

33kV XLPE – Copper Технические характеристики



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Description:	19000/33000V, Copper, 1 Core, Type A FRPVC/AWA/FRPVC (red stripe)	F2JC...
Bedding/Armouring/Sheathing:	LHPVC/AWA/LHPVC (blue stripe)	...141
Specification:	SANS 1339	...242

Size code	...n/a...	1050	1070	1095	1120	1150	1185	1240	1300	1400	1500	1630	1800	1999
PHYSICAL DIMENSIONS														
Conductor size	mmI nom	50	70	95	120	150	185	240	300	400	500	630	800	1000
Conductor diameter	mm app.	8.35	10.05	11.90	13.25	14.70	16.23	18.46	20.75	24.05	27.42	30.45	34.25	38.81
Insulation diameter	mm app.	26.45	28.15	30.00	31.35	32.80	34.33	36.56	38.85	42.95	41.98	50.13	53.93	58.49
Bedding diameter	mm app.	31.30	33.00	34.85	36.20	37.86	39.39	41.62	44.11	48.21	47.24	55.60	59.60	64.37
Armour diameter	mm app.	36.30	37.00	38.85	40.20	42.86	44.39	46.62	49.11	53.21	52.24	60.60	65.90	70.67
Cable diameter	mm app.	40.59	42.29	44.35	45.70	48.56	50.29	52.52	55.22	59.53	58.35	67.32	73.04	78.01
TECHNICAL DATA														
Normal drum length	m	500	500	500	500	500	500	500	500	500	500	500	500	500
Cable mass (approximate)	kg/m	2.15	2.45	2.81	3.11	3.65	4.11	4.82	5.59	6.59	7.94	9.44	11.71	13.98
Gross mass (500 m)	kg app.	1565	1700	1900	2050	2320	2550	3090	3475	3975	4650	5405	6550	8250
Bending radius	mm min.	812	846	887	914	971	1006	1050	1104	1191	1167	1346	1461	1560
DC Resistance @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.099	0.075	0.060	0.047	0.037	0.028	0.022	0.018
AC Resistance @ 90°C	Ω/km	0.494	0.342	0.247	0.196	0.159	0.128	0.098	0.079	0.063	0.051	0.041	0.034	0.030
Reactance	Ω/km	0.163	0.154	0.146	0.139	0.135	0.131	0.126	0.122	0.117	0.107	0.110	0.107	0.104
Impedance	Ω/km	0.520	0.375	0.287	0.240	0.209	0.183	0.159	0.145	0.133	0.119	0.117	0.113	0.108
Capacitance	µF/km	0.144	0.159	0.176	0.188	0.200	0.214	0.233	0.253	0.289	0.444	0.351	0.383	0.422
Zero Sequence Resistance	Ω/km	0.609	0.506	0.402	0.345	0.275	0.239	0.203	0.178	0.154	0.143	0.119	0.091	0.082
Zero Sequence Reactance	Ω/km	0.107	0.099	0.091	0.084	0.080	0.076	0.071	0.067	0.063	0.054	0.057	0.054	0.051
Current rating:														
In ground	Amps	205	250	296	333	368	409	463	511	565	618	670	703	742
In air in shade	Amps	246	304	367	418	470	529	610	684	774	863	955	1028	1108
In air in direct sunlight	Amps	193	239	288	328	367	413	476	533	601	672	739	794	853
Short circuit ratings:														
Symmetrical (250°C)	kA (1sec)	6.4	9.2	12.8	16.2	20.0	25.0	32.8	41.2	52.7	67.6	87.5	112.0	140.6
Earth fault (200°C)	kA (1sec)	16.8	17.7	18.7	19.4	25.1	26.0	27.4	29.0	31.6	31.0	36.2	31.6	34.1

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 = 800mm

Air temperature = 30°C

5% tolerance on dimensions

Ratings for solid bonded, Trefoil formation

Description: 19000/33000V, Copper, 1 Core, Type F2JC...
Sheathing: B FRPVC (red stripe) ...081
 LHPVC (blue stripe) ...082
Specification: SANS 1339

