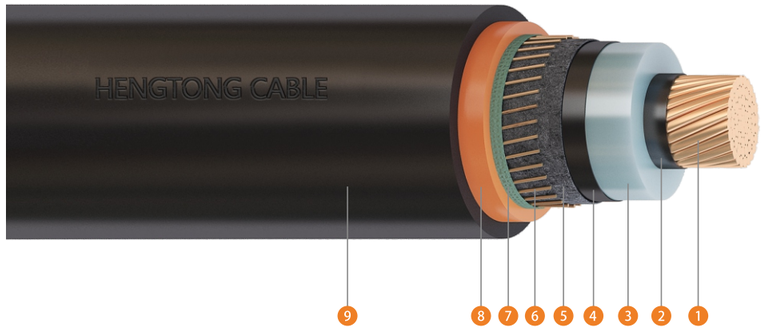
12.7/22kV Single Core Cu/XLPE/CWS/PVC/HDPE



1. Compacted Cu conductor
2. Conductor screen
3. XLPE insulation
4. Insulation screen
5. Semi conductive water-blocking tape
6. Copper wire screen
7. Non-hygroscopic tape
8. PVC inner sheath
9. 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	34.0	40/1.04	23.9	1.0	1.0	30.2	1271	2.5	750	450
50	8.1	5.5	22.0	49.5	28/1.5	25.9	1.0	1.0	32.3	1575	3.5	800	480
70	9.8	5.5	23.7	68.9	39/1.5	27.6	1.0	1.0	34.0	2003	4.9	840	500
95	11.4	5.5	25.3	68.9	39/1.5	29.2	1.0	1.0	35.6	2292	6.7	880	530
120	12.9	5.5	26.8	68.9	39/1.5	30.7	1.0	1.0	37.1	2563	8.4	920	550
150	14.4	5.5	28.3	68.9	39/1.5	32.2	1.0	1.1	38.6	2862	10.5	960	570
185	16.0	5.5	29.9	68.9	39/1.5	33.8	1.0	1.1	40.2	3245	13.0	1000	600
240	18.4	5.5	32.3	68.9	39/1.5	36.2	1.1	1.1	42.6	3840	16.8	1060	630
300	20.6	5.5	34.5	68.9	39/1.5	38.4	1.1	1.2	44.8	4462	21.0	1110	670
400	23.4	5.5	37.3	68.9	39/1.5	41.2	1.1	1.3	47.6	5308	28.0	1180	710
500	26.2	5.5	40.5	68.9	39/1.5	44.4	1.2	1.3	50.7	6404	35.0	1260	760
630	29.8	5.5	44.1	68.9	39/1.5	48.0	1.2	1.4	54.3	7824	44.1	1350	810
800	33.6	5.5	46.4	68.9	39/1.5	51.6	1.4	1.4	57.8	9350	54.4	1440	860
1000	38.5	5.5	51.3	68.9	39/1.5	56.5	1.5	1.5	63.1	11343	68.0	1570	940

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
		Trefoil touching	Flat touching	Flat spaced								Trefoil touching	Flat touching	Flat spaced			
mm^2	Ω/km	Ω/km	Ω/km	Ω/km	kA	kA	MΩ/km	μF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km
35	0.524	0.668	0.668	0.668	5.0	5.0	14400	0.168	0.669	34.0	3.60	0.151	0.166	0.209	0.558	1.08	0.0930
50	0.387	0.494	0.494	0.494	7.2	7.4	13200	0.182	0.727	36.9	3.47	0.146	0.161	0.204	0.383	0.770	0.0888
70	0.268	0.342	0.342	0.342	10.0	10.2	11800	0.205	0.817	41.5	3.31	0.137	0.152	0.195	0.275	0.543	0.0796
95	0.193	0.247	0.247	0.246	13.6	10.2	10700	0.226	0.900	45.7	3.19	0.131	0.145	0.189	0.275	0.468	0.0741
120	0.153	0.196	0.196	0.196	17.2	10.2	9800	0.245	0.978	49.7	3.11	0.126	0.140	0.184	0.275	0.428	0.0698
150	0.124	0.159	0.159	0.159	21.5	10.2	9100	0.265	1.06	53.6	3.04	0.121	0.136	0.179	0.275	0.399	0.0662
185	0.0991	0.127	0.127	0.127	26.5	10.2	8400	0.285	1.14	57.8	2.98	0.117	0.132	0.175	0.275	0.374	0.0629
240	0.0754	0.0977	0.0974	0.0971	34.3	10.2	7600	0.316	1.26	64.1	2.90	0.112	0.126	0.170	0.275	0.351	0.0588
300	0.0601	0.0786	0.0783	0.0778	42.9	10.2	7000	0.345	1.38	69.8	2.85	0.108	0.123	0.166	0.275	0.335	0.0558
400	0.0470	0.0626	0.0621	0.0615	57.2	10.2	6300	0.380	1.52	77.1	2.79	0.104	0.118	0.162	0.275	0.322	0.0526
500	0.0366	0.0502	0.0495	0.0487	71.5	10.2	5700	0.421	1.68	85.3	2.74	0.101	0.115	0.159	0.275	0.312	0.0505
630	0.0283	0.0407	0.0397	0.0386	90.1	10.2	5100	0.467	1.86	94.6	2.69	0.0970	0.112	0.155	0.275	0.304	0.0476
800	0.0221	0.0349	0.0349	0.0317	114.2	10.2	4400	0.520	1.98	102.1	2.54	0.0932	0.108	0.136	0.275	0.285	0.0442
1000	0.0176	0.0298	0.0298	0.0293	143.1	10.2	3800	0.531	2.23	114.6	2.32	0.0882	0.103	0.129	0.275	0.281	0.0396

Current Ratings:

Nominal conductor area	Continuous current-carrying capacity, A												
	In air					In ground			In underground ducts				
	D/2	D/2		D/2									
mm^2	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond
35	185	211	174	183	130	178	179	174	156	156	155	144
50	220	250	205	218	156	209	209	205	184	181	180	171
70	273	308	254	269	193	250	249	249	220	216	220	209
95	329	369	309	326	230	296	291	296	259	251	260	249
120	375	420	355	376	261	335	325	335	290	280	294	281
150	424	469	400	425	294	370	359	374	319	305	325	314
185	479	528	455	485	343	414	394	420	354	335	365	363
240	558	604	534	569	395	469	443	484	399	374	418	416
300	628	674	609	648	445	519	483	540	440	405	465	465
400	712	753	698	744	504	574	528	608	487	443	520	524
500	799	837	794	848	568	633	572	679	528	473	573	585
630	892	920	899	959	663	692	613	753	574	509	635	674
800	1007	1028	1028	1107	738	748	658	832	612	538	687	742
1000	1158	1137	1218	1297	862	843	708	962	678	577	772	858