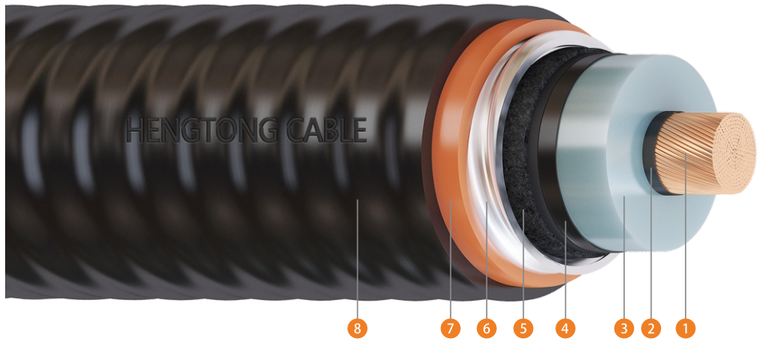
290/500kV Single Core Cu/XLPE/CAS/PVC/HDPE



1. Compacted or Milliken Cu conductor
2. Semi conductive screen tape and conductor screen
3. XLPE insulation
4. Insulation screen
5. Semi conductive water-blocking tape
6. Corrugated aluminium
7. PVC inner sheath
8. HDPE outer sheath with graphite coating

Properties:

Rated voltage	290/500kV
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 1429.2
Fault Level	as per 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 thickness of aluminium sheath	Nominal thickness of outer sheath		Approx. overall diameter of cable	Approx. weight of cable	Max. allowable pulling force of conductor	Min. bending radius during installation	Min. bending radius after installed
				Inner layer	Outer layer					
mm^2	mm	mm	mm	mm	mm	mm	kg/km	kN	mm	mm
800	33.6	34	2.9	3.0	3.0	149.9	22923	54.4	2998	2248
1000	39.2	33	3.0	3.0	3.0	155.0	25492	68	3100	2325
1200	43.4	33	3.0	3.0	3.0	160.2	28011	81.6	3204	2403
1600	49.6	32	3.1	3.0	3.0	164.6	32262	108.8	3292	2469
2000	55.0	31	3.2	3.0	3.0	170.2	36514	136.0	3404	2553
2500	61.5	31	3.3	3.0	3.0	176.9	42183	170.0	3538	2654

Electrical Characteristics:

Nominal conductor area	Max. D.C resistance of conductor at 20℃	Max. A.C resistance of conductor at 90℃			Fault current carrying of conductor for 1 second	Fault current carrying of screen for 1 second	Conductor to screen capacitance	Charging current per phase	Maximum dielectric stress	Inductive reactance at 50Hz and 90℃			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	μF/km	A/km	kV/mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km
800	0.0221	0.0313	0.0313	0.0310	114.5	114.5	0.125	11.4	14.9	0.153	0.168	0.211	0.170	0.395
1000	0.0176	0.0247	0.0247	0.0246	143.1	120	0.139	12.7	14.4	0.146	0.160	0.204	0.166	0.381
1200	0.0151	0.0219	0.0219	0.0218	171.7	120	0.148	13.5	14.0	0.141	0.156	0.199	0.163	0.370
1600	0.0113	0.0177	0.0177	0.0175	229.0	120	0.164	15.0	13.7	0.135	0.149	0.193	0.159	0.359
2000	0.009	0.0153	0.0153	0.0150	286.2	120	0.180	16.4	13.6	0.130	0.145	0.188	0.157	0.348
2500	0.0072	0.0134	0.0134	0.0131	357.8	120	0.194	17.6	13.3	0.126	0.140	0.184	0.155	0.336

Current Ratings:

Nominal conductor area	Continuous current-carrying capacity, A								
	In air			In ground			In underground ducts		
									
mm^2	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding	Single point bonding or cross-bonding
800	1033	1184	1061	786	928	827	795	888	820
1000	1169	1370	1215	859	1046	919	871	1000	912
1200	1249	1486	1307	898	1118	971	913	1069	966
1600	1385	1704	1469	960	1245	1058	978	1190	1054
2000	1486	1876	1594	1005	1344	1121	1027	1284	1119
2500	1586	2057	1720	1044	1442	1181	1070	1378	1181