Size code	...n/a...	1050	1070	1095	1120	1150	1185	1240	1300	1400	1500	1630	1800	1999
PHYSICAL DIMENSIONS														
Conductor size	mmi nom	50	70	95	120	150	185	240	300	400	500	630	800	1000
Conductor diameter	mm app.	8.50	10.00	12.00	13.50	14.38	16.50	19.00	21.50	24.00	26.43	31.50	35.00	39.00
Insulation diameter	mm app.	26.50	28.00	30.00	31.00	32.45	34.50	37.00	39.50	43.50	46.11	51.00	55.50	59.50
Cable diameter	mm app.	33.00	35.00	37.00	38.00	40.28	42.00	44.00	47.00	51.00	54.13	60.00	64.00	69.00
TECHNICAL DATA														
Normal drum length	m	500	500	500	500	500	500	500	500	500	500	500	500	500
Cable mass (approximate)	kg/m	1.484	1.694	2.069	2.158	2.647	3.064	3.689	4.439	5.274	6.704	7.986	9.768	11.31
Gross mass (500 m)	kg app.	925	1090	1275	1310	1565	2025	2340	2720	3130	4035	4675	5565	6475
Bending radius	mm min.	660	700	740	760	806	840	880	940	1020	1083	1200	1280	1380
DC Resistance @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.099	0.075	0.060	0.047	0.037	0.028	0.022	0.018
AC Resistance @ 90°C	Ω/km	0.494	0.342	0.247	0.196	0.159	0.128	0.098	0.079	0.063	0.050	0.041	0.034	0.030
Reactance	Ω/km	0.149	0.142	0.134	0.126	0.125	0.119	0.113	0.109	0.107	0.105	0.100	0.098	0.096
Impedance	Ω/km	0.516	0.371	0.281	0.233	0.202	0.174	0.149	0.135	0.124	0.116	0.108	0.103	0.100
Capacitance	μF/km	0.166	0.181	0.200	0.220	0.198	0.243	0.267	0.291	0.291	0.316	0.355	0.367	0.399
Current rating:														
In ground	Amps	206	250	300	340	375	427	493	553	622	694	771	846	904
In air in shade	Amps	242	299	364	418	467	538	634	723	829	937	1069	1198	1301
In air in direct sunlight	Amps	192	236	288	330	368	423	498	567	648	731	831	929	1006
Short circuit ratings:														
Symmetrical (250°C)	kA (1sec)	6.4	9.2	12.8	16.2	20.0	25.0	32.8	41.2	52.7	67.6	87.5	112.0	140.6
Earth fault (200°C)	kA (1sec)	3.0	3.2	3.4	3.5	3.67	3.9	4.2	4.4	4.9	5.1	5.7	6.1	6.6

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 = 800mm

Air temperature = 30°C

5% tolerance on dimensions

Ratings for solid bonded, Trefoil formation

Description:	19000/33000V, Copper, 3 Core, Type	F2JC...
Bedding/ Armouring/ Sheathing:	A FRPVC/ SWA/ FRPVC (red stripe)	...111
	LHPVC/ SWA/ LHPVC (blue stripe)	...212
Specification:	SANS 1339	

