

12.7/22kV Triplex 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°C
Max. short-circuit operation temperature of conductor (5s Max. duration)	250°C
Ambient temperature range for operating	from -40°C to +50°C
Relative air humidity at temperature lower than +35°C	up to 95%
Min. temperature for installing without preheating	+0°C
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.

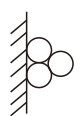
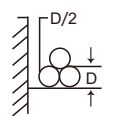
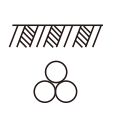
Structural Parameters:

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	Max. overall diameter of cable	Approx. weight of cable	Max. allowable pulling force of conductor	Min. bending radius (bundled cable)	
							Inner layer	Outer layer					During installation	Installed
mm²	mm	mm	mm	mm²	No/mm	mm	mm	mm	mm	kg/m	kN	mm	mm	mm
35	7.0	5.5	20.9	34.0	40/1.04	23.9	1.0	1.0	30.9	66.1	3.7	7.4	990	660
50	8.1	5.5	22.0	49.5	28/1.5	25.9	1.0	1.0	32.9	70.4	4.6	10.5	1060	700
70	9.8	5.5	23.7	68.9	39/1.5	27.6	1.0	1.0	34.6	74.1	5.9	14.7	1110	740
95	11.4	5.5	25.3	68.9	39/1.5	29.2	1.0	1.0	36.2	77.5	6.7	20.0	1160	780
120	12.9	5.5	26.8	68.9	39/1.5	30.7	1.0	1.1	37.7	80.7	7.5	25.2	1210	810
150	14.4	5.5	28.3	68.9	39/1.5	32.2	1.0	1.1	39.2	83.9	8.4	31.5	1260	840
185	16.0	5.5	29.9	68.9	39/1.5	33.8	1.0	1.1	40.8	87.4	9.6	38.9	1310	870
240	18.4	5.5	32.3	68.9	39/1.5	36.2	1.1	1.2	43.2	92.5	11.3	50.4	1390	930
300	20.6	5.5	34.5	68.9	39/1.5	38.4	1.1	1.2	45.4	97.2	13.2	63.0	1460	970
400	23.4	5.5	37.3	68.9	39/1.5	41.2	1.1	1.2	48.2	103.2	15.7	84.0	1550	1030
500	26.2	5.5	40.5	68.9	39/1.5	44.4	1.2	1.3	51.4	110.0	19.0	105.0	1650	1110

Electrical Characteristics:

Nominal conductor area	Max. DC resistance of conductor at 20°C	Max. AC resistance of conductor at 90°C			Fault current carrying of conductor for 1 second	Fault current carrying of screen for 1 second	Insulation resistance at 20°C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Maximum dielectric stress	Inductive reactance at 50Hz and 90°C			Screen DC resistance at 20°C	Zero sequence resistance at 20°C	Zero sequence reactance at 50Hz
		Trefoil touching	Flat touching	Flat spaced								Trefoil touching	Flat touching	Flat spaced			
mm²	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	0.153	0.167	0.211	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	0.147	0.162	0.205	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	0.139	0.153	0.197	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	0.132	0.146	0.190	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	0.127	0.141	0.185	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	0.122	0.137	0.180	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	0.118	0.133	0.176	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	0.113	0.127	0.171	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	0.109	0.123	0.167	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	0.105	0.119	0.163	0.275	0.322	0.0526
500	0.0366	0.0501	0.0495	0.0486	71.5	10.2	5700	0.421	1.68	85.3	2.74	0.102	0.116	0.160	0.275	0.312	0.0505

Current Ratings:

Nominal conductor area	Continuous current-carrying capacity, A				
	In air			In ground	
					
mm²	Solid bond	Solid bond	Solid bond	Solid bond	Solid bond
35	174	183	130	174	144
50	205	218	156	205	171
70	254	269	193	249	209
95	309	326	230	296	249
120	355	376	261	335	281
150	400	425	294	374	314
185	455	485	343	420	363
240	534	569	395	484	416
300	609	648	445	540	465
400	698	744	504	608	524
500	794	848	568	679	585