

# 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  $U_0/U$  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

$U_0/U$  (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 mm <sup>2</sup>	-	mm	mm	mm	mm	mm <sup>2</sup>	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
mm <sup>2</sup>	W/km	W/km	kA	kA	µF/km	W/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.171-172