Size code	...n/a...	3050	3070	3095	3120	3150	3185	3240	3300
PHYSICAL DIMENSIONS									
Conductor size	mmI nom	50	70	95	120	150	185	240	300
Conductor diameter	mm app.	8.4	9.9	11.7	13.4	14.6	16.4	18.8	20.4
Insulation diameter	mm app.	26.5	28.0	29.8	31.5	32.7	34.5	36.9	38.5
Bedding diameter	mm app.	65.9	69.2	73.3	77.2	79.7	83.8	89.2	92.9
Armour diameter	mm app.	72.2	75.5	79.6	84.3	86.0	90.1	95.5	100.0
Cable diameter	mm app.	79.2	82.7	87.0	91.8	93.8	98.1	103.9	108.8
TECHNICAL DATA									
Normal drum length	m	300	300	300	300	300	300	300	300
Cable mass (approximate)	kg/m	9.911	11.043	12.821	14.046	15.330	16.930	19.449	25.221
Gross mass (300 m)	kg app.	3601	4006	4318	4959	5344	5772	6565	8311
Bending radius	mm min.	951	992	1043	1102	1126	1178	1247	1306
DC Resistance @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.099	0.075	0.060
AC Resistance @ 90°C	Ω/km	0.494	0.342	0.247	0.196	0.159	0.128	0.098	0.079
Reactance	Ω/km	0.137	0.129	0.122	0.117	0.114	0.110	0.105	0.103
Impedance	Ω/km	0.512	0.366	0.275	0.228	0.196	0.168	0.144	0.129
Capacitance	μF/km	0.144	0.158	0.174	0.189	0.199	0.215	0.236	0.250
Zero Sequence Resistance	Ω/km	1.100	0.920	0.836	0.672	0.702	0.644	0.583	0.475
Zero Sequence Reactance	Ω/km	0.151	0.145	0.141	0.136	0.133	0.129	0.125	0.122
Current rating:									
In ground	Amps	189	229	273	308	343	385	440	485
In air in shade	Amps	214	263	317	362	406	459	531	592
In air in direct sunlight	Amps	186	228	274	313	351	396	458	511
Short circuit ratings:									
Symmetrical (250°C)	kA (1sec)	6.4	9.2	12.8	16.2	20.0	25.0	32.8	41.2
Earth fault (200°C)	kA (1sec)	31.7	33.2	39.2	41.2	42.5	44.6	47.4	49.3

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

resistance = 1.2 Km/W

Soil temperature = 25 °C

Depth of burial = 800 mm

Air temperature = 30 °C

Single circuit in isolation

5% tolerance on dimensions

Description: 19000/33000V, Copper, 3 Core, Type F2JC...
 Sheathing: B FRPVC (red stripe) ...001
 LHPVC (blue stripe) ...002
 Specification: SANS 1339

Size code	...n/a...	3050	3070	3095	3120	3150	3185	3240	3300
PHYSICAL DIMENSIONS									
Conductor size	mmI nom	50	70	95	120	150	185	240	300
Conductor diameter	mm app.	8.4	9.9	11.7	13.4	14.6	16.4	18.8	20.4
Insulation diameter	mm app.	26.5	28.0	29.8	31.5	32.7	34.5	36.9	38.5
Bedding diameter	mm app.	62.3	65.5	69.4	73.1	75.6	79.5	84.7	88.2
Cable diameter	mm app.	69.0	72.5	76.6	80.6	83.4	87.5	93.1	96.8
TECHNICAL DATA									
Normal drum length	m	300	300	300	300	300	300	300	300
Cable mass (approximate)	kg/m	4.762	5.611	6.647	7.612	8.631	9.886	11.910	14.263
Gross mass (300 m)	kg app.	1829	2311	2622	2977	3282	3659	4318	5379
Bending radius	mm min.	1035	1087	1148	1210	1252	1313	1397	1452
DC Resistance @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.099	0.075	0.060
AC Resistance @ 90°C	Ω/km	0.494	0.342	0.247	0.196	0.159	0.128	0.098	0.079
Reactance	Ω/km	0.137	0.129	0.122	0.117	0.114	0.110	0.105	0.103
Impedance	Ω/km	0.512	0.366	0.275	0.228	0.196	0.168	0.144	0.129
Capacitance	µF/km	0.144	0.158	0.174	0.189	0.199	0.215	0.236	0.250
Current rating:									
In ground	Amps	195	237	284	322	360	407	470	527
In air in shade	Amps	223	275	333	383	431	491	574	649
In air in direct sunlight	Amps	194	239	290	332	374	426	497	562
Short circuit ratings:									
Symmetrical (250°C)	kA (1sec)	6.4	9.2	12.8	16.2	20.0	25.0	32.8	41.2
Earth fault (200°C)	kA (1sec)	3.6	3.8	4.0	4.3	4.4	4.6	4.9	5.1

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

resistance = 1.2 Km/W

Soil temperature = 25 °C

Depth of burial = 800 mm

Air temperature = 30 °C

5% tolerance on dimensions

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