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
		Minimum	Maximum		thickness of copper tape	area of copper wire							
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	W/km	W/km	kA	kA	kA	µF/km	W/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