Stranded Aluminium H14 to ASTM B 231

PHYSICAL DATA						TECHNICAL DATA		
Code Name	Total Area		No. of Strands & Diameter of Wire	Approx. Overall Diameter	Approx. weight of cable	Nominal Breaking Load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	AWG/MCM	mm^2	no./mm	mm	Kg/Km	Kgf	Ω/km	Amp
ROSE	4	21.16	7/1.96	5.9	58	375	1.362	104
IRIS	2	33.61	7/2.47	7.4	92	574	0.8574	136
POPPY	1/0	53.48	7/3.12	9.4	148	846	0.539	180
ASTER	2/0	67.42	7/3.50	10.5	186	1066	0.4276	207
PHLOX	3/0	85.03	7/3.93	11.8	234	1291	0.339	237
OXLIP	4/0	107.2	7/4.42	13.3	296	1628	0.2688	273
VALERIAN	250	126.7	19/2.91	14.6	348	2044	0.2275	305
DAISY	266.8	135.2	7/4.96	14.9	373	2053	0.2133	313
PEONY	300	152	19/3.19	16.0	419	2404	0.1896	340
TULIP	336.4	170.5	19/3.38	16.9	470	2697	0.1692	364
DAFFODIL	350	177.4	19/3.45	17.3	490	2805	0.1625	373
GOLDENTUFT	450	228	19/3.91	19.6	629	3462	0.1264	432
COSMOS	477	242	19/4.02	20.1	665	3670	0.1193	447
ZINNIA	500	253	19/4.12	20.6	698	3847	0.1137	459
DAHLIA	556.5	282	19/4.35	21.8	779	4282	0.1023	489

ALL ALUMINIUM CONDUCTOR (AAC-Insulated)

APPLICATION

All Aluminium Conductor are the favoured type for use on relatively short spans, particularly low and medium voltage distribution lines.

STANDARD

BS 215 part-1

BDS 1036

BS 6485

CONSTRUCTION

Conductor: Stranded Aluminium wire to BS 2627

Insulation: PVC, TI1 to BS 7655

PHYSICAL DATA									TECHNICAL DATA		
Code Name	Nominal Aluminium Area	Cross sectional area of conductor	Number of strands & diameter of wire	Approx. Diameter of bare conductor	Approx. weight of bare conductor	Minimum thickness of insulation	Approximate overall diameter	Approx. weight of insulated conductor	Minimum breaking load	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	mm^2	mm^2	no./mm	mm	kg/km	mm	mm	kg/km	kgf	Ω/km	Amp
MIDGE	22	23.3	7/2.06	6.18	64	0.8	8.2	98	408	1.227	106
GNAT	25	26.9	7/2.21	6.6	74	0.8	8.6	110	468	1.068	115
MOSQUITO	35	36.9	7/2.59	7.8	102	0.8	9.8	143	617	0.7731	134
ANT	5	52.8	7/3.10	9.3	145	0.8	11.3	192	846	0.5419	172
FLY	60	63.6	7/3.40	10.2	174	0.8	12.2	230	1010	0.4505	191
BLUEBOTTELE	70	73.6	7/3.66	11.0	203	0.8	13.0	261	1156	0.3884	210
EARWISE	75	78.6	7/3.78	11.4	216	0.8	13.4	275	1218	0.3645	218
GRASSHOPPER	80	84.1	7/3.91	11.7	232	0.8	13.8	292	1303	0.3405	228
CLEGG	90	95.6	7/4.17	12.5	264	0.8	14.6	330	1482	0.2994	245
WASP	100	106.0	7/4.39	13.2	290	0.8	15.6	372	1632	0.2702	260

PARTEX™ Cables powering with safety

ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR)

APPLICATION

ACSR is recommended for use as a transmission cable between the power station and substations and as primary and secondary distribution cable.

STANDARD

BS 215 part-2

BDS 1037

IEC 61089

CONSTRUCTION

Conductor:

Stranded Galvanized Steel wire to BS 4565

Stranded Aluminium wire to BS 2627

PHYSICAL DATA									TECHNICAL DATA		
Code name	Nominal Aluminium area	Area of conductor			Number of strands & diameter of wire		Approx. Overall diameter of conductor	Approx. Weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
		Al	Steel	Total	Al	Steel					
	mm^2	mm^2	mm^2	mm^2	no./mm	no./mm	mm	kg/km	kgf	Ω/km	Amp
SQIRREL	20	20.98	3.50	24.48	6/2.11	1/2.11	6.33	85	806	1.37	109
GOPHER	25	26.25	4.37	30.62	6/2.36	1/2.36	7.08	106	979	1.093	126
WEASEL	30	31.61	5.27	36.88	6/2.59	1/2.59	7.77	128	1163	0.9077	134
FOX	35	36.68	6.11	42.79	6/2.79	1/2.79	8.37	149	1346	0.7827	147
FERRET	40	42.41	7.07	49.48	6/3.00	1/3.00	9.00	172	1550	0.6766	161
RABBIT	50	52.88	8.81	61.69	6/3.35	1/3.35	10.05	215	1876	0.5426	185
HORESE	70	73.36	42.80	116.16	12/2.79	7/2.79	13.95	538	6241	0.3936	268
RACOON	75	79.22	13.20	92.42	6/4.10	1/4.10	12.30	321	2774	0.3623	231
CAT	90	95.43	15.90	111.33	6/4.50	1/4.50	13.50	387	3335	0.3008	248
HARE	100	104.98	17.50	122.48	6/4.72	1/4.72	14.16	425	3671	0.2733	273
DOG	100	104.98	13.55	118.53	6/4.72	7/1.57	14.15	395	6665	0.2733	273
TIGER	125	131.1	30.62	161.85	30/2.36	7/2.36	16.52	603	5914	0.2204	323
WOLF	150	158.06	36.88	194.94	30/2.59	7/2.59	18.13	726	7056	0.1828	355
DINGO	150	158.65	8.81	167.46	18/3.35	1/3.35	16.75	506	3640	0.1815	349
CARACAL	175	184.24	10.24	194.48	18/3.61	1/3.61	18.05	588	4181	0.1563	383
PANTHER	200	212.06	49.48	261.54	30/3.00	7/3.00	21.00	974	9402	0.1363	421
LION	225	238.27	55.60	293.87	30/3.18	7/3.18	22.26	1094	10258	0.1212	448
ELK	450	477.13	111.33	588.46	30/4.50	7/4.50	31.50	2190	20211	0.06058	679

ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR)

APPLICATION

ACSR is recommended for use as a transmission cable between the power station and substations and as primary and secondary distribution cable.

STANDARD

ASTM B-232

BDS 1037

IEC 61089

CONSTRUCTION

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA									TECHNICAL DATA		
Code Name	Nominal cross sectional area of conductor				Number of strands & diameter of wire		Approx. Overall diameter of conductor	Approx. weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
	Aluminium		Steel	Total	Aluminium	Steel					
	AWG or MCM	mm^2	mm^2	mm^2	no./mm	no./mm	mm	kg/km	kgf	Ω/km	Amp
Swan	4	21.16	3.55	24.71	6/2.12	1/2.12	6.36	85	848	1.356	105
Swallow	3	26.65	4.45	31.1	6/2.38	1/2.38	7.14	108	1040	1.076	121
Sparrow	2	33.61	5.61	39.22	6/2.67	1/2.67	8.01	136	1290	0.853	139
Robin	1	42.39	7.10	49.49	6/3.00	1/3.00	9.00	171	1620	0.6765	160
Raven	1/0	53.48	8.90	62.38	6/3.37	1/3.37	10.11	216	1990	0.5364	183
Quail	2/0	67.42	11.23	78.65	6/3.78	1/3.78	11.34	272	2400	0.4255	210
Pigeon	3/0	85.03	14.19	99.22	6/4.25	1/4.25	12.75	345	3010	0.3373	241
Penguin	4/0	107.23	17.87	125.1	6/4.77	1/4.77	14.31	433	3790	0.2676	276
Waxwing	266.8	135.16	7.48	142.64	18/3.09	1/3.09	15.45	430	3120	0.2133	319
Ostrich	300	152.00	24.77	176.77	26/2.73	1/2.12	17.28	614	5760	0.1906	346
Merlin	336.4	170.45	9.48	179.93	18/3.47	1/3.47	17.35	543	3940	0.1692	366
Chickadee	397.5	201.42	11.16	212.58	18/3.77	1/3.77	18.85	642	4510	0.1432	403
Pelican	477	241.68	13.42	255.1	18/4.14	1/4.14	20.70	774	5330	0.1193	449
Hawk	477	241.68	39.35	281.03	26/3.44	7/2.68	21.80	977	8870	0.1168	455
Hen	477	241.68	56.39	298.07	30/3.20	7/3.20	22.40	1109	10800	0.1202	457
Grosbeak	636	322.26	52.52	374.78	26/3.97	7/3.09	25.15	1302	11400	0.08989	538

PARTEX™ Cables powering with safety

ALL ALUMINIUM ALLOY CONDUCTOR (AAAC)

APPLICATION

AAAC is recommended for use as bare overhead conductor for primary and secondary distribution and in cases where high strength-to-weight ratio is required.

STANDARD

ASTM B-398 & B-399

IEC 61089

BS EN 50182

CONSTRUCTION

Conductor: Stranded Aluminium Alloy wire, T81 to ASTM B-398

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size	Nominal Area of conductor	Number of strands & diameter of wire	Approx. diameter of conductor	Approx. weight of conductor	Minimum breaking load of conductor	Max. D.C resistance of conductor at 20 ˚C
		kcmil	mm^2	no./mm	mm	kg/km	kgf	Ω/km
D-29	AMES	77.47	40	7/2.67208	8.0264	108.5	1270	0.8532
D-30	AZUSA	123.3	60	7/3.37058	10.1092	172.5	2023	0.535
D-31	ALLIANCE	246.9	125	7/4.77012	14.3002	345.7	3883	0.2678
D-32	DARIEN	559.5	280	19/4.35864	21.7932	783.2	8528	0.118
D-33	GREELY	927.2	470	37/4.02082	28.1432	1289	13800	0.0715

WATER BLOCKED CONCENTRIC CABLES

APPLICATION

Split concentric cables are predominantly used by Distribution Network Operators (DNO's) when providing the final service connection to domestic properties.

Split concentric cables are also suitable for sub main distribution and have been found to be particularly useful within high rise buildings and street lighting systems.

These cables are designed to be installed in air or for burial in free draining soil conditions.

STANDARD

IEC 60502-1

VOLTAGE GRADE

600/1000 V

CONSTRUCTION

Phase Conductor: Circular, Plain hard copper to ASTM B-1

Phase Insulation: XLPE to IEC 60502-1

Neutral conductor: Solid, Plain annealed copper to ASTM B-3

Neutral Insulation: Polyethylene to IEC 60502-1

Earth conductor: Solid, Plain annealed copper to ASTM B-3

Filler: Polyethylene

Binder: Polyester Tape

Sheath: Polyethylene to IEC 60502-1

PHYSICAL DATA									TECHNICAL DATA
Nominal cross section area of conductor	No. of strands & diameter of wires	Nominal cross sectional area of neutral conductor	No. of strands & diameter of wires	Nominal cross sectional area of earth conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable	Maximum D.C resistance of conductor at 20 ˚C
no. x mm^2	no./mm	mm^2	no./mm	mm^2	no./mm	mm	mm	kg/km	Ω/km
1x6 rm	7/1.04	6	7/1.05	4.5	3/1.4	1.0	11.2	225	3.08
1x16 rm	7/1.67	16	7/1.76	10.5	3/2.2	1.0	15.3	505	1.19

GROUND WIRE & TIE WIRE

APPLICATION

Hard Drawn Bare Aluminium wire suitable for use as grounding wire/ jumper wire on electric distribution lines.

Soft bare aluminium wire suitable for use as tie wire on electric distribution lines.

STANDARD

ASTM B-233 & B-609

ASTM B-531 & B-396

CONSTRUCTION

Conductor:

Hard Drawn Bare Aluminium wire, H14 to ASTM B-233

Soft Drawn Bare Aluminium wire, 1350-0 to ASTM B-609

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size of conductor	Nominal Area of conductor	Number of strands	Diameter of wire	Approx. weight of conductor	Breaking Strength	Maximum D.C resistance of conductor at 20 ˚C
		AWG	mm^2	no.	mm	kg/km	kgf	Ω/km
D-4	Ground wire	4	21.15	1	5.189	57.2	342 (min)	1.3363
D-5	Tie Wire	4	21.15	1	5.189	57.2	167 (Max)	1.3251

JUMPER WIRE

APPLICATION

Soft Bare Copper wire for use as Jumper on electric distribution lines.

STANDARD

ASTM B-3 & B-193

CONSTRUCTION

Conductor: Soft Bare Copper wire to ASTM B-3

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Code Name	Size of conductor	Nominal Area of conductor	Number of strands	Diameter of wire	Approx. weight of conductor	Maximum breaking load	Maximum D.C resistance of conductor at 25 ˚C
		AWG	mm^2	no.	mm	kg/km	kgf	Ω/km
D-6	Jumper Wire	6	13.30	1	4.1148	118.4	346	1.404

PARTEX™ Cables powering with safety

STRANDED GALVANIZED GUY WIRE

APPLICATION

Guy Wire is composed of galvanized steel wires in various strengths and zinc coatings. Messenger Wire, Overhead Ground or Static Wire, Guy Wire.

STANDARD

ASTM A-475 & ASTM B-498

BS 183

CONSTRUCTION

Conductor: Stranded Galvanized Steel wire to Class-A to ASTM B-498

PHYSICAL DATA					TECHNICAL DATA
Name of item	Nominal cross sectional area of conductor	Number of strands & diameter of wire	Overall diameter	Approx. Weight of cable	Minimum breaking load
	mm^2	no./mm	mm	kg/km	kgf
Guy wire	30.62	7/2.36	7.1	240	3885
Guy wire	54.55	7/3.15	9.5	430	6400

HDPE INSULATED ACSR CONDUCTOR

APPLICATION

High density polyethylene covered steel reinforced concentric-lay-stranded aluminium conductors (ACSR), to be used as 15 kV insulated tree wire on distribution lines.

