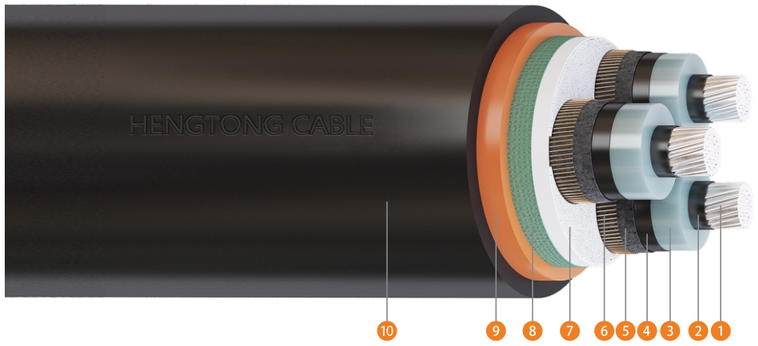
12.7/22kV Three Core Al/XLPE/CWS/PVC/HDPE



1. Compacted Al conductor
2. Conductor screen
3. XLPE insulation
4. Insulation screen
5. Semi conductive water-blocking tape
6. Copper wire screen
7. Non-hygroscopic filler
8. Non-hygroscopic tape
9. PVC inner sheath
10. HDPE outer sheath

Properties:

Rated voltage	12.7/22kV
Max. operating temperature of conductor	90℃
Max. short-circuit operation temperature of conductor (5s Max. duration)	250℃
Ambient temperature range for operating	from -40℃ to +50℃
Relative air humidity at temperature lower than +35℃	up to 95%
Min. temperature for installing without preheating	+0℃
Standard	AS/NZS 1429.1
Fault Level	up to 10kA/s or customer requirements

Application:

Cables are designed for fixed installation, for laying in the ground, for indoor application and in cable ducts.

Structural Parameters:

Nominal conductor area	Approx. diameter of conductor	Nominal thickness of insulation	Nominal diameter over insulation	Nominal screen area	No. & diameter of screen wire	Nominal diameter over wire screen	Nominal thickness of outer sheath		Approx. overall diameter of cable	Approx. weight of cable	Max. allowable pulling force of conductor	Min. bending radius	
							Inner layer	Outer layer				During installation	Installed
mm^2	mm	mm	mm	mm^2	No./mm	mm	mm	mm	mm	kg/km	kN	mm	mm
35	7.0	5.5	20.9	22.8	27/0.6	23.0	1.3	1.4	55.9	2453	4.2	1390	830
50	8.1	5.5	22.0	32.1	38/0.6	24.1	1.4	1.4	58.3	2781	6.0	1450	870
70	9.8	5.5	23.7	44.4	26/0.85	26.3	1.4	1.5	63.1	3315	8.4	1570	940
95	11.4	5.5	25.3	61.2	36/0.85	27.9	1.5	1.5	66.5	3893	11.4	1660	990
120	12.9	5.5	26.8	68.1	40/0.85	29.4	1.5	1.6	69.9	4376	14.4	1740	1040
150	14.4	5.5	28.3	68.1	40/0.85	30.9	1.6	1.6	73.4	4835	18.0	1830	1100
185	16.0	5.5	29.9	68.1	40/0.85	32.5	1.6	1.7	77.0	5378	22.2	1920	1150
240	18.4	5.5	32.3	68.1	40/0.85	34.9	1.7	1.8	82.6	6243	28.8	2060	1230
300	20.6	5.5	34.5	68.1	40/0.85	37.1	1.8	1.9	87.7	7111	36.0	2190	1310
400	23.4	5.5	37.3	68.1	40/0.85	39.9	1.9	2.0	94.1	8293	48.0	2350	1410
500	26.2	5.5	40.5	68.1	40/0.85	43.1	2.0	2.1	101.4	9793	60.0	2530	1520

Electrical Characteristics:

Nominal conductor area	Max. DC resistance of conductor at 20℃	Max. AC resistance of conductor at 90℃	Fault current carrying of conductor for 1 second	Fault current carrying of screen for 1 second	Insulation resistance at 20℃	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Maximum dielectric stress	Inductive reactance at 50Hz and 90℃	Screen DC resistance at 20℃	Zero sequence resistance at 20℃	Zero sequence reactance at 50Hz
mm^2	Ω/km	Ω/km	kA	kA	MΩ/km	μF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km	Ω/km
35	0.868	1.11	3.3	3.4	14400	0.168	0.670	34.1	3.60	0.134	0.832	1.70	0.0942
50	0.641	0.822	4.7	4.7	13200	0.182	0.726	36.9	3.47	0.128	0.591	1.23	0.0880
70	0.443	0.568	6.6	6.6	11800	0.205	0.818	41.6	3.31	0.121	0.427	0.873	0.0817
95	0.320	0.411	9.0	9.2	10700	0.226	0.902	45.8	3.19	0.116	0.310	0.630	0.0754
120	0.253	0.325	11.3	10.2	9800	0.245	0.978	49.7	3.11	0.111	0.279	0.533	0.0691
150	0.206	0.265	14.2	10.2	9100	0.265	1.06	53.7	3.04	0.107	0.279	0.486	0.0660
185	0.164	0.211	17.5	10.2	8400	0.285	1.14	57.8	2.98	0.104	0.279	0.444	0.0628
240	0.125	0.161	22.7	10.2	7600	0.316	1.26	64.0	2.90	0.100	0.279	0.405	0.0597
300	0.100	0.130	28.3	10.2	7000	0.345	1.38	69.9	2.85	0.0961	0.279	0.380	0.0565
400	0.0778	0.102	37.8	10.2	6300	0.380	1.52	77.0	2.79	0.0927	0.279	0.358	0.0534
500	0.0605	0.080	47.2	10.2	5700	0.421	1.68	85.3	2.74	0.0905	0.279	0.341	0.0503

Current Ratings:

Nominal conductor area	Continuous current-carrying capacity, A				
	In air			In ground	
					
mm^2					
35	130	138	97	134	109
50	155	165	118	158	130
70	192	205	145	194	159
95	233	250	175	232	191
120	268	288	199	264	217
150	303	326	232	295	249
185	346	374	263	334	281
240	408	441	307	388	327
300	467	506	349	437	369
400	543	590	403	501	423
500	628	683	478	568	497