Prysmian Australia Pty Ltd
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Prysmian Group

CABLE DESCRIPTION

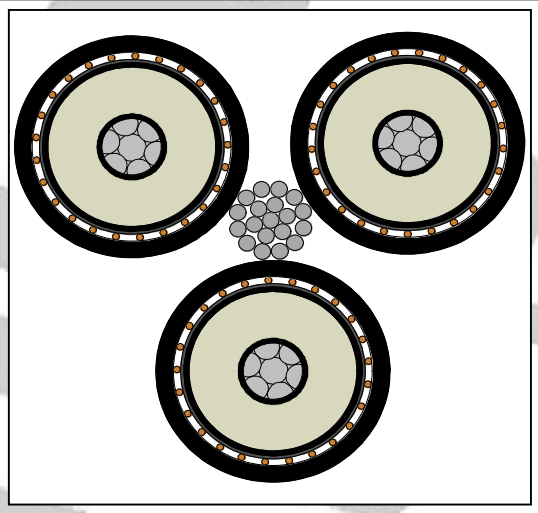
12.7/22 (24) kV 3-Core 35 mm² Compacted Aluminium Conductor, Semi-conductive XLPE Conductor Screen, Tree Retardant XLPE Insulated, Semi-conductive XLPE Insulation Screen, Semi-conductive tape, Light Duty Plain Annealed Copper Wire Screen (2kA/1sec), Polyester Taped, HDPE Sheathed + 19/2.00mm Galvanised Steel Wire Stranded Catenary, Laid-Up, HIBAC Type Cable.

STANDARD	AS/NZS 3599.1	Reference Number	20334544

PHYSICAL CHARACTERISTICS

Conductor Diameter			
	Nominal	(mm)	7.1
Insulation Thickness (Nominal)		(mm)	5.5
Diameter over Insulation			
	Nominal	(mm)	19.9
Sheath Thickness	Nominal	(mm)	1.8
Phase Cable Diameter (Nominal)		(mm)	27.7
Overall Cable Diameter			
	Nominal	(mm)	65.3
Cable Mass	Approx	(kg/km)	2650
Minimum Bending Radius (Bundled Cable)			
	During Installation	(mm)	980
	Installed	(mm)	655
Max. Pulling Tension (per phase)	Stocking [f]	(kN)	3.3
	Conductor [f]	(kN)	1.8

CROSS-SECTIONAL DRAWING (NTS) [g]



ELECTRICAL CHARACTERISTICS [a]

Max. DC Resistance	@ 20˚C	(Ohm/km)	0.868
	@ 90˚C	(Ohm/km)	1.11
Max. AC Resistance @ 50Hz	@ 20˚C	(Ohm/km)	0.868
	@ 90˚C	(Ohm/km)	1.11
Inductive Reactance @ 50Hz		(Ohm/km)	0.166
Star Inductance		(mH/km)	0.528
Capacitance per Core (Phase to Earth)		(µF/km)	0.159
Charging Current Per Phase		(A/km)	0.636
Maximum Design Stress		(kV/mm)	3.5
3 Phase Voltage Drop @ 50Hz & 90°C		(mV/A.m)	1.95
Zero Sequence Impedance @ 50Hz (R_o + jX_o) [c]	@ 20˚C	(Ohm/km)	2.25 + j 0.0936
	@ 90˚C	(Ohm/km)	2.87 + j 0.0936
Positive Sequence Impedance @ 50Hz (R_1 + jX_1)	@ 20˚C	(Ohm/km)	0.868 + j0.166
	@ 90˚C	(Ohm/km)	1.11 + j0.166

CONTINUOUS CURRENT RATING [b]

Unenclosed in Air	(A)	150

SHORT CIRCUIT RATING

Metallic Screen [d]	(kA/1 Sec.)	2
Phase Conductor [e]	(kA/1 Sec.)	3.3

GALVANISED STEEL CATENARY (19/2.00 mm)

Modulus Of Elasticity	GPa	166
Coefficient Of Linear Expansion	K^{-1}	11.5 x 10^{-6}
Minimum Breaking Load	kN	70.5
Maximum value for EDT (25% Of MBL)	kN	17.6
Highest Value for Maximum Working Tension (50% Of MBL)	kN	35.3

[a] Values given are calculated only.

(b) Based on 40°C ambient air temperature, maximum conductor temperature of 90°C and exposure to direct sunlight having an intensity of 1000 W/m² and wind speed of 1m/s normal to the axis of the cable.

[c] Zero Sequence Impedance based on current return path through metallic screen only.

[d] Screen Short Circuit rating based on 80°C - 250°C temperature rise. Fault rating is per core.

[e] Phase Conductor Short Circuit rating based on 90°C - 250°C temperature rise.

[f] To avoid exceeding maximum sidewall bearing pressure (SWBP) of 1450kg/m, maximum pulling tension (T) and minimum bending radius (R) indicated above may have to be reduced and increased respectively by using the formula SWBP (kg/m) = T (kN) / [0.0098 x R (m)].

[g] Colours are for illustration only and may not necessarily reflect actual colours in final product.

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Customer Acceptance:

Name: _____
Position: _____
Company: _____
Date: _____

Prepared By:

Name: Vasta Alfio
Position: Cable Design Engineer
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