STANDARD

ASTM B-230, B- 232, B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

Insulation: HDPE, NEMA WC-7

PHYSICAL DATA							TECHNICAL DATA		
REB Item Code	Conductor Size	Number of Strands & Diameter of wire		Insulation Thickness	Approx. Overall diameter of conductor	Approx. Weight of conductor	Minimum breaking strength	Maximum D.C resistance of conductor at 20 ˚C	Current rating at 35 ˚C ambient temp.
		Al	Steel						
	AWG	no./mm	no./mm	mm	mm	kg/km	kgf	Ω/km	Amp
D-59	2	6/2.67	1/2.67	3.81	15.646	274	1228	0.853	126
D-61	1/0	6/3.37	1/3.37	3.81	17.729	370	1887	0.535	168
D-62	4/0	6/4.77	1/4.77	3.81	21.92	634	3598	0.2672	260

MEDIUM HARD DRAWN COPPER CONDUCTOR

APPLICATION

Medium Hard Drawn (MHD) bare copper conductor are to be used on electric distribution systems.

STANDARD

ASTM B-2 & B-193

CONSTRUCTION

Conductor: MHD Bare Copper conductor to ASTM B-2

PHYSICAL DATA							TECHNICAL DATA	
REB Item Code	Name of conductor	Size of conductor	Nominal Area of conductor	Number of strand & diameter of wire	Conductor diameter	Approx. weight of conductor	Minimum breaking load of conductor	Maximum D.C resistance of conductor at 25 ˚C
		AWG or MCM	mm^2	no./mm	mm	kg/km	kgf	Ω/km
D-7	MHD Copper Conductor	3	26.688	3/3.360	7.254	240	1070	0.683
D-8	MHD Copper Conductor	1/0	53.488	7/3.119	9.347	486	2155	0.344
D-9	MHD Copper Conductor	4/0	107.264	7/4.417	13.259	956	3694	0.166
D-10	MHD Copper Conductor	2/0	67.425	7/3.502	10.510	616	2694	0.275
DS-9	MHD Copper Conductor	4/0	107.156	19/2.679	13.410	973	4371	0.173
DS-10	MHD Copper Conductor	2/0	67.766	19/2.131	10.655	613	2166	0.271
DS-37	MHD Copper Conductor	350	177.291	37/2.470	17.290	1620	5662	0.101
DS-38	MHD Copper Conductor	500	253.064	37/2.951	20.657	2297	10231	0.070

XLPE INSULATED MHD COPPER CONDUCTOR

APPLICATION

Cross-linked Polyethylene insulated medium hard drawn copper conductors are to be used as jumper on electric distribution system.

STANDARD

ASTM B-2 & B-8

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Conductor: MHD Copper conductor to ASTM B-2

Insulation: XLPE to NEMA WC-7

PHYSICAL DATA						TECHNICAL DATA	
REB Item Code	Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Approx. Overall diameter	Approx. weight of conductor	Minimum breaking load	Maximum D.C resistance of conductor at 25 ˚C
	AWG	no./mm	mills/mm	mills/mm	kg/km	kgf	Ω/km
D-16	3	3/3.36	60/1.52	405/10.29	283	1070	0.683
D-17	1/0	7/3.12	62/1.57	481/12.22	541	2155	0.344
D-18	4/0	7/4.42	62/1.57	630/16.00	1050	3694	0.166
D-19	1000 MCM	61/3.25	94/2.38	1339/34.01	4830	17570	0.0356

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XLPE INSULATED AERIAL CABLE

APPLICATION

Pre-assembled cross-linked polyethylene insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerial single phase and three phase service drop cable.

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Phase

Conductor: Stranded Aluminium wire to ASTM B-231

Insulation: XLPE to NEMA WC-7

Messenger

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA									TECHNICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx. Weight of conductor	Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.
		Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of Strand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mils/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	Amp
D-11	DUPLEX	6	7/1.56	45/1.143	6	6/1.68	1/1.68	114	2.169	2.157	70
D-12	DUPLEX	3	7/2.20	45/1.143	3	6/2.38	1/2.38	212	1.076	1.074	98
D-14	QUADRUPLEX	3	7/2.20	45/1.143	3	6/2.38	1/2.38	420	1.076	1.074	86
D-15	QUADRUPLEX	1/0	7/3.12	60/1.524	1/0	6/3.37	1/3.37	835	0.5372	0.535	165
D-20	QUADRUPLEX	4	7/1.96	45/1.143	4	6/2.12	1/2.12	340	1.632	1.35	92
D-24	QUADRUPLEX	4/0	7/4.42	60/1.524	4/0	6/4.77	1/4.77	1580	0.2688	0.2676	198
D-25	QUADRUPLEX	6	7/1.56	45/1.143	6	6/1.68	1/1.68	230	2.169	2.157	60

PVC INSULATED AERIAL CABLE

APPLICATION

Pre-assembled cross-linked polyethylene insulated aluminium cables supported by a bare ACSR messenger wire shall be used as aerial single phase and three phase service drop cable

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

CONSTRUCTION

Phase

Conductor: Stranded Aluminium wire to ASTM B-231

Insulation: XLPE to NEMA WC-7

Messenger

Conductor:

Stranded Galvanized Steel wire, Class-A to ASTM B-498

Stranded Aluminium wire, 1350-H19 to ASTM B-232

PHYSICAL DATA									TECHNICAL DATA		
REB Item Code	Conductor assembly	Phase Conductor (AAC)			Messenger conductor (ACSR)			Approx. Weight of conductor	Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.
		Size of conductor	No. of Strand & diameter of wire	Nominal thickness of insulation	Size of conductor	No. of Strand & diameter of wire					
						Aluminium	Steel		Phase	Messenger	
		AWG	no./mm	mils/mm	AWG	no./mm	no./mm	kg/km	Ω/km	Ω/km	Amp
D-63	DUPLEX	6	7/1.56	60/1.524	6	6/1.68	1/1.68	140	2.169	2.157	58

PVC INSULATED SERVICE DROP CABLE

APPLICATION

PVC insulated copper cables supported by a PVC insulated copper messenger wire. Suitable for used in electricity supply in low voltage installation system for service voltage 600/1000 volts shall be used as aerial single phase and three phase service drop cable.

STANDARD

ASTM B-230, B-231, B-232 & B-498

NEMA WC-7

ICEA S-66-524

VOLTAGE GRADE

600/1000 V

COLOR

Duplex :

Insulation: Phase (Black) Messenger (Green)

Quadruplex

Insulation: Phase 1 2 3 (Black with number print)

Messenger (Green)

CONSTRUCTION

Phase

Conductor: Stranded Copper wire to ASTM B-3

Insulation: PVC, PVC/A to IEC 60502-1

Messenger

Conductor: Stranded Copper wire to ASTM B-1

Insulation: PVC, PVC/A to IEC 60502-1

DUPLEX CABLE

PHYSICAL DATA						TECHNICAL DATA			
Nominal cross sectional area of conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable		Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
no. x mm²	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
2.5 re x 2.5 re	1x1.78 / 1x1.78	1.6	10.0	95	70	7.41/7.41	12.10/ 12.10	27	21
2.5 rm x2.5 rm	7x0.67 / 7x0.67	1.6	10.6	100	71	7.41/7.41	12.10/ 12.10	27	21
4 rm x 4 re	7x0.85 / 1x2.26	1.6	11.6	135	90	4.61/4.61	7.41/7.41	35	29
4 rm x 4 rm	7x0.85 /7x0.85	1.6	11.8	140	91	4.61/4.61	7.41/7.41	35	29
6 rm x 6 re	7x1.05 /1x2.77	1.6	12.6	182	103	3.08/3.08	4.61/4.61	45	37
6 rm x 6 rm	7x1.05 / 1x1.05	1.6	13.0	186	105	3.08/3.08	4.61/4.61	45	37
10 rm x 10 rm	7x1.53 / 7x1.35	1.6	14.5	270	136	1.83/1.83	3.08/3.08	62	47
16 rm x 16 rm	7x1.71 / 7x1.71	1.6	16.6	396	180	1.15/1.15	1.91/ 1.91	84	65
25 rm x25 rm	7x2.14 / 7x2.14	1.6	19.2	595	244	0.727/0.727	1.20/ 1.20	110	85

QUADRUPLEX CABLE

PHYSICAL DATA						TECHNICAL DATA			
Nominal cross sectional area of conductor	No. of strands & diameter of wires	Nominal thickness of insulation	Approx. Overall diameter of cable	Approx. weight of cable		Max. D.C resistance of conductor at 20 ˚C		Current rating at 35 ˚C ambient temp.	
				Cu	Al	Cu	Al	Cu	Al
no. x mm2	no. x mm	mm	mm	kg/km	kg/km	Ω/km	Ω/km	amp	amp
3x4 rm/1x4 re	7x0.85 / 1x2.26	1.6	15.0	275	180	4.16/4.61	7.41/7.41	32	27
3x4 rm/1x4 rm	7x0.85 / 1x0.85	1.6	15.5	290	182	4.16/4.61	7.41/7.41	32	27
3x6 rm/1x6 rm	7x1.05 / 7x1.05	1.6	16.0	370	205	3.08/3.08	4.61/4.61	41	34
3x10 rm/1x10 rm	7x1.35 / 7x1.35	1.6	18.5	538	270	1.83/1.83	3.08/3.08	56	43
3x16 rm/1x16 rm	7x1.71 / 7x1.71	1.6	21.0	792	360	1.15/1.15	1.91/ 1.91	75	58
3x25 rm/1x25 rm	7x2.14 / 7x1.24	1.6	24.5	1180	488	0.727/0.727	1.20/ 1.20	98	76

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MATERIALS USED FOR CABLES

CONDUCTOR MATERIALS

ELECTRICAL PROPERTIES

Metal	Relative Conductivity Copper 100%	Electrical Resistivity at 20 °C Ohm.mm²/m	Temperature Coefficient of Resistance per °C
Copper (annealed)	100	0.017241	0.00393
Copper (hard drawn)	97	0.01777	0.00393
Tinned copper	95-97	0.01741-0.01814	0.00393
Aluminium	61	0.028264	0.00403
Lead	8	0.02140	0.00400

PHYSICAL PROPERTIES

Property	Unit	Copper	Aluminium	Lead
Density at 20 °C	gm / cm³	8.89	2.703	11.340
Coeff, thermal expansion	Per °C x 10^{-6}	17.0	23.0	29.0
Melting point	°C	1083.0	659.0	327.0
Thermal conductivity	W/cm °C	3.8	2.4	0.34
Tensile strength				
Annealed	kgf/mm²	20-28	7-14	
Hard	kgf/mm²	34-47	15-20	

INSULATION MATERIALS

Materials	Permissible Operating Temperature (°C)	Electrical Properties		
		Specific Volume Resistance (Ω-cm)	Permittivity Constant (ε_r)	Factor of Loss
Poly Vinyl Chloride (PVC)	70-105	10^{12}-10^{15}	4.0-6.5	10^{-2}-10^{-3}
Cross-Linked Polyethylene (XLPE)	90	~10^{16}	2.3-2.6	~10^{-4}
Low Density Polyethylene (LDPE)	70	>10^{16}	2.25-2.6	~10^{-4}
Hi-Density Polyethylene (HDPE)	90	>10^{16}	2.4-2.5	~10^{-4}
Foamed Polyethylene (PE Foam)	70	~10^{17}	~1.6	~10^{-4}
Low Smoke Zero Halogen-LSZH (Thermoplastic)	70-90	10^{12}-10^{14}	~4	~10^{-3}
LSZH (Thermosetting)	70-90	10^{13}-10^{14}	~4	10^{-2}-10^{-3}
Ethylene Propylene Rubber (EPR)	90	~10^{12}-10^{15}	3.0-3.8	~10^{-2}-10^{-3}

Materials	Mechanical Properties			Thermical Properties		
	Tensile Strength (N/mm²)	Elongation (%)	Resistance to absorbtion	Behaviour at low temperature	Flame resistance	Emission of corrosive gases during a combustion
Poly Vinyl Chloride (PVC)	12.5-25	125-350	avg. to good	mod. to good	avg. to good	hydrogen chloride
Cross-Linked Polyethylene (XLPE)	12.5-20	300-450	avg. to good	good	bad	-
Low Density Polyethylene (LDPE)	10-20	400-600	avg. to good	good	bad	-
Hi-Density Polyethylene (HDPE)	25-40	500-1000	good	good	bad	-
Foamed Polyethylene (PE Foam)	8-12	350-500	-	good	bad	-
Low Smoke Zero Halogen-LSZH (Thermoplastic)	5-12	>125	moderate to average	average	good	-
LSZH (Thermosetting)	5-12	>125	mod. to avg.	average	very good	-
Ethylene Propylene Rubber (EPR)	5-10	300-500	mod. to avg.	good	mod. - bad	-

CURRENT RATINGS

The current carrying capacity of a cable is determined by the following factors:

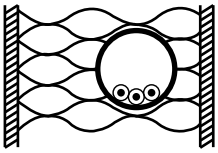
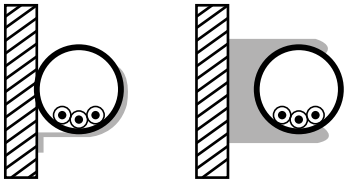
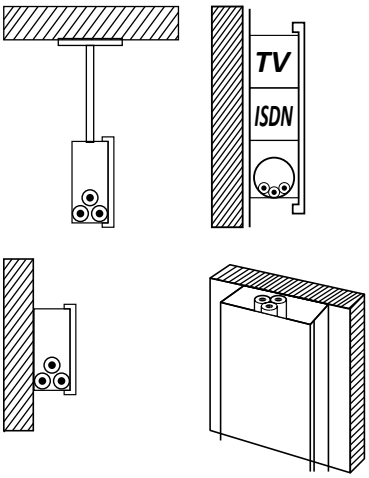
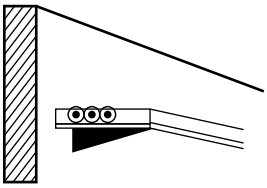
1. Current flowing in a conductor generates heat and causes the conductor temperature to rise above the ambient temperature.

2. Different methods of installation or the presence of external heat source such as, adjacent cables vary the rate of heat dissipation.

3. The insulation material determines the maximum conductor temperature which can be sustained continuously over the expected life of the cable.

In all cases, the ratings given are the single circuit ratings, corresponding to continuous loading at the maximum conductor temperature appropriate to the insulation material.

CURRENT RATING FACTORS FOR DOMESTIC CABLES

Installation mode		Reference No.
	Installation in warmth insulated walls	A1
	Installation in pipes on walls	B1
	Installation in cable conduits on walls	B1
	Installation on cable trays	C

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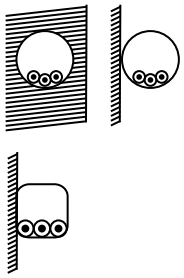
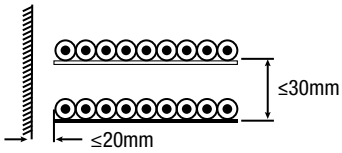
RATING FACTORS FOR AMBIENT TEMPERATURE (°C)

Temp.	20°	25°	30°	35°	45°	45°	50°	55°
	1.08	1.05	1.03	1.0	0.97	0.94	0.91	0.80

GROUP RATING FACTORS FOR INSTALLATION MODE A1 AND B1

	Number of circuits (composed each on 2 or 3 loaded single cables)								
	2	3	4	5	6	7	8	9	10
	0,83	0,7	0,65	0,60	0,57	0,54	0,52	0,50	0,48

GROUP RATING FACTORS FOR INSTALLATION MODE C

	Number of trays	Number of circuits (composed each on 2- or 3 loaded single cables)	
		2	3
	1	0,97	0,96
	2	0,93	0,89
	3	0,90	0,86

CURRENT RATING FACTORS FOR LT CABLE MADE ACCORDING TO VDE 0271/3.69, DIN VDE 0276/603 & IEC 60502-1

CURRENT RATING ASSUMPTION

- The calculation of the current ratings, current rating equations (100% load factor) and calculation of losses are based on IEC 60287 series and the value of current ratings for under ground applications (in duct or direct burried). The ratings for a cable installed in air are adopted from BS 7671, IEE wiring regulations, 17th edition.
- The calculation is based on the standard dimensions of cables based on IEC 60502-1, which may have a slight difference from the applied cable dimension which are following the best common manufacturing practices.
- The values given in the tables are for one circuit installed thermally isolated from other circuits or any other heat source.
- The basis of the standard conditions is the climative condition of the People's Republic of Bangladesh, which is:
  - Ambient air temperature 35°C
  - Ambient ground temperature 30°C
  - Depth of laying in ground 0.5m
  - Soil thermal resistivity 1.2 K.m/W
- For other installation conditions or any value of different air/ burried/ ducts, ground temperature, depth of laying, different soil thermal resistivity the customer is advised to multiply the tabulated current rating by the de-rating factor value as in below tables:

INSTALLATION CONDITIONS FOR DIRECT BURIAL CABLES

For a cable installed direct buried, the following tables will be used to calculate the current rates based on the actual soil thermal resistivity, ground ambient temperature and the Depth of Laying.

RATING FACTORS FOR GROUND TEMPERATURE VARIATION:

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Cable Type									
PVC Insulated	1.18	1.15	1.10	1.0	0.95	0.88	0.80	0.71	0.60
XLPE Insulated	1.16	1.18	1.09	1.0	0.95	0.89	0.82	0.73	0.62

RATING FACTORS FOR DEPTH OF LAYING (TO CENTER OF CABLE OR TREFOIL GROUP OF CABLES)

Depth of Laying (m)	Up to 70mm²	95mm² to 240mm²	Above 300mm²
0.50	1.00	1.00	1.00
0.60	0.99	0.98	0.97
0.80	0.97	0.96	0.94
1.00	0.95	0.93	0.92
1.25	0.94	0.92	0.89
1.50	0.93	0.90	0.87
1.75	0.92	0.89	0.86
2.00	0.91	0.88	0.85
2.50	0.90	0.87	0.84

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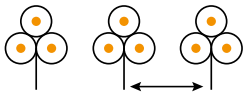
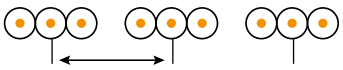
RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (AVERAGE VALUES)

Size of cables mm²	Soil thermal resistivity (°C.m/W)							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Single core cables								
Up to 150	1.16	1.12	1.07	1.0	0.93	0.83	0.77	0.71
From 185 to 300	1.17	1.13	1.08	1.0	0.92	0.82	0.75	0.69
From 400 to 1000	1.17	1.13	1.09	1.0	0.91	0.82	0.75	0.68
Multi-core cables								
Up to 16	1.12	1.08	1.05	1.0	0.94	0.84	0.77	0.72
From 25 to 150	1.14	1.10	1.06	1.0	0.93	0.82	0.75	0.69
From 185 to 500	1.15	1.10	1.07	1.0	0.92	0.81	0.74	0.67

GROUP RATING FACTORS FOR CIRCUITS OF THREE SINGLE CORE CABLES IN TREFOIL OR LAID FLAT TOUCHING, IN HORIZONTAL FORMATION

Number of Circuits						
	Nil (cables touching)		Cable to Cable Clearance A			
	Trefoil	Flat laying	0.15m	0.30m	0.45m	0.60m
2	0.78	0.81	0.83	0.88	0.91	0.93
3	0.66	0.70	0.73	0.79	0.84	0.87
4	0.61	0.64	0.68	0.73	0.79	0.85
5	0.56	0.60	0.64	0.73	0.79	0.85
6	0.53	0.57	0.61	0.71	0.78	0.82

GROUP RATING FACTORS FOR MULTI-CORE CABLES IN HORIZONTAL FORMATION

Number of cables in group					
	Cable to Cable Clearance A				
	Touching	0.15m	0.30m	0.45m	0.60m
2	0.81	0.87	0.91	0.93	0.95
3	0.70	0.78	0.84	0.88	0.90
4	0.63	0.74	0.81	0.86	0.89
5	0.59	0.70	0.78	0.84	0.87
6	0.55	0.68	0.77	0.83	0.87

INSTALLATION CONDITIONS FOR CABLES IN DUCTS

A duct is an enclosure of metal or insulating material other than conduits or cable trunking, intended for the protection of cables which are drawn in after erection of the ducting. The recommended relation between the cable size and duct size is as in table bellow:

RECOMMENDED DUCT DIMENSIONS AND CABLE SIZES

Number of cables in group	Duct	
	Inside diameter (mm)	Outside diameter (mm)
Up to and including 65	100	130
Above 65 up to and including 90	125	160

As the same principal of cables installed in direct burial methods above, the current carrying capacities of cables depends on the installed condition.

The de-rating factors of other conditions should be considered to calculate the actual possible maximum current carrying capacity of the cables. Below tables for the factors to be multiplied by the tabulated current:

RATING FACTORS FOR GROUND TEMPERATURE VARIATION

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Cable Type								
PVC Insulated	1.18	1.15	1.10	1.00	0.95	0.88	0.80	0.71
XLPE Insulated	1.16	1.13	1.09	1.00	0.95	0.89	0.82	0.73

RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (AVERAGE VALUES)

Size of cables mm²	Soil thermal resistivity (°C.m/W)							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Single core cables								
Up to 150	1.10	1.07	1.04	1.0	0.94	0.86	0.80	0.76
From 185 to 300	1.11	1.08	1.05	1.0	0.93	0.85	0.79	0.75
From 400 to 1000	1.12	1.08	1.05	1.0	0.93	0.84	0.78	0.74
Multi-core cables								
Up to 16	1.04	1.03	1.02	1.0	0.97	0.92	0.88	0.86
From 25 to 150	1.06	1.04	1.03	1.0	0.95	0.90	0.85	0.81
From 185 to 500	1.07	1.05	1.03	1.0	0.95	0.88	0.83	0.78

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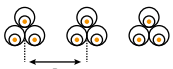
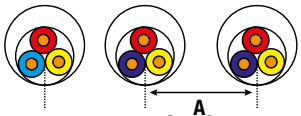
RATING FACTORS OF DEPTH OF LAYING (TO CENTER OF DUCT OR TREFOIL GROUP OF DUCTS)

Depth of laying (m)	Single core	Multi-core
0.50	1.00	1.00
0.60	0.98	0.99
0.80	0.95	0.98
1.00	0.93	0.96
1.25	0.91	0.95
1.50	0.89	0.94
1.75	0.88	0.94
2.00	0.87	0.93
2.50	0.86	0.92
3.00 or more	0.85	0.91

GROUP RATING FACTORS FOR SINGLE CORE CABLES IN TREFOIL SINGLE WAY DUCTS, HORIZONTAL (AVERAGE VALUES)

Number of circuits			
	Cable to cable clearance A		
	Touching	0.45m	0.60m
2	0.87	0.91	0.93
3	0.78	0.84	0.87
4	0.74	0.81	0.85
5	0.70	0.79	0.83
6	0.69	0.78	0.82

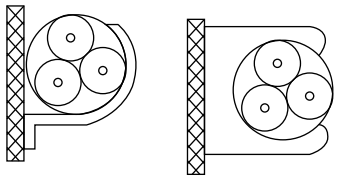
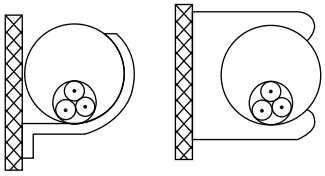
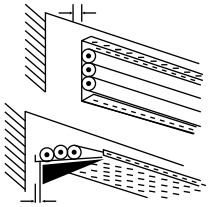
GROUP RATING FACTORS FOR MULTI-CORE CABLES IN SINGLE WAY DUCTS HORIZONTAL FORMATION (AVERAGE VALUES)

Number of cables in group				
	Cable to cable clearance A			
	Nil cables Touching	0.30 m	0.45 m	0.60 m
2	0.90	0.93	0.95	0.96
3	0.83	0.88	0.91	0.93
4	0.79	0.85	0.89	0.92
5	0.75	0.83	0.88	0.91
6	0.73	0.82	0.87	0.90
2	0.88	0.91	0.93	0.94
3	0.80	0.85	0.88	0.90
4	0.76	0.81	0.85	0.88
5	0.72	0.78	0.83	0.86
6	0.69	0.76	0.81	0.85

INSTALLATION CONDITIONS FOR CABLES IN AIR

Cables Installed in air could have many forms of installation methods as described in BS7671 IEE wiring regulation 17th edition. Some of these methods are like C or B below table (for cable on trefoil format laying as below table) or like E or F (for cable laid flat vertically or horizontally as in table). It is assumed that the cables are not exposed to the direct sunlight and away from any external heat source. The de-rating factors for cables laid in free air are as in other tables in next pages.

INSTALLATION METHODS FOR CABLES

Installation method	Description	Current carrying capacity reference
	Single core or multi-core cables: Fixed on (clipped direct) or spaced less than 0.3 times the cable diameter from a wall.	C
	Multi-core cable in conduit, spaced less than 0.3 x conduit diameter.	B
	Cables run horizontally or vertically flat on perforated tray for multi-core cable De = Cable diameter, And for 3 single core cables De = 3x cable diameter.	E or F

IMPORTANT NOTE FOR SINGLE CORE CABLES:

The conductors of an A.C. circuit installed in a ferromagnetic enclosure shall be arranged so that all line conductors and the neutral conductor, if any, and the appropriate protective conductor are contained in the same enclosure. When such conductors enter a ferrous enclosure, they shall be arranged in such a way that the conductors are only collectively surrounded by ferrous material.

RATING FACTORS FOR OTHER AMBIENT AIR TEMPERATURES

Air temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Cable type							
PVC Insulated	1.13	1.06	1.0	0.93	0.84	0.76	0.65
XLPE Insulated	1.06	1.01	1.0	0.96	0.88	0.80	0.72

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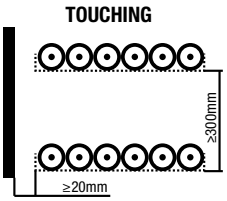
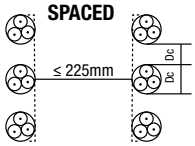
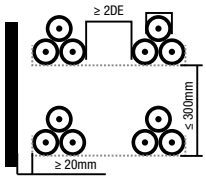
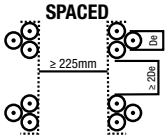
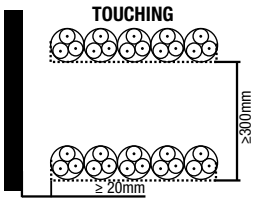
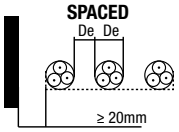
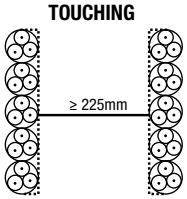
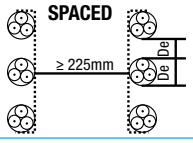
RATING FACTORS OF ONE OR MORE CIRCUITS OF SINGLE CORE CABLES LAID IN FREE AIR

Number of trays	Number of 3 phase circuits			Installation form	Type
	1	2	3		
1	0.98	0.91	0.87		Three cables in horizontal formation
2	0.96	0.87	0.81		
3	0.95	0.85	0.78		
1	0.96	0.86	-		Three cables in vertical formation
2	0.95	0.84	-		
1	1.00	0.98	0.96		Three cables in trefoil formation
2	0.97	0.93	0.89		
3	0.96	0.92	0.86		
1	1.00	0.91	0.89		
2	1.00	0.90	0.86		

RATING FACTORS FOR GROUPS OF MORE THAN ONE MULTI CORE CABLE LAID IN FREE AIR

Number of trays	Number of cables			Installation form	Type
	1	2	3		
1	1.00	0.88	0.82		Cables in horizontal formation
2	1.00	0.87	0.80		
3	1.00	0.86	0.79		
1	1.00	1.00	0.98		
2	1.00	0.99	0.96		
1	1.00	0.98	0.95		Cables in vertical formation
2	1.00	0.88	0.82		
3	1.00	0.88	0.81		
1	1.00	0.91	0.89		
2	1.00	0.91	0.88		

CURRENT RATING FACTORS FOR (MV & HV) CABLE MADE ACCORDING TO IEC 60502-2

CURRENT RATING ASSUMPTIONS:

The calculation of the current ratings, current rating equations (100% load factor) and calculation of losses are based on IEC 60287 series and the values of current ratings are verified with the tabulated value in IEC 60502-2.

The calculation is based on the standard dimensions of cables based on IEC 60502-2, which may have a slight difference from the applied cable dimension which are following the best common manufacturing practices. The values given in the tables are for one circuit installed thermally isolated from other circuits or any other heat source. The basis of the standard conditions is the climate conditions of the People's Republic of Bangladesh, which are:

Ambient Air Temperature : 30 °C

Ambient Ground Temperature : 20 °C

Depth of laying in ground : 0.80 m

Soil Thermal Resistivity : 1.5 K.m/W

For other installation conditions or any value of different air/ ground temperature, depth of laying, different soil thermal resistivity the customer is divided to multiply the tabulated current rating by the de-rating factor values.

INSTALLATION CONDITIONS FOR DIRECT BURIAL CABLES

For a cable installed direct buried, the following tables will be used to calculate the current rates based on the actual soil thermal resistivity, Ground ambient temperature and the Depth of Laying.11

RATING FACTORS FOR GROUND TEMPERATURE VARIATION

Ground temperature	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
Rating factors	1.07	1.04	1.0	0.96	0.93	0.89	0.85	0.80	0.76

RATING FACTORS FOR DEPTH OF LAYING (TO CENTER OF CABLE OR TREFOIL GROUP OF CABLES)

Depth of laying (m)	Single core cables		Three core cables
	Nominal conductor size mm²		
	≤ 185mm²	> 185mm²	
0.50	1.04	1.06	1.04
0.60	1.02	1.04	1.03
0.80	1.00	1.00	1.00
1.00	0.98	0.97	0.98
1.25	0.96	0.95	0.96
1.50	0.95	0.93	0.95
2.0	0.93	0.90	0.93
2.5	0.91	0.88	0.91
3.0	0.90	0.86	0.90

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RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (AVERAGE VALUES)

Rating factors	Soil thermal resistivity (K.m/W)						
	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Single core cables							
≤ 50 mm^2	1.25	1.20	1.16	1.00	0.89	0.81	0.75
> 50 mm^2 & ≤ 185 mm^2	1.28	1.23	1.18	1.00	0.88	0.80	0.74
240 mm^2 and above	1.30	1.24	1.24	1.00	0.88	0.79	0.73
Three core cables							
≤ 50 mm^2	1.20	1.17	1.13	1.00	0.91	0.84	0.78
> 50 mm^2 & ≤ 185 mm^2	1.22	1.18	1.14	1.00	0.90	0.83	0.77
240 mm^2 and above	1.23	1.19	1.15	1.00	0.90	0.82	0.76

INSTALLATION CONDITIONS FOR CABLES IN DUCTS

A duct is an enclosure of metal or insulating material other than conduits or cable trunking, intended for the protection of cables which are drawn in after erection of the ducting.

RATING FACTORS FOR GROUND TEMPERATURE VARIATION

Ground temperature	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
All cable types	1.06	1.03	1.0	0.96	0.92	0.88	0.84	0.79	0.75

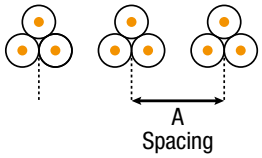
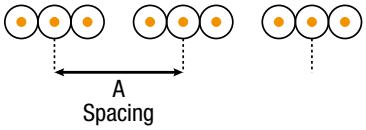
RATING FACTORS FOR DEPTH OF LAYING (TO CENTER OF CABLE OR TREFOIL GROUP OF CABLES)

Depth of laying	Single core cables		Three core cables
	Nominal conductor size mm^2		
	≤ 185mm^2	> 185mm^2	
0.50	1.04	1.06	1.03
0.60	1.02	1.03	1.02
0.80	1.00	1.00	1.00
1.00	0.98	0.97	0.99
1.25	0.96	0.95	0.97
1.50	0.95	0.93	0.96
2.0	0.93	0.91	0.94
2.5	0.91	0.89	0.93
3.0	0.90	0.88	0.92

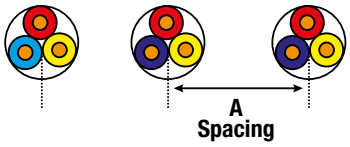
RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (AVERAGE VALUES)

Rating factors	Soil thermal resistivity (°C m/W)						
	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Single core cables							
≤ 50 mm²	1.17	1.15	1.12	1.00	0.92	0.85	0.79
> 50 mm² & ≤ 185 mm²	1.19	1.16	1.13	1.00	0.91	0.84	0.78
240 mm² and above	1.21	1.17	1.14	1.00	0.90	0.83	0.77
Three core cables							
≤ 50 mm²	1.12	1.10	1.08	1.00	0.94	0.89	0.84
> 50 mm² & ≤ 185 mm²	1.13	1.11	1.09	1.00	0.94	0.88	0.83
240 mm² and above	1.14	1.12	1.10	1.00	0.93	0.87	0.82

GROUP RATING FACTORS FOR CIRCUITS OF THREE SINGLE CORE CABLES IN TREFOIL OR LAID FLAT TOUCHING, IN HORIZONTAL FORMATION.

Number of Circuits						
	Nil (Cables Touching)		Cable to cable clearance A			
	Trefoil	Flat laying	0.15m	0.30m	0.45m	0.60m
2	0.78	0.81	0.81	0.85	0.88	0.90
3	0.66	0.70	0.71	0.76	0.80	0.83
4	0.61	0.64	0.64	0.72	0.76	0.80
5	0.56	0.60	0.60	0.68	0.73	0.77
6	0.53	0.57	0.57	0.66	0.72	0.76

GROUP RATING FACTORS FOR MULTI-CORE CABLES IN HORIZONTAL FORMATION

Number of cables in group					
	Cable to cable clearance A				
	Touching	0.15m	0.30m	0.45m	0.60m
2	0.81	0.84	0.87	0.89	0.91
3	0.70	0.73	0.78	0.82	0.85
4	0.63	0.68	0.74	0.78	0.82
5	0.59	0.63	0.70	0.75	0.79
6	0.55	0.60	0.68	0.74	0.77

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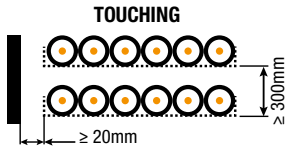
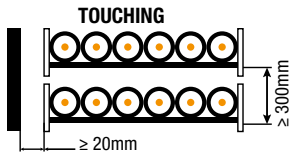
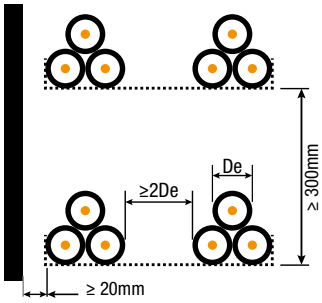
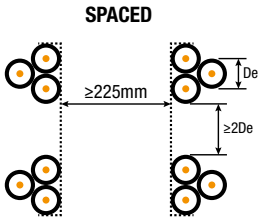
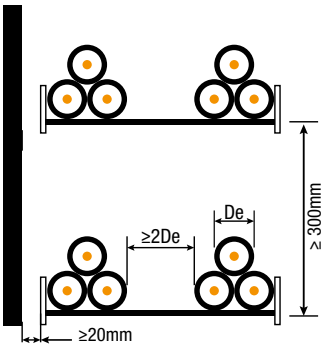
CABLES LAID ON RACKS IN AIR:

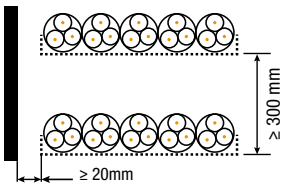
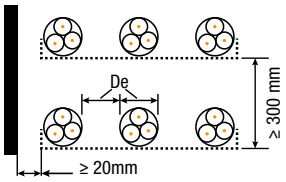
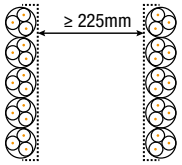
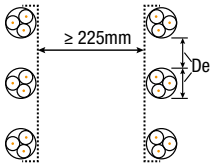
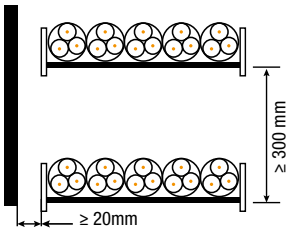
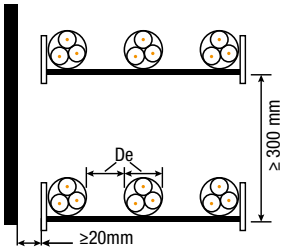
Correction factors for variation in ambient air temperature.

Ambient Air temperature (°C)	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Rating factor	1.08	1.04	1.0	0.96	0.91	0.87	0.82	0.76

REDUCTION FACTORS FOR GROUPS OF MORE THAN ONE CIRCUIT OF SINGLE CORE CABLES IN FREE AIR.

Method of installation		Number of trays	Number of three phase circuits			Use of a multiplier to rating for
			1	2	3	
Perforated trays		1	0.98	0.91	0.87	Three cables in horizontal formation
		2	0.96	0.87	0.81	
		3	0.95	0.85	0.78	
Ladder supports, cleats etc.		1	1.00	0.97	0.96	
		2	0.98	0.93	0.89	
		3	0.97	0.90	0.86	
Perforated trays		1	1.00	0.98	0.96	Three cables in trefoil formation
		2	0.97	0.93	0.89	
		3	0.96	0.92	0.86	
Vertical perforated trays		1	1.00	0.91	0.89	
		2	1.00	0.90	0.86	
Ladder supports, cleats etc.		1	1.00	1.00	1.00	
		2	0.97	0.95	0.93	
		3	0.96	0.94	0.90	

REDUCTION FACTORS FOR GROUPS OF MORE THAN ONE MULTI-CORE CABLE IN AIR.

	Method of installation	Number of trays	Number of cables					
			1	2	3	4	6	9
Cables on horizontal perforated trays	TOUCHING 	1	1.00	0.88	0.82	0.79	0.76	0.73
		2	1.00	0.87	0.80	0.77	0.73	0.68
		3	1.00	0.86	0.79	0.76	0.71	0.66
	SPACED 	1	1.00	1.00	0.98	0.95	0.91	-
		2	1.00	0.99	0.96	0.92	0.87	-
		3	1.00	0.98	0.95	0.91	0.85	-
Cables on Vertical perforated trays	TOUCHING 	1	1.00	0.88	0.82	0.78	0.73	0.72
		2	1.00	0.88	0.81	0.76	0.71	0.70
	SPACED 	1	1.00	0.91	0.89	0.88	0.87	-
		2	1.00	0.91	0.88	0.87	0.85	-
Cables on ladder supports, cleats etc.	TOUCHING 	1	1.00	0.87	0.82	0.80	0.79	0.78
		2	1.00	0.86	0.80	0.78	0.76	0.73
		3	1.00	0.85	0.79	0.76	0.73	0.70
	SPACED 	1	1.00	1.00	1.00	1.00	1.00	-
		2	1.00	0.99	0.98	0.97	0.96	-
		3	1.00	0.98	0.97	0.96	0.93	-

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FORMULA FOR ELECTRICAL CALCULATION

To calculate	Given	D.C.	A.C. single phase	A.C. Three phase
Current (A)	KW	$A = \frac{1000 \times KW}{V}$	$A = \frac{1000 \times KW}{V \times \cos\phi}$	$A = \frac{1000 \times KW}{\sqrt{3}(V \times \cos\phi)}$
Current (A)	KVA		$A = \frac{1000 \times KVA}{V}$	$A = \frac{1000 \times KVA}{\sqrt{3}\ V}$
Current (A)	HP	$A = \frac{746 \times HP}{V \times eff.}$	$A = \frac{746 \times HP}{V \times eff. \times \cos\phi}$	$A = \frac{746 \times HP}{\sqrt{3}(V \times eff. \times \cos\phi)}$
Power (KW)	V.A.	$KW = \frac{A \times V}{1000}$	$KW = \frac{A \times V \times \cos\phi}{1000}$	$KW = \frac{\sqrt{3}(A \times V \times \cos\phi)}{1000}$
Apparent Power (KW)	V.A.		$KVA = \frac{A \times V}{1000}$	$KVA = \frac{\sqrt{3}(A \times V)}{1000}$

cosϕ = Power factor of equipment of system under consideration
eff. = Efficiency of motor or machinery
V = Line voltage

VOLTAGE DROP (per core/ per amp. / per km)

When the current flows in conductor, there is a voltage drop between the ends of the conductor. For low voltage cable network of normal operation, it is advisable of a voltage drop of 3-5%.

To calculate voltage drop, use the following:

1. For single phase circuit:

$$Vd = 2I\ L\ (R \cos\phi + X \sin\phi)$$

2. For three phase circuit:

$$Vd = \sqrt{3} I\ L\ (R \cos\phi + X \sin\phi)$$

Where:

Vd = Voltage drop (V)
I = Load current (A)
R = AC resistance (Ω/km)
X = Reactance (Ω/km)
L = Length (km)
cosϕ = Power factor

Relation between cosϕ and sinϕ as following:

cosϕ	1.0	0.90	0.80	0.71	0.60	0.50
sinϕ	0.0	0.44	0.60	0.71	0.80	0.87

TECHNICAL INFORMATION FOR TELECOMMUNICATION CABLES (as per VDE 0816)

Test parameters	Unit	Particulars		
Nominal diameter of conductor	mm	0.40	0.6	0.9
Max. D.C resistance of conductor of the loop at 20°C	ohm/km	300	130	56
Minimum insulation of resistance	M.ohm.km	5000	5000	5000
Max. mutual capacitance	nF / km	50	52	52
Test voltage wire-wire/ wire-screen	V	-/2000	500/2000	500/2000
Max. operating voltage (rms value)	V	150	225	225

COLOR CODE FOR INSULATED PAIR CABLES

No. of pair	Color		No. of pair	Color	
Number	1st Wire (Tip)	2nd Wire (Ring)	Number	1st Wire (Tip)	2nd Wire (Ring)
1	White	Blue	1	Black	Blue
2	White	Orange	2	Black	Orange
3	White	Green	3	Black	Green
4	White	Brown	4	Black	Brown
5	White	Grey	5	Black	Grey
6	Red	Blue	6	Yellow	Blue
7	Red	Orange	7	Yellow	Orange
8	Red	Green	8	Yellow	Green
9	Red	Brown	9	Yellow	Brown
10	Red	Grey	10	Yellow	Grey

COLOR OF BINDER TAPE FOR UNIT IDENTIFICATION

No. of unit	Color of binder tape
1	Blue
2	Orange
3	Green
4	Brown
5	Grey

CORE COLORING OF THE DATA TRANSMISSION OF CATEGORY CABLES (as per IEC 708-1)

Cable elements	Color of the insulation	
Number	a-core	b-core
1	white (-blue)	Blue
2	white (-orange)	Orange
3	white (-green)	Green
4	white (-brown)	Brown
5	white	Grey
6	red	Blue
7	red	Orange
8	red	Green
9	red	Brown
10	red	Grey

It is to be counted in pairs till 10 pairs

PARTEX™ Cables powering with safety

IDENTIFICATION OF PAIR FOR INSTRUMENTATION CABLES (as per BS 5308 part 1)

Two-pair unscreened cables and collectively screened cables shall be cabled in quad formation and color coded in clock wise order of rotation: black, blue, green and brown.

All other cables up to 50 pairs shall confirm to the coding in below table:

Pair Number	a-wire	b-wire	Pair Number	a-wire	b-wire
1	black	blue	26	white	yellow
2	black	green	27	red	yellow
3	blue	green	28	orange	yellow
4	black	brown	29	black	grey
5	blue	brown	30	blue	grey
6	green	brown	31	green	grey
7	black	white	32	brown	grey
8	blue	white	33	white	grey
9	green	white	34	red	grey
10	brown	white	35	orange	grey
11	black	red	36	yellow	grey
12	blue	red	37	black	violet
13	green	red	38	blue	violet
14	brown	red	39	green	violet
15	white	red	40	brown	violet
16	black	orange	41	white	violet
17	blue	orange	42	red	violet
18	green	orange	43	orange	violet
19	brown	orange	44	yellow	violet
20	white	orange	45	grey	violet
21	red	orange	46	black	turquoise
22	black	yellow	47	blue	turquoise
23	blue	yellow	48	green	turquoise
24	green	yellow	49	brown	turquoise
25	brown	yellow	50	white	turquoise

IDENTIFICATION OF CORE FOR INSTRUMENTATION CABLES (as per BS 5308 part 2)

Cores shall be numbered for identification as follows.
Up to 40 cores: All cores yellow and identified 1 to 40 with both printed numbers and written word in black, e.g. core 10 would be colored yellow and identified by number '10,TEN' in black.

41 to 80 cores: All cores black and identified 1 to 40 with both printed numbers and written word, in yellow, e.g. core 50 would be colored black and identified '10, TEN' in yellow.

Identification of pairs as per BS 5308 part 2

Two pair unscreened or collectively screened cables shall be cabled in quad formation and color coded in clock-wise order of rotation: blue, green, orange and brown.

All other cables up to 50 pairs shall confirm to the coding in below table:

Pair Number	a-wire	b-wire	Pair Number	a-wire	b-wire
1	white	blue	26	red-blue	blue
2	white	orange	27	red-blue	orange
3	white	green	28	red-blue	green
4	white	brown	29	red-blue	brown
5	white	grey	30	red-blue	grey
6	red	blue	31	blue-black	blue
7	red	orange	32	blue-black	orange
8	red	green	33	blue-black	green
9	red	brown	34	blue-black	brown
10	red	grey	35	blue-black	grey
11	black	blue	36	yellow-blue	blue
12	black	orange	37	yellow-blue	orange
13	black	green	38	yellow-blue	green
14	black	brown	39	yellow-blue	brown
15	black	grey	40	yellow-blue	grey
16	yellow	blue	41	white-orange	blue
17	yellow	orange	42	white-orange	orange
18	yellow	green	43	white-orange	green
19	yellow	brown	44	white-orange	brown
20	yellow	grey	45	white-orange	grey
21	white-blue	blue	46	orange-red	blue
22	white-blue	orange	47	orange-red	orange
23	white-blue	green	48	orange-red	green
24	white-blue	brown	49	orange-red	brown
25	white-blue	grey	50	orange-red	grey

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SHORT CIRCUIT RATINGS FOR PVC INSULATED CABLES:

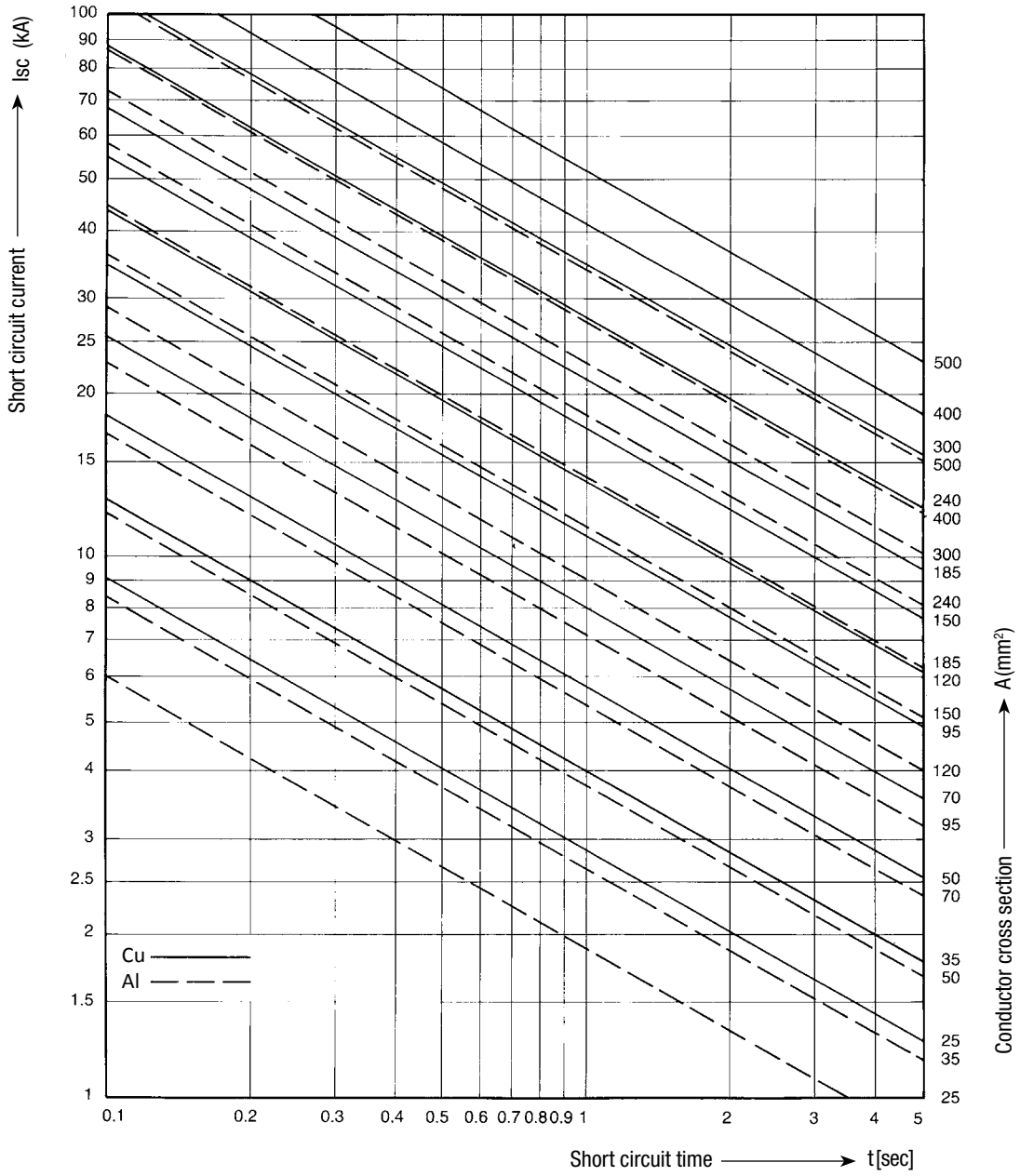
Copper conductor: $I_{SC} = 0.115 \frac{A}{\sqrt{t}}$ Aluminium conductor: $I_{SC} = 0.076 \frac{A}{\sqrt{t}}$

I_{SC} = Short Circuit Current in kA

A = Conductor Area in mm^2

t = Short Circuit Time in sec.

[Note: Maximum Permissible conductor temperature during short circuit = 160°C]

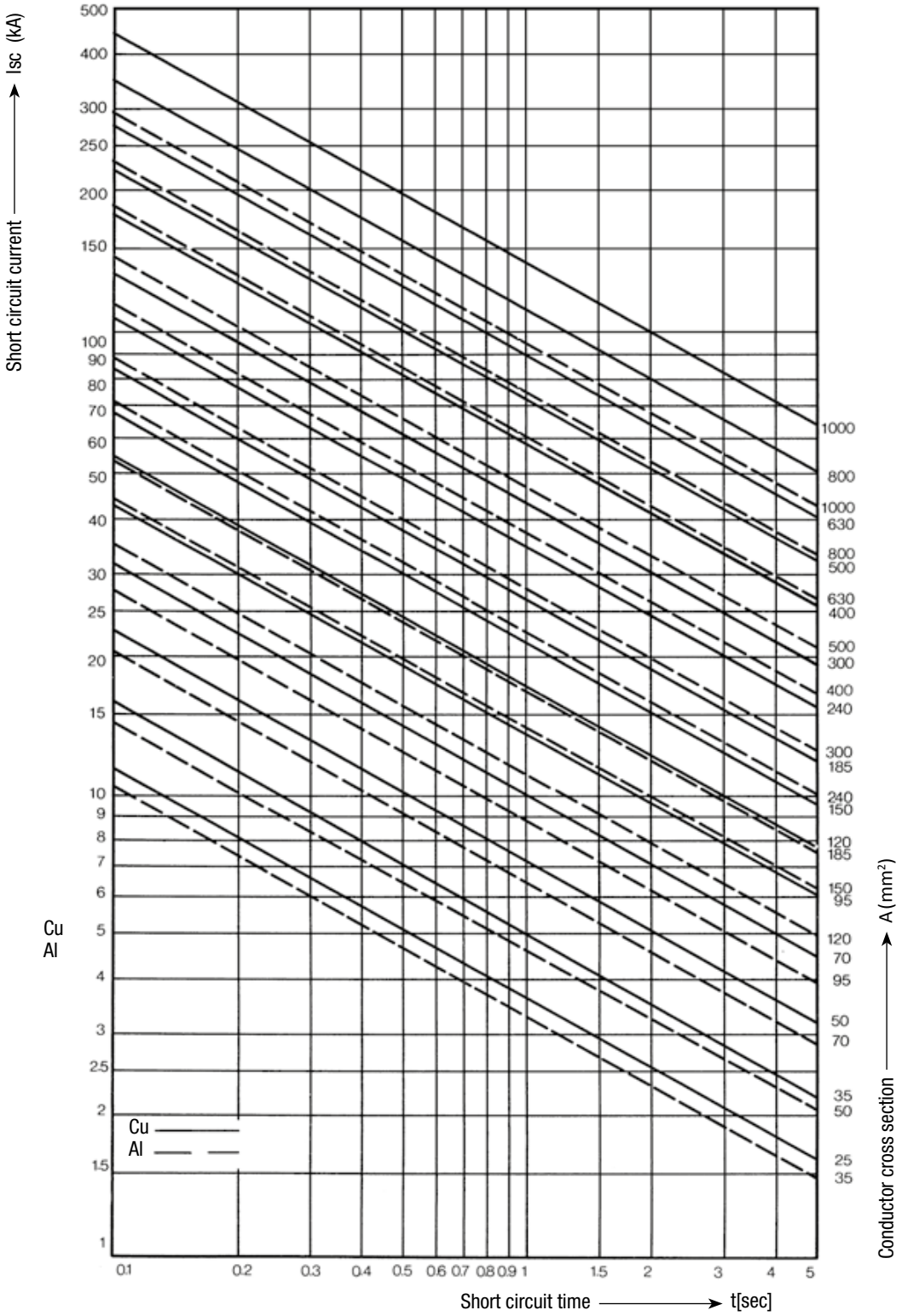


SHORT CIRCUIT RATINGS FOR XLPE INSULATED CABLES:

Copper conductor: $I_{SC} = 0.143 \frac{A}{\sqrt{t}}$ Aluminium conductor: $I_{SC} = 0.094 \frac{A}{\sqrt{t}}$

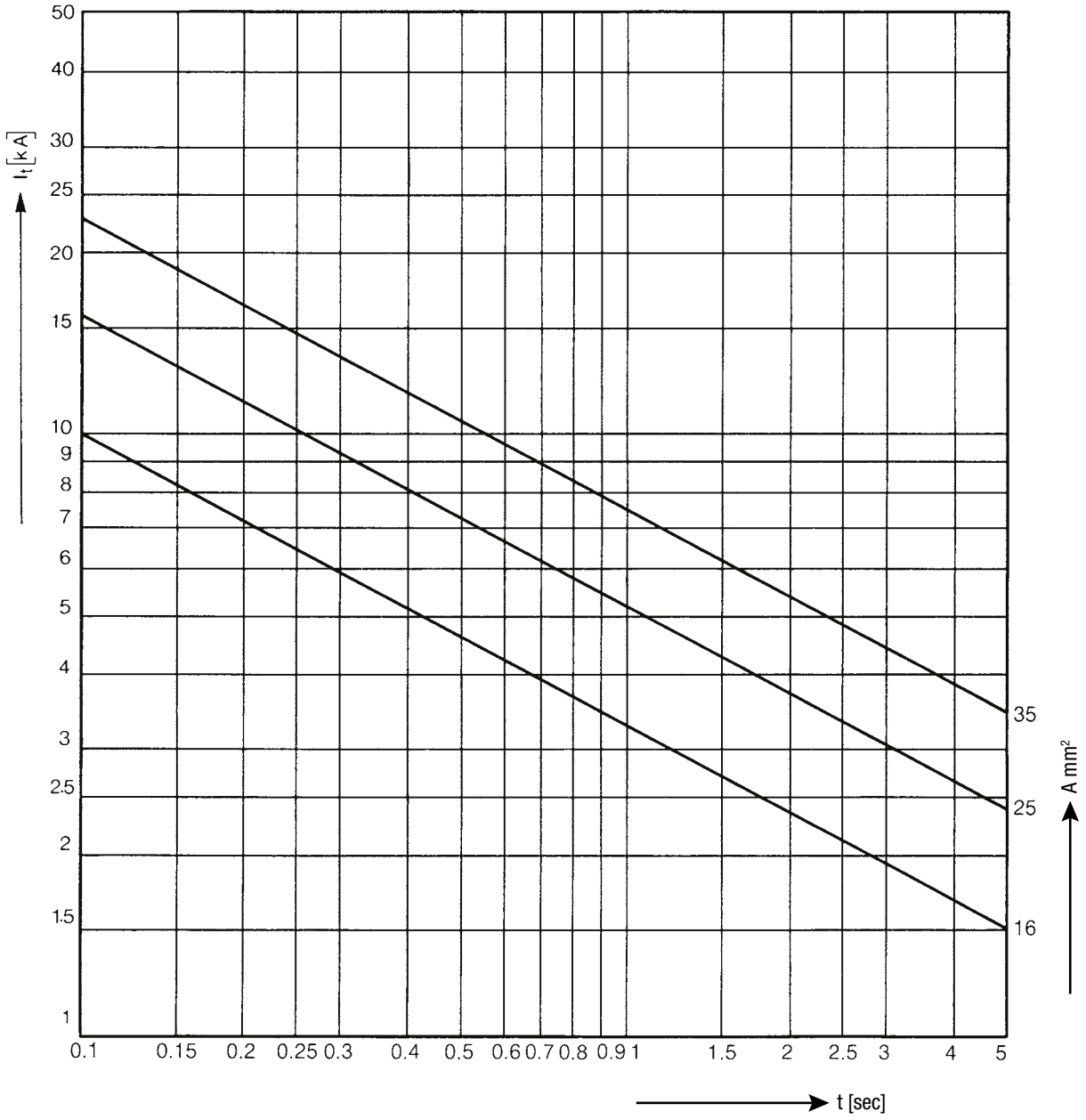
I_{SC} = Short Circuit Current in kA
A = Conductor Area in mm^2
t = Short Circuit Time in sec.

[Note: Maximum Permissible conductor temperature during short circuit = 250°C]



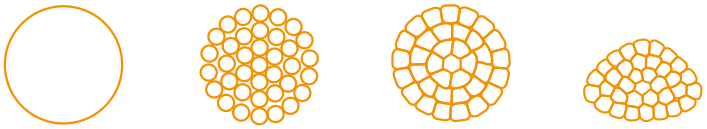
PARTEX Cables powering with safety

PERMISSIBLE SHORT-CIRCUIT CURRENT FOR VARIOUS CROSS SECTIONS OF SCREENS



cross sections of conductor mm²	screen mm²
35 ... 120	16
150 ... 300	25
400 ... 500	35

CONSTRUCTION FOR VARIOUS TYPES OF CONDUCTORS AS PER IEC 60228:2004



Circular Solid (re) | Circular Stranded (rm) | Circular Stranded Compacted (rmc) | Sector Shaped Stranded (sm)

Nominal Cross Sectional Area	Maximum D.C. Resistance of conductor at 20 °C		CIRCULAR CONDUCTOR		CIRCULAR COMPACTED CONDUCTOR			SECTOR SHAPED CONDUCTOR	
			No. & Diameter of wire	Max. Diameter of conductor	No. of wire in conductor (Cu/Al)	Diameter of Conductor		No. of wire in conductor (Cu/Al)	Conductor depth
	Cu	Al			Min.	Min.	Max.	Min.	3C/ 4C
mm²	Ohm/km	Ohm/km	no./mm	mm	no.	mm	mm	no.	mm
1.0	18.1	-	1/1.13	1.2	-	-	-	-	-
1.0	18.1	-	3/0.65	1.4	-	-	-	-	-
1.5	12.1	-	1/1.38	1.5	-	-	-	-	-
1.5	12.1	18.1	7/0.52	1.7	-	-	-	-	-
2.5	7.41	-	1/1.78	1.9	-	-	-	-	-
2.5	7.41	12.1	7/0.68	2.2	-	-	-	-	-
4	4.61	7.41	7/0.85	2.7	-	-	-	-	-
6	3.08	4.61	7/1.04	3.3	-	-	-	-	-
10	1.83	3.08	7/1.35	4.2	-	-	-	-	-
16	1.15	1.91	7/1.70	5.3	-	-	-	-	-
25	0.727	1.20	7/2.14	6.6	-	-	-	-	-
35	0.524	0.868	19/1.53	7.9	6	6.6	7.5	6	5.9/6.5
50	0.387	0.641	19/1.83	9.1	6	7.7	8.6	6	6.8/7.6
70	0.268	0.443	19/2.17	11.0	12	9.3	10.2	12	8.2/9.0
95	0.193	0.320	19/2.52	12.9	15	11.0	12.0	15	9.6/10.7
120	0.153	0.253	37/2.03	14.5	18/15	12.3	13.5	18/15	10.8/12.1
150	0.124	0.206	37/2.27	16.2	18/15	13.7	15.0	18/15	12.2/13.5
185	0.0991	0.164	37/2.52	18.0	30	15.3	16.8	30	13.6/15.1
240	0.0754	0.125	61/2.25	20.6	34/30	17.6	19.2	34/30	15.6/17.4
300	0.0601	0.100	61/2.52	23.1	34/30	19.7	21.6	34/30	17.4/19.4
400	0.0470	0.0778	61/2.89	26.1	53	22.3	24.6	53	18.8/20.2
500	0.0366	0.0605	61/3.23	29.2	53	25.3	27.6	-	-
630	0.0283	0.0469	127/2.52	33.2	53	28.7	32.5	-	-
800	0.0221	0.0367	127/2.85	37.6	53	32.6	36.7	-	-
1000	0.0176	0.0291	127/3.20	42.2	53	36.3	40.5	-	-

PARTEX™ Cables powering with safety

FLEXIBLE COPPER CONDUCTOR CONSTRUCTION AS PER IEC 60228:2004

Nominal cross sectional area	Max. diameter of wire in class 5 conductor	Max. diameter of wire in class 6 conductor	Max. DC resistance of conductor at 20 °C		Max. diameter of conductor class 5 & 6
			Plain wires	Metal coated wires	
mm^2	mm	mm	Ω/km	Ω/km	mm
0.5	0.21	0.16	39	40.1	1.1
0.75	0.21	0.16	26	26.7	1.3
1.0	0.21	0.16	19.5	20.0	1.5
1.5	0.26	0.16	13.3	13.7	1.8
2.5	0.26	0.16	7.98	8.21	2.4
4	0.31	0.16	4.95	5.09	3.0
6	0.31	0.21	3.30	3.39	3.9
10	0.41	0.21	1.91	1.95	5.1
16	0.41	0.21	1.21	1.24	6.3
25	0.41	0.21	0.780	0.795	7.8
35	0.41	0.21	0.554	0.565	9.2
50	0.41	0.31	0.386	0.393	11.0
70	0.51	0.31	0.272	0.277	13.1
95	0.51	0.31	0.206	0.210	15.1
120	0.51	0.31	0.161	0.164	17.0
150	0.51	0.31	0.129	0.132	19.0
185	0.51	0.41	0.106	0.108	21.0
240	0.51	0.41	0.0801	0.0817	24.0
300	0.51	0.41	0.0641	0.0654	27.0
400	0.51	-	0.0486	0.0495	31.0
500	0.61	-	0.0384	0.0391	35.0
630	0.61	-	0.0287	0.0292	39.0

MEASUREMENT COMPARISON IN VARUOUS SYSTEMS

Gauge system		Diameter		Cross sectional area		Approx. Weight (kg/km)	
S.W.G	A.W.G.	mm	inch	mm^2	$inch^2$	Copper	Aluminium
-	6/0	14.732	0.580	170.46	0.2642	1515.39	0.7141
-	5/0	13.119	0.516	135.17	0.2091	1201.66	0.5652
7/0	-	12.700	0.500	126.68	0.1964	1126.19	0.5309
6/0	-	11.786	0.464	109.10	0.1691	969.90	0.4571
-	4/0	11.684	0.460	107.22	0.1662	953.19	0.4492
5/0	-	10.973	0.432	94.57	0.3393	840.73	0.9171
-	3/0	10.405	0.409	85.03	0.1314	755.92	0.3552
4/0	-	10.160	0.400	81.07	0.1257	720.71	0.3398
3/0	-	9.449	0.372	70.12	0.1087	623.37	0.2938
-	2/0	9.266	0.365	67.43	0.1046	599.45	0.2827
2/0	-	8.839	0.348	61.36	0.09512	545.49	0.2571
-	1/0	8.251	0.325	53.47	0.08296	475.35	0.2242
0	-	8.230	0.324	53.20	0.08245	472.95	0.2229
1	-	7.620	0.300	45.60	0.07069	405.38	0.1911
-	1	7.348	0.289	42.41	0.06560	377.03	0.1773
2	-	7.010	0.276	38.59	0.05983	343.07	0.1617
-	2	6.544	0.257	33.63	0.05188	298.97	0.1402
3	-	6.401	0.252	32.18	0.04988	286.08	0.1348
4	-	5.893	0.232	27.27	0.04227	242.43	0.1143
-	3	5.827	0.229	26.67	0.04119	237.10	0.1113
5	-	5.385	0.212	22.77	0.03530	202.43	0.0954
-	4	5.189	0.204	21.15	0.03269	188.02	0.0884
6	-	4.877	0.192	18.68	0.02895	166.07	0.0783
-	5	4.621	0.182	16.77	0.02602	149.09	0.0703
7	-	4.470	0.176	15.69	0.02433	139.48	0.0658
-	6	4.115	0.162	13.30	0.02061	118.24	0.0557
8	-	4.064	0.160	12.97	0.02011	115.30	0.0544
9	7	3.658	0.144	10.51	0.01629	93.43	0.0440
10	8	3.251	0.128	8.301	0.01287	73.80	0.0348
11	-	2.946	0.116	6.816	0.01057	60.59	0.0286
-	9	2.906	0.114	6.633	0.01021	58.97	0.0276
12	-	2.642	0.104	5.482	0.008495	48.73	0.0230
-	10	2.588	0.102	5.260	0.008171	46.76	0.0221
13	-	2.337	0.092	4.289	0.006647	38.13	0.0180
-	11	2.305	0.091	4.173	0.006504	37.10	0.0176
-	12	2.053	0.081	3.310	0.005153	29.43	0.0139
14	-	2.032	0.080	3.243	0.005027	28.83	0.0136
15	13	1.829	0.072	2.627	0.004072	23.35	0.0110
16	14	1.626	0.064	2.076	0.003217	18.46	0.008696
-	15	1.450	0.057	1.651	0.002552	14.68	0.006898
17	-	1.422	0.056	1.588	0.002463	14.12	0.006657
-	16	1.291	0.051	1.014	0.002043	9.01	0.005522
18	-	1.219	0.048	1.167	0.001810	10.37	0.004892
-	17	1.150	0.0453	1.039	0.001612	9.24	0.004357
19	18	1.016	0.0403	0.811	0.001276	7.21	0.003449
20	19	0.914	0.0359	0.656	0.001012	5.83	0.002735
21	20	0.813	0.0320	0.519	0.0008042	4.61	0.002174
-	21	0.723	0.0285	0.411	0.0006379	3.65	0.001724
22	-	0.711	0.0280	0.397	0.0006158	3.53	0.001665
-	22	0.644	0.0253	0.326	0.0005027	2.90	0.001359
23	-	0.610	0.0240	0.292	0.0004524	2.60	0.001223
-	23	0.573	0.0226	0.258	0.0004012	2.29	0.001084
24	-	0.559	0.0220	0.245	0.0003801	2.18	0.001027
-	24	0.511	0.0201	0.205	0.0003173	1.82	0.0008577
25	-	0.508	0.0200	0.203	0.0003142	1.81	0.0008493

PARTEX™ Cables powering with safety

MEASUREMENT COMPARISON IN VARIOUS SYSTEMS

Gauge system		Diameter		Cross sectional area		Approx. Weight (kg/km)	
S.W.G	A.W.G.	mm	inch	mm²	inch²	Copper	Aluminium
26	-	0.457	0.0180	0.1640	0.000254	1.458	0.0006865
-	25	0.455	0.0179	0.1626	0.000252	1.445	0.0006812
-	26	0.404	0.0159	0.1288	0.000198	1.145	0.0005352
27	-	0.416	0.0164	0.1359	0.000211	1.208	0.0005703
28	-	0.375	0.0148	0.1104	0.000172	0.9814	0.0004649
-	27	0.361	0.0142	0.1023	0.000158	0.9094	0.0004271
29	-	0.345	0.0136	0.0935	0.000145	0.8312	0.0003919
-	28	0.321	0.0126	0.0809	0.000125	0.7192	0.0003379
30	-	0.315	0.0124	0.0779	0.000121	0.6925	0.0003271
31	-	0.294	0.0116	0.0679	0.000106	0.6036	0.0002865
-	29	0.286	0.0113	0.0642	0.0001003	0.5707	0.0002711
32	-	0.274	0.0108	0.0590	0.0000916	0.5245	0.0002476
33	30	0.254	0.0100	0.0507	0.0000785	0.4507	0.0002122
34	-	0.234	0.0092	0.0430	0.0000665	0.3823	0.0001797
-	31	0.227	0.00893	0.0405	0.0000626	0.3600	0.0001692
35	-	0.213	0.00840	0.0356	0.0000554	0.3165	0.0001497
-	32	0.202	0.00795	0.0320	0.0000496	0.2845	0.0001341
36	-	0.193	0.00760	0.0292	0.0000453	0.2596	0.0001224
-	33	0.180	0.00708	0.0254	0.0000393	0.2258	0.0001062
37	-	0.173	0.00680	0.0235	0.0000363	0.2089	0.00009812
-	34	0.160	0.00630	0.0201	0.0000312	0.1787	0.00008433
38	-	0.152	0.00600	0.0181	0.0000283	0.1609	0.00007649
-	35	0.143	0.00561	0.0160	0.0000247	0.1422	0.00006676
39	-	0.132	0.00520	0.0137	0.0000212	0.1218	0.00005730
-	36	0.127	0.00500	0.0127	0.0000196	0.1129	0.00005298
40	-	0.122	0.00480	0.0117	0.0000181	0.1040	0.00004892
-	37	0.113	0.00445	0.0100	0.0000155	0.0889	0.00004189
41	-	0.112	0.00440	0.00985	0.0000152	0.0876	0.00004108
42	38	0.101	0.00397	0.00801	0.0000124	0.0712	0.00003352
43	-	0.091	0.00360	0.00650	0.0000102	0.0578	0.00002757
-	39	0.090	0.00353	0.00636	0.00000978	0.0565	0.00002643
44	-	0.081	0.00320	0.00515	0.00000804	0.0458	0.00002173
-	40	0.080	0.00314	0.00503	0.00000774	0.0447	0.00002092
45	41	0.0711	0.00280	0.00397	0.00000616	0.0353	0.00001665
-	42	0.0635	0.00250	0.00317	0.00000491	0.0282	0.00001327
46	-	0.0610	0.00240	0.00292	0.00000452	0.0259	0.00001222
-	43	0.0559	0.00220	0.00245	0.00000380	0.0218	0.00001027
47	44	0.0508	0.00200	0.00203	0.00000314	0.01805	0.000008487
-	45	0.0447	0.00176	0.001569	0.00000243	0.01395	0.000006568
48	-	0.0406	0.00160	0.001295	0.00000201	0.01151	0.000005433
-	46	0.0398	0.00157	0.001244	0.00000193	0.01106	0.000005217
-	47	0.0355	0.00140	0.000989	0.00000154	0.008792	0.000004162
-	48	0.0316	0.00124	0.000784	0.00000121	0.006969	0.000003271
49	-	0.0305	0.00120	0.000731	0.00000113	0.006499	0.000003054
-	49	0.0281	0.00111	0.000620	0.000000967	0.005512	0.000002614
50	-	0.0254	0.00100	0.000507	0.000000785	0.004507	0.000002122
-	50	0.0251	0.00099	0.000495	0.000000770	0.004401	0.000002081

TEMPERATURE CORRECTION FACTORS K_t FOR CONDUCTOR RESISTANCE TO CORRECT THE MEASURED RESSISTANCE AT t°C TO 20°C (AS PER IEC 60228:2004)

Temperature of conductor at time of measurement t°C	Correction factor, All conductors k_t	Temperature of conductor at time of measurement t°C	Correction factor, All conductors k_t	Temperature of conductor at time of measurement t°C	Correction factor, All conductors k_t	Temperature of conductor at time of k_t	Correction factor, k_t All conductors
0	1,087	11	1,037	21	0,996	32	0,954
1	1,082	12	1,033	22	0,992	33	0,951
2	1,078	13	1,029	23	0,988	34	0,947
3	1,073	14	1,025	24	0,984	35	0,943
4	1,068	15	1,020	25	0,980	36	0,940
5	1,064	16	1,016	26	0,977	37	0,936
6	1,059	17	1,012	27	0,973	38	0,933
7	1,055	18	1,008	28	0,969	39	0,929
8	1,050	19	1,004	29	0,965	40	0,926
9	1,046	20	1,000	30	0,962		
10	1,042			31	0,958		

PARTEX™ Cables powering with safety

USER GUIDELINES

(Packaging, transport, storage, laying and installation)

PACKAGING, TRANSPORT AND STORAGE

a) Cables are generally received wound on wooden drums, both the ends of the cable being easily accessible for inspection and testing. However, short lengths may be transported without drums.

b) In case of PVC and XLPE cables sealed plastic caps should be used.

c) The cable drums or coils must not be dropped or thrown from railway wagons or trucks during unloading operations. A ramp or crane may be used for unloading cable drums. If neither of those is available, a temporary ramp with inclination 1:3 to 1:4 approximately should be constructed. The cable drum should then be rolled over the ramp by means of ropes and winches. Additionally a sand bed at the foot of the ramp may be made to break the rolling of cable drum.

d) The arrows painted on the flange of the drum indicate the direction in which the drum should be rolled. The cable will unwind and become loose if the drum is rolled in the opposite direction.

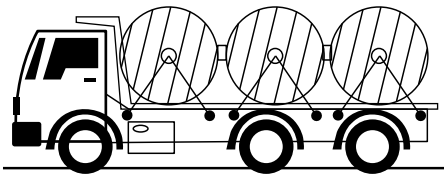
e) The site chosen for storage of cable drums should be well-drained and should preferably have a concrete surface/ firm which will not cause the drums to sink and thus lead to flange rot and extreme difficulty in moving the drums.

f) All drums should be stored in such a manner as to leave sufficient space between them for air circulation. It is desirable for the drums to stand on battens placed directly under the flanges. During storage, the drum should be rolled to an angle of 90° once every three months.

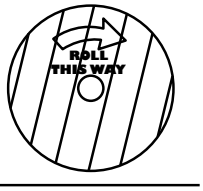
g) In no case should the drums be stored 'on the flat'; that is, with flange horizontal.

h) Overhead covering is not essential unless the storage is for a very long period. The cable should, however, be protected from direct rays of the sun by leaving the battes on or by providing some from the sun shielding.

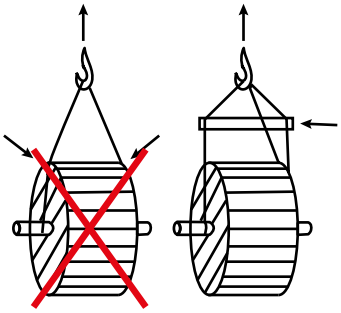
i) When for any reason, it is necessary to rewind a cable on to another drum, the barrel of the drum should have a diameter not less that that of the original drum.



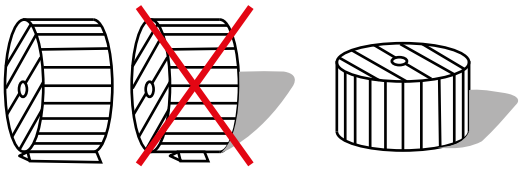
Secure drums adequately before transportation.



Roll in the direction shown by the arrow.



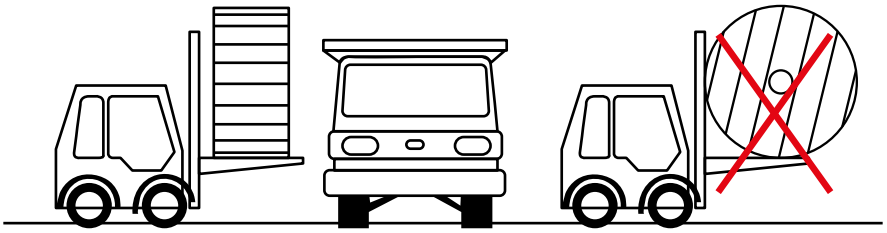
Lifting cable drum using crane



Do not lay cable drums on flat on their sides, use proper stops to prevent drums rolling.

DRUM HANDLING INSTRUCTIONS

Cables and Conductors should be installed by trained personnel in accordance with good engineering practice, recognized codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails. *Lifting cable drums using crane . Lift drums on trucks correctly. Secure drums adequately before transportation. Roll in the direction shown by the arrow. Do not lay drums flat on their sides, use proper stops to prevent drums rolling.*



Lift drums on fork trucks correctly.

LAYING AND INSTALLATION

GENERAL

a) After the planking has been removed, the cable should be examined for exterior damage, if any. To avoid damage to the protective covering and the insulation the cable must not be pulled across hard and sharp objects and must not be bent in an inadmissible way.

b) The leading end of the cable is untied from the cable drum and a cable stocking placed over it and secured firmly. A rope is attached to the cable stocking pulling eye. No pull should be exerted on the end of the cable.

c) Identification strips/ tags of metal or plastics should be attached to the cables, particularly if several are laud in parallel, 8 to 10m apart. Identification tags should also be attached at every point into the buildings and at the cable end termination.

d) A bedding of riddled earth or river sand should be provided and protective cable warning covers should be used. Instruction to back fill the trench should not be given until the entire length is protected by cable cover and checked.

SPECIAL NOTES FOR SINGLE CORE CABLES

1. The spacing between three cables laid in one plane should be not less than the cable diameter. When the cables are arranged in a duct or a rack in this way, each one should be secured either to be base or to the others by non-magnetic, non-corrosive clamps every 0.5 to 0.8m.

2. When the cable run is several kilometers long, the cables should be transposed at one-third and at two-thirds of the the total lengths.

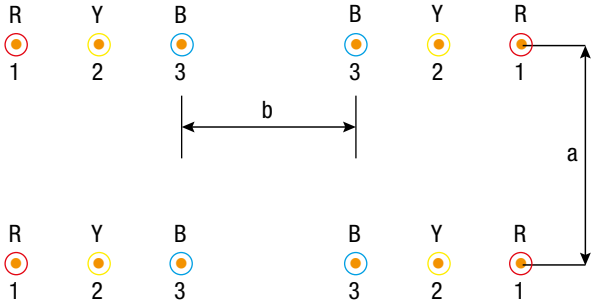
3. Cables can also be laid in trefoil arrangement in ducts or on racks which improves current distribution and reduce sheath losses. Non-magnetic clamps may not be essential in this case and it suffices to bind the cable with steel, copper, aluminium or plastics tapes every 0.5 to 0.6m.

4. The cables do not have to be bound/ clamped when laid in ground. Single core cables should not be installed individually in protective steel ducts; instead, all three should be laid together in one single duct.

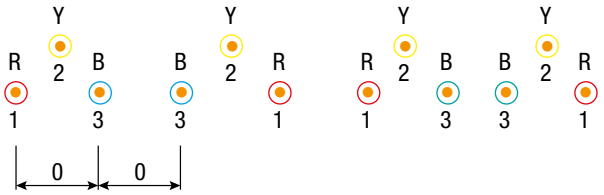
5. If several single core cables are laid per phase, these should be arranged as follows to ensure balanced current distribution:

and so on.

OR



OR WITH TREFOIL ARRANGEMENT



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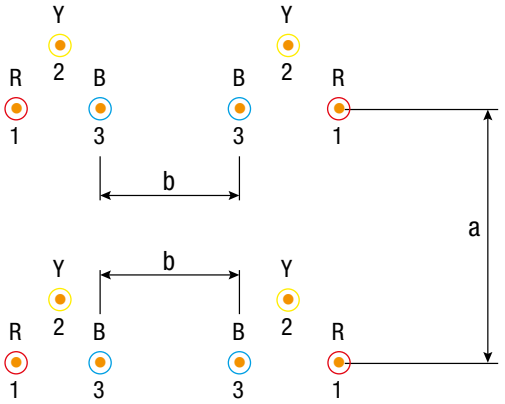


WHERE
a ≈ 6D
b ≈ 2D

MAXIMUM PULLING TENSIONS

The maximum tension must not be exceeded when pulling a cable into ducts and conduits:

a. Using a pulling eye:
Tm = 7.16 X n X A
Tm = Maximum tension, (kg)
n = No. of conductors
A = Area of each conductor, sq. mm

b. Using a cable grip:
Tg = p x k x t x (D - t)
Tg = Maximum tension, (kg)
t = Jacket thickness, mm
D = Cable overall diameter, mm
k = 0.7 Kg/sq. mm for PVC, PE & Neoprene

The tension required to pull the cable in a straight duct can be calculated as follows:

Ts = L x w x f
Ts = Tension required to pull cable, Kg
L = Length of cable, m
w = Weight of cable, Kg/m
f = Coefficient of friction

COEFFICIENT OF FRICTION

Duct Material	Jacket Material		
	PE	PVC	Neoprene
Asbestos cement	0.56	0.56	0.68
Rigid PVC	0.34	0.52	0.53
Metal	0.36	0.55	0.60

RECOMMENDED MINIMUM BENDING RADIUS OF CABLES

Cable type	Bending radius up to & including 11 kV	15 kV to 33 kV
PVC Insulated Cables 1000 Volt		
Multi and Single Core 16-50 sq mm	8 x d	-
Armoured Multi & Single Core 70 sq mm and greater	10 x d	-
XLPE Insulated Cables		
Single Core	20 x d	20 x d
Multi-core	15 x d	15 x d

Where d is the diameter over the outer sheath.

PARTEX™ Cables powering with safety

FIRE SURVIVAL CABLE

Flame Propagation Test (IEC 60332 & BS EN 50265)

Test on electric cables under fire conditions.

IEC 60332 Part-1: Tests on a single vertical insulated wire or cable

Flame retardant cables prevent flame propagation during a fire emergency. Additives such as aluminium hydroxide or magnesium hydroxide are included in our cable's protective materials. When the material comes in contact with fire, the by product from the endothermic reaction is gaseous water which will help envelop the flame and thereby exclude oxygen from the fire.

$Mg(OH)^2$ $MgO+H^2O$ or $2A(OH)^3$ $Al^2O^3+3H^2O$

In this reaction, the decomposition products are non-toxic and the mineral phase MgO and Al^2O^3 are alkaline, reducing the likelihood of acidic, corrosive gases exiting the plastic.

IEC 60332 Part-3: Tests on bunched wires and cables under fire condition

This test is also conducted on both a single cable as well bunched cables as it cannot be assumed bunched cables will behave the same way as single cables do. This is because flame propagation along a vertical bunch of cables is depends on other factors such as volume of combustible material exposed, geometrical configuration of the cables etc.

The IEC 60332-3 specifies methods for assessing flame retardancy of bunched cables comprising of varying densities of combustible material.

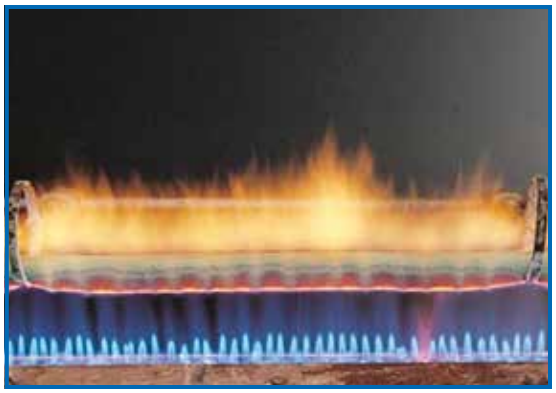
IEC 60332-3	Total volume of non-metallic material in the bunched cables on a vertical ladder (liters)	Duration exposed to flame (minutes)
Category A	7	40
Category B	3.5	40
Category C	1.5	20

Passing criteria: After the burning has ceased, the charred portion should not exceed a height of 2.5 meters.

Fire Resistant Tests (IEC 60331 & BS 6387)

Specification for performance requirements for cables required to maintain circuit integrity under fire conditions.

During fire evacuations, it is important for critical electrical installations to perform their functions; these include fire alarms, smoke detectors, sprinklers, emergency lighting and exit light. At PARTEX CABLES we conduct stringent tests by simulating the environment for our fire resistant cables to ensure that they pass the safety requirements and will perform during such emergencies. The category letter assigned to the cable reflects the level of testing the cable has gone through and passed.



Resistance to fire (Circuit Integrity to IEC 60331)

Category 7500˚C	Cables are subjected to fire at 7500˚C for 90 minutes

Resistance to fire (BS 6387)

Category A	Cables are subjected to fire at 6500˚C for 3 hours
Category B	Cables are subjected to fire at 7500˚C for 3 hours
Category C	Cables are subjected to fire at 9500˚C for 3 hours

Resistant to fire with water (BS 6387)

Category W	Cables are subjected to fire at 6500˚C for 15 minutes, then at 6500˚C with water spray for another 15 minutes

Resistance to fire with mechanical shock (BS 6387)

Category X	Cables are subjected to fire at 6500˚C for 15 minutes with mechanical shock applied every 30s
Category Y	Cables are subjected to fire at 7500˚C for 15 minutes with mechanical shock applied every 30s
Category Z	Cables are subjected to fire at 9500˚C for 15 minutes with mechanical shock applied every 30s

Passing criteria: No short circuit during the respective testing period.

PARTEX™ Cables powering with safety

Acid Gas Emission Test (IEC 60754 & BS EN 50267)

Test on gases emitted during combustion of materials from cables.

When fire comes in contact with polyvinyl chloride (PVC) or chlorine containing material, hydrogen chloride gas (HCl) is released. The HCl gas could cause irritation to the eyes, mouth, throat, nose and lungs. At PARTEX CABLES, all our fire resistant cables use Low Smoke Zero Halogen (LSZH) compounds to prevent the formation of HCl gases from the burning of cables.

The standards determine the degree of acidity of gases emitted during the combustion of cable materials by measuring pH and conductivity.

Passing criteria: The weighted pH value not less than 4.3 when related to 1 liter of water and the weighted value of conductivity not more than 10µS/mm when related to 1 liter of water.

Smoke Emission Test (IEC 61034 & BS 7622)

Measurement of smoke density of electric cables burning under defined conditions.

The '3 cubic meter test' measures the amount of smoke generated by burning cables. The cables are placed in a $3m^3$ enclosure. A beam of light is transmitted from one window of the chamber to the opposite window. The cables are subjected to fire in the chamber and the light transmission is recorded.

Passing criteria: A minimum light transmission value of 60%.

ASTM D2863, ISO4589-2 & BS2863 (Oxygen Index Test)

This is a test for assessing the oxygen index of the material in accordance with the test method specified in ASTM D2863 (Measuring the minimum oxygen concentration to support candle-like combustion of plastics). At room temperature when the oxygen content in the air exceeds the oxygen index, the material will burn by itself automatically. The higher the oxygen index, the more retardant the cable will be. For example, if the oxygen index of a material is 21%, it means that the material will burn by itself even at room temperature because at room temperature the normal oxygen content is 21%. PARTEX CABLES is manufacturing FR, FRLS, LSZH & FiR type cables, so that the cables oxygen index ranges from 29% to 33%.

ISO4589-3/BS2782.1 (Temperature Index)

This is a test for assessing the performance of a material when it is tested in accordance with BS2782 Part 1 Method 143A and 143B. The oxygen index of a material will drop when the temperature rises. When the temperature rises and the oxygen index drops to 21%, the material will burn automatically. This temperature is defined as temperature index. For example, the temperature index of coal is 50%. When the temperature climbs to 150˚C, its oxygen index drops to 21% and the coal will burn by itself automatically. The temperature index of coal will then be defined as 150˚C. In general, the temperature index of FR, FRLS, LSZH & FiR type cables ranges from 250˚C to 300˚C.

DEFINITIONS OF SOME OF THE WORDS USED

A.C: Alternating current

Annealing: Annealing, in metallurgy and materials science, is a heat treatment that alters the physical and sometimes chemical properties of a material to increase its ductility and reduce its hardness, making it more workable.

Armoured Cable: A cable provided with a wrapping of metal, usually steel wires, flat tapes or interlocked tapes, primarily for the purpose of mechanical protection.

AWG: American Wire Gauge. A standard used to specify the physical size of a solid or stranded conductor primarily used in the United States. Originally called the Brown and Sharpe Gauge.

Approximate value: Value which is neither guaranteed nor checked; it is used- for example, for the calculation of other dimensional values.

Break Strength: The maximum load which a specimen attains when tested in tension to fracture.

Cable Core: The cable core must contain and maintain the electric field and carry the load current, while effectively dissipating the heating of the conductor.

Concentric neutral: Stranded conductor surrounding the insulation screen to carry the out-of-balance return current in a distribution system, as well as the earth leakage and fault currents during system disturbances.

Cooling: Cooling during manufacture by passing cooled water, under pressure, over the cable core just after the curing tube/Water Channel and before the cable is wound on to the take-up reel/drum.

Concentric Construction: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern. Concentric constructions have 7, 19, 37, 61 etc. strands.

Conductivity: A term used in describing the capability of a material to carry an electrical charge. Usually expressed as a percentage of copper conductivity – copper being one hundred (100%) percent. Conductivity is expressed for a standard configuration of conductor.

Conductor: A wire or combination of wires not insulated from one another, suitable for carrying an electric current.

Conductor Core: The center strand or member about which one or more layers of wires or members are laid helically to form a concentric-lay or rope-lay conductor. Core –Any portion of a cable over which some other cable component, such as a shield, jacket, sheath or armor, is applied.

Creep age: Electrical leakage on a solid dielectric surface.

Cross Sectional Area of a Conductor: The sum of cross sectional areas of all the individual wires composing the conductor. It is generally expressed in circular mils.

Cross-linking: Formation of a permanent set of links between polymer chains (ERP, Semicon, XLPE). Once cross linked, the polymer becomes “unmelt able” or thermo set. Crosslinks may be formed by either thermal decomposition of organic peroxides or through the action of moisture with silence.

Currentcarrying Capacity: The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called ampacity.

Curing: The process of vulcanizing or cross linking a polymer. This process usually occurs in a vulcanizing tube at approximately 200^{0}C. Using dry nitrogen gas as the heat-transfer medium is referred to as the “dry curing” process.

D.C: Direct current.

Dielectric constant: Same as permittivity.

Dissipation factor: Tangent delta, loss angle or dissipation factor are all terms those refer to the amount of dielectric loss in a cable.

Electrical tree: Dendritic tree-like growth that produces partial discharges within cables and accessories. Partial discharges occur in voids and may eventually grow into permanent and conductive carbon-coated channels that can bridge the insulation wall and result in cable or accessory failures.

Density: The weight per unit volume of a substance. Dielectric Constant: hat property (K) of an insulating material which is the ratio of the parallel capacitance (C) of a given configuration of electrodes with the material as the dielectric, to the capacitance of the same electrode configuration with a vacuum as the dielectric.

Dielectric Strength: The voltage which an insulating material can withstand before breakdown occurs, usually expressed as a voltage gradient (such as volts per mil).

Direction of Lay: The lateral direction, designated as left-hand or right-hand, in which the wires of a member or units of a conductor run over the top of the member or conductor as they recede from an observer looking along the axis of the member or conductor.

Elongation: A measure of a material's ability to stretch or elongate prior to fracture. It is expressed as a percentage (increase in length) over a specified gauge length (typically 250mm for wire).

Equally Concentric: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, with alternately reversed lay direction and the same lay length.

Embossing: A means of marker identification by means of thermal indentation leaving raised lettering on the sheath material of cable.

Flame Resistance: The ability of a burning material to extinguish its own flame, once its flame-initiating heat source is removed.

Fire/Flame Retardant: Ability of a material to prevent the spread of combustion by a low rate of travel so the fire/flame will not be conveyed.

FRLS Insulation: Whenever a fire breaks-out in any building/complex, the burning of wire emits, toxic, black smoke which causes injury and subsequently becomes fatal to human life. FRLS PVC insulation provides better fire retardant properties than normal PVC & also emits less smoke in case of fire.

Flexibility: The capability of being bent when an external force is applied, its pliability or limberness. Low flexibility translates to being more rigid or stiff.

Fictitious value: The following fictitious method of calculating thicknesses of various coverings in a cable has been adopted to ensure that any differences which can arise in independent calculations. For example, due to the assumption of conductor dimensions and the unavoidable differences between nominal and actually achieved diameters are eliminated.

Hard Drawn: A term referring to the temper of conductors that are drawn without annealing to the finish temper.

PARTEX™ Cables powering with safety

HR PVC Insulation: Depending on where you live and how a structure is built, some wires may routinely be exposed to temperatures which would degrade wires made from the normal formulations of PVC. To counteract this, PARTEX CABLES has formulated Heat Resistant PVC insulation to specifically address situations where a heat resistant wire is needed. The HR PVC Insulation ensures stability at conductor temperatures of 90ºC and 105ºC and are designed to adhere to the standards set forth in HR90 and HR 105 PVC.

Heat Shock: A test to determine stability of a material by sudden exposure to a high temperature for a short period of time.

Impedance: The analog of resistance in an A.C (alternating current) circuit. Impedance depends upon the resistance, inductance, capacitance and frequency of the circuit. The unit of impedance is ohm.

Jacket: Same as outer or over sheath, the outermost polymeric protective layer of a cable.

Joint: Joints or splices are used to join two ends of a cable to extend the route length. The joint must provide continuity of the conductor and maintain insulation integrity of a cable.

Lay: The distance along a cable occupied by one complete helix of a strand or conductor. The direction of lay (left or right hand) is the direction of the helix looking away from an observer. Also to arrange the wires or members of a conductor either by twisting them or by forming them into one or more layers helically applied.

Lay Direction: The helical direction of the strands or members in any layer of a stranded construction. The two lay directions are usually denoted as "S" (left hand lay) or "Z" (right hand lay).

Length of Lay: The axial length of one turn of the helix of a wire or member.

Lay Factor: The ratio of the lay length to the external diameter of the corresponding layer of wires or members in the stranded conductor.

Lay Length (length of Lay): The axial length for one revolution of a strand or member in any layer of a stranded or rope stranded construction.

Metallic sheath: A metallic sheath is installed on a cable to protect the cable during installation and operation and to prevent moisture ingression into the insulation.

Median value: When several test results have been obtained and ordered in an increasing (or decreasing) succession, the median value is the middle value if the number of available values is odd and the mean of the two middle values if the number is even.

Milliken: Sectored conductor design usually used in HV and EHV cables with insulation in between sectors to reduce A.C losses in the conductor.

Messenger Wire: A metallic supporting member either solid or stranded which may also perform the function of a conductor.

Moisture-blocked conductor: Moisture blocking or strand sealing prevents moisture migration along a stranded conductor.

Mil: Unit of measure equal to 1/1000 of an inch.

Moisture Absorption: The amount of water that an insulation or jacket, which is initially dry, will absorb under specified conditions. It is expressed as the percentage ration of the absorbed water's weight to the weight of the jacket or insulation alone.

Nominal: Name or identifying value of a measurable property by which a conductor or component or property of a conductor is identified, and to which tolerances are applied.

Ohm: A unit of electrical resistance defined as the resistance necessary to produce 1 ampere of current to flow in a circuit with an applied potential of 1 volt.

Oil-filled cables: Cables insulated with tapes of paper or PPL which are held within a metallic and filled with oil. The impregnating oil may either be held at high (HPOF or pipe-type) or low (SCFF or LPOF) pressures.

Outer sheath: The cable outer sheath or jacket provides physical protection during installation and operation. It also limits the flow of corrosion currents and corrosion of the metallic sheath of a cable.

Partial discharge: Mini-sparks of electrical discharges that occur in gaps and voids within cables, accessories of the interfaces between them. Partial discharges weaken cable systems and often lead to failure via electrical tree growth.

Permittivity: Permittivity (ε') and loss factor (ε") both provide valuable information on molecular motions within a material.

Power factor: Cosine of the angle between the current and voltage vectors of an electrical load or device connected to a power system. The term is often used erroneously to describe the losses of a power cable instead of loss angle, dissipation factor or tangent delta.

Resistance: A measure of a component's opposition to the flow of electric current, specified in ohms.

Resistivity: Resistivity is the reciprocal of conductivity.

Routine tests: Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

Sample tests: Tests made by the manufacturer on samples of completed cable or components taken from a completed cable, at a specified frequency, so as to verify that the finished product meets the specified requirements.

Screen (Shield): Screens or shields used in cables to maintain a uniformly divergent electric field and to smooth out any asperities on the conductor and insulation surfaces.

Semiconductor: A solid substance that has conductivity between that of an insulator and that of most metals, either due to the addition of an impurity or because of temperature effects. Devices made of semiconductors, notably silicon, are essential components of most electronic circuits.

Specific Gravity: The density (mass per unit volume) of any material divided by that of water at a standard temperature.

Stranding Factor: The increase in weight and electrical resistance of a conductor due to the lay length of the strands or members.

Temperature Coefficient of Resistance: The change in a material's electrical resistance (resistivity) due to a change of one degree in temperature. It is expressed in units per °C (or units per °F).

Temperature Rating: The maximum temperature at which a given insulation or jacket may be safely maintained during continuous use, without incurring any thermally-induced deterioration.

Tensile Strength: The resistance of a material to breaking under tension, calculated to a reference unit (lbs/in2, kg/mm^2, etc.) by dividing die breaking load by the cross-sectional area.

Tensile Stress: Tensile stress (or tension) is the stress state leading to expansion; that is, the length of a material tends to increase in the tensile direction. The volume of the material stays constant. When equal and opposite forces are applied on a body, then the stress due to this force is called tensile stress.

True Concentric: A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, wide alternately reversed lay direction and increasing lay length.

Triple extrusion: Extrusion process where all three layers of the cable core are added in one pass through a group of extruders. The term "true triple" refers to the case where the three layers are extruded within a single head.

Type tests: Tests made before supplying, on a general commercial basis, a type of cable covered by this standard, in order to demonstrate satisfactory performance characteristics to meet the intended application.

Unilay (Unidirectional Equally Concentric): A central wire surrounded by one or more layers of helically laid wires in a geometric pattern, with the same lay direction and the same lay length.

Volt: Unit of electromotive force. It is the difference of potential required to make a current of one ampere flow through resistance of one ohm.

Voltage Drop: The voltage developed between the terminals of a circuit component by the flow of current through the resistance or impedance of that part.

Voltage Rating: The maximum voltage at which a given cable or insulated conductor may be safely maintained during continuous use in a normal manner. It is also called working voltage.

Wire Gauge: Any of several standard systems for designating wire sizes. As an example, see American Wire Gauge.

XLPE: Cross-linked Polyethylene.

ZERO HALOGEN Insulation: For extreme uses, PARTEX CABLES ZERO HALOGEN insulation holds the highest heat resistance, making it the best flame retardant insulation. This is critical for certain uses, including buildings which would routinely house large numbers of people or critical infrastructure.