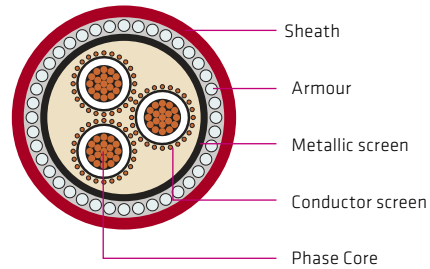


## 12.7/22 kV Copper



### Cable description

Three core copper wire screened armoured to AS/NZS 1972.

### Application

Suitable as primary supply for mines and industrial networks.

### Approvals

AS/NZS 1972

### Behaviour in flame and fire

Flame retardant

### Temperature range

Maximum operating temperature: +90 °C

Minimum operating temperature: -25 °C

### Minimum bending radius

Installed cables: 12D

### Flexibility

Rigid

### Resistance to

Chemical exposure: Very good/Frequent

Mechanical impact: Very heavy

Water exposure: Water splashes

Solar radiation and

weather exposure: Very good/Frequent

### Cable design

XLPE insulated, screened, GSW armoured, PVC sheathed cable.

Core: Metal: Plain circular compacted copper.

Conductor screen:

Extruded semiconducting compound, bonded to the insulation and applied in the same operation as the insulation.

Insulation: Cross Linked Polyethylene (XLPE) - standard.

Insulation screen:

Extruded semiconducting compound.

Metallic screen:

Plain annealed copper wire. Combined screen area is designed to provide not less than 50% conductance of one associated power conductor.

Armour: Galvanised steel wires.

Outer sheath:

Red 5V-90 polyvinyl chloride (PVC).

### Installation conditions

In free air

In duct

In ground

In trench

**Note:** Not specifically designed for use as self supporