

HV XLPE COPPER HIGH STRESS

Технические характеристики



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Description:

COPPER, XLPE, W/B, CSA, LLDPE, HIGH

Voltage & Specification:

STRESS 25.4/44kV, SANS 60840/ NRS 077

Water blocking:

Core is standard, conductor on request

PHYSICAL DIMENSIONS:

Conductor size	mm ^l	300	400	500	630	800	1000
Conductor diameter	mm	20.7	24.0	27.2	30.4	34.2	38.7
Diameter over s/c conductor screen	mm	24.1	27.4	30.6	33.8	37.6	42.1
Diameter over XLPE insulation	mm	39.9	42.8	45.7	48.7	52.3	56.6
Diameter over s/c core screen	mm	41.3	44.4	47.3	50.3	54.1	58.5
Diameter over CSA sheath	mm	59.8	63.0	66.2	69.3	73.3	77.8
Final diameter of cable (D)	mm	70.8	74.0	77.2	80.3	84.3	88.8
Cable mass (approximate)	kg/m	6.6	7.6	8.8	10.4	12.3	14.6
Gross mass (500 m) (approximate)	kg	4500	5005	5620	6395	7365	8480
Minimum installation bending radius	m	1.4	1.5	1.5	1.6	1.7	1.8

RATINGS:

		Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)
Current rating in ground	Amps	542	575	613	654	688	741	766	836	840	932	904	102
Current rating in air	Amps	751	882	865	1027	989	1189	1121	1368	1254	1558	1380	175
AC Resistance @ 90°C	Ω/km	0.0781	0.0778	0.0619	0.0614	0.0492	0.0486	0.0394	0.0385	0.0323	0.0312	0.0275	0.02
Reactance	Ω/km	0.1373	0.1954	0.1307	0.1887	0.1253	0.1833	0.1206	0.1787	0.1163	0.1743	0.1117	0.16
Impedance	Ω/km	0.1580	0.2103	0.1446	0.1985	0.1346	0.1897	0.1269	0.1828	0.1207	0.1771	0.1150	0.17
Sheath standing voltage	V/km	33.4	60.5	37.3	68.3	41.3	76.8	45.5	86.1	49.3	95.3	52.4	103.8

ELECTRICAL PARAMETERS:

DC Resistance @ 20°C	Ω/km	0.060	0.047	0.037	0.028	0.022	0.018
Max Electric stress at conductor screen	kV/mm	5.0	5.0	5.0	5.0	5.0	5.0
Min Electric stress at insulation screen	kV/mm	3.2	3.4	3.5	3.7	3.8	3.9
Capacitance	μF/km	0.2755	0.3113	0.3461	0.3804	0.4212	0.4700
Zero Sequence Resistance	Ω/km	0.1456	0.1257	0.1097	0.0968	0.0862	0.0778
Zero Sequence Reactance	Ω/km	0.0757	0.0698	0.0651	0.0611	0.0575	0.0538
Symmetrical fault rating (250°C)	kA (1s)	43.1	57.4	71.8	90.4	114.9	143.6
Earth fault rating (150°C)	kA (1s)	35.5	37.4	39.3	41.2	43.6	46.2

Ratings above are based on standard laying conditions for a single circuit in isolation as follows:

Soil thermal resistance = 1.2Km/W

Soil temperature = 25°C

Depth of burial = 1.2m

Air temperature = 30°C

Earthing = Cross bonded or single point

bonded Tolerance on dimensions = +5%



Description: COPPER, XLPE, W/B, CSA, LLDPE, HIGH
Voltage & Specification: STRESS 38.1/66kV, SANS 60840/ NRS 077
Water blocking: Core is standard, conductor on request

PHYSICAL DIMENSIONS:

Conductor size	mm	300	400	500	630	800	1000
Conductor diameter	mm	20.7	24.0	27.2	30.4	34.2	38.7
Diameter over s/c conductor screen	mm	24.3	27.6	30.8	34.0	37.8	42.3
Diameter over XLPE insulation	mm	44.4	47.1	49.8	52.9	56.9	61.7
Diameter over s/c core screen	mm	46.2	48.8	51.4	54.6	58.8	63.7
Diameter over CSA sheath	mm	65.1	67.7	70.5	73.8	78.1	83.3
Final diameter of cable (D)	mm	75.1	78.7	81.7	84.9	89.3	96.5
Cable mass (approximate)	kg/m	7.1	8.0	9.2	10.8	12.8	15.5
Gross mass (500 m) (approximate)	kg	4745	5225	5825	6620	7620	8930
Minimum installation bending radius	m	1.5	1.6	1.6	1.7	1.8	1.9

RATINGS:

		Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)
Current rating in ground	Amps	540	573	610	652	685	739	762	833	836	929	904	102
Current rating in air	Amps	744	867	858	1010	991	1179	1122	1354	1256	1541	1381	172
AC Resistance @ 90°C	Ω/km	0.0780	0.0778	0.0618	0.0614	0.0491	0.0486	0.0393	0.0385	0.0322	0.0312	0.0272	4.02
Reactance	Ω/km	0.1410	0.1991	0.1337	0.1917	0.1279	0.1860	0.1233	0.1814	0.1190	0.1771	0.1161	0.17
Impedance	Ω/km	0.1612	0.2138	0.1473	0.2013	0.1370	0.1922	0.1294	0.1854	0.1233	0.1798	0.1192	41.0.17
Sheath standing voltage	V/km	32.2	59.1	36.0	66.8	40.0	75.4	44.1	84.5	47.7	93.5	52.2	103.5

ELECTRICAL PARAMETERS:

DC Resistance @ 20°C	Ω/km	0.060	0.047	0.037	0.028	0.022	0.018
Max Electric stress at conductor screen	kV/mm	6.0	6.0	6.0	5.9	5.7	5.6
Min Electric stress at insulation screen	kV/mm	3.5	3.7	3.9	4.0	4.0	4.0
Capacitance	µF/km	0.2301	0.2601	0.2891	0.3143	0.3393	0.3691
Zero Sequence Resistance	Ω/km	0.1401	0.1213	0.1060	0.0932	0.0828	0.0745
Zero Sequence Reactance	Ω/km	0.0814	0.0747	0.0694	0.0654	0.0619	0.0583
Symmetrical fault rating (250°C)	kA (1s)	43.1	57.4	71.8	90.4	114.9	143.6
Earth fault rating (150°C)	kA (1s)	38.6	40.2	41.9	43.9	46.4	49.4

Ratings above are based on standard laying conditions for a single circuit in isolation as follows:

- Soil thermal resistance = 1.2Km/W
- Soil temperature = 25°C
- Depth of burial = 1.2m
- Air temperature = 30°C
- Earthing = Cross bonded or single point
- bonded Tolerance on dimensions = +5%



Description: COPPER, XLPE, W/B, CSA, LLDPE, HIGH
Voltage & Specification: STRESS 51/88kV, SANS 60840/ NRS 077
Water blocking: Core is standard, conductor on request

PHYSICAL DIMENSIONS:

Conductor size	mm ^l	300	400	500	630	800	1000
Conductor diameter	mm	20.7	24.0	27.2	30.4	34.2	38.7
Diameter over s/c conductor screen	mm	24.5	27.8	31.0	34.2	38.1	42.7
Diameter over XLPE insulation	mm	48.8	51.1	54.2	57.7	61.9	66.8
Diameter over s/c core screen	mm	50.8	53.2	56.3	59.8	64.0	68.9
Diameter over CSA sheath	mm	69.8	72.4	75.6	79.2	83.6	87.7
Final diameter of cable (D)	mm	80.8	83.4	86.6	90.2	96.8	101.9
Cable mass (approximate)	kg/m	7.8	8.8	10.1	11.7	14.1	16.5
Gross mass (500 m) (approximate)	kg	5100	5600	6250	7050	8250	9450
Minimum installation bending radius	m	1.62	1.67	1.73	1.80	1.94	2.04

RATINGS:

		Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)
Current rating in ground	Amps	542	574	612	654	687	741	765	836	847	937	919	1033
Current rating in air	Amps	747	860	861	1003	983	1159	1116	1332	1260	1524	1400	1720
AC Resistance @ 90°C	Ω/km	0.0778	0.0778	0.0617	0.0614	0.0490	0.0485	0.0391	0.0385	0.0320	0.0311	0.0270	0.0270
Reactance	Ω/km	0.1454	0.2035	0.1381	0.1962	0.1326	0.1906	0.1282	0.1862	0.1252	0.1832	0.1205	0.1705
Impedance	Ω/km	0.1650	0.2179	0.1513	0.2055	0.1413	0.1967	0.1340	0.1902	0.1292	0.1859	0.1235	0.1805
Sheath standing voltage	V/km	32.2	59.1	36.1	66.9	40.1	75.4	44.2	84.6	49.5	95.6	53.8	105.3

ELECTRICAL PARAMETERS:

DC Resistance @ 20°C	Ω/km	0.0601	0.0470	0.0366	0.0283	0.0221	0.0176
Max Electric stress at conductor screen	kV/mm	6.8	6.8	6.7	6.4	6.2	6.0
Min Electric stress at insulation screen	kV/mm	3.6	3.9	4.0	4.0	4.0	4.0
Capacitance	μF/km	0.2019	0.2281	0.2485	0.2655	0.2858	0.3091
Zero Sequence Resistance	Ω/km	0.1359	0.1174	0.1021	0.0895	0.0794	0.0725
Zero Sequence Reactance	Ω/km	0.0861	0.0792	0.0742	0.0704	0.0667	0.0620
Symmetrical fault rating (250°C)	kA (1s)	43.1	57.4	71.8	90.4	114.8	143.5
Earth fault rating (150°C)	kA (1s)	41.5	43.0	44.9	47.1	49.7	51.5

Ratings above are based on standard laying conditions for a single circuit in isolation as follows:

- Soil thermal resistance = 1.2Km/W
- Soil temperature = 25°C
- Depth of burial = 1.2m
- Air temperature = 30°C
- Earthing = Cross bonded or single point
- bonded Tolerance on dimensions = +5%



Description: COPPER, XLPE, W/B, CSA, LLDPE, HIGH
Voltage & Specification: STRESS 76/132kV, SANS 60840/ NRS 077
Water blocking: Core is standard, conductor on request

PHYSICAL DIMENSIONS:

Conductor size	mm ^l	300	400	500	630	800	1000
Conductor diameter	mm	20.7	24.0	27.2	30.4	34.2	38.7
Diameter over s/c conductor screen	mm	25.5	28.6	31.8	35.0	38.8	43.4
Diameter over XLPE insulation	mm	58.6	60.1	63.4	67.0	71.4	76.5
Diameter over s/c core screen	mm	61.3	62.7	66.1	69.8	74.3	79.4
Diameter over CSA sheath	mm	80.9	82.3	85.8	89.6	94.3	99.7
Final diameter of cable (D)	mm	94.1	95.5	99.0	102.8	107.5	112.9
Cable mass (approximate)	kg/m	9.6	10.4	11.8	13.6	15.7	18.3
Gross mass (500 m) (approximate)	kg	6000	6700	7100	8000	9050	10350
Minimum installation bending radius	m	1.88	1.91	1.98	2.06	2.15	2.26

RATINGS:

		Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)	Trefoil	Flat (2D)
Current rating in ground	Amps	543	573	614	653	690	740	769	835	845	932	914	102
Current rating in air	Amps	743	841	857	981	980	1133	1112	1301	1247	1480	1373	165
AC Resistance @ 90°C	Ω/km	0.0779	0.0777	0.0616	0.0614	0.0489	0.0485	0.0389	0.0384	0.0318	0.0311	0.0268	0.02
Reactance	Ω/km	0.1550	0.2130	0.1466	0.2047	0.1410	0.1991	0.1364	0.1944	0.1318	0.1898	0.1270	0.18
Impedance	Ω/km	0.1734	0.2268	0.1590	0.2137	0.1492	0.2049	0.1418	0.1982	0.1355	0.1924	0.1297	0.18
Sheath standing voltage	V/km	31.9	58.7	36.0	66.7	40.1	75.2	44.3	84.4	48.2	93.6	51.9	102.

ELECTRICAL PARAMETERS:

DC Resistance @ 20°C	Ω/km	0.0601	0.0470	0.0366	0.0283	0.0221	0.0176
Max Electric stress at conductor screen	kV/mm	8.0	8.0	7.7	7.4	7.1	6.8
Min Electric stress at insulation screen	kV/mm	3.5	3.9	4.0	4.0	4.0	4.0
Capacitance	μF/km	0.1671	0.1871	0.2016	0.2140	0.2280	0.2448
Zero Sequence Resistance	Ω/km	0.1279	0.1106	0.0957	0.0836	0.0739	0.0664
Zero Sequence Reactance	Ω/km	0.0961	0.0879	0.0828	0.0788	0.0748	0.0701
Symmetrical fault rating (250°C)	kA (1s)	43.1	57.4	71.8	90.4	114.8	143.5
Earth fault rating (150°C)	kA (1s)	48.1	48.9	50.9	53.2	56.0	59.1

Ratings above are based on standard laying conditions for a single circuit in isolation as follows:

Soil thermal resistance = 1.2Km/W

Soil temperature = 25°C

Depth of burial = 1.2m

Air temperature = 30°C

Earthing = Cross bonded or single point

bonded Tolerance on dimensions = +5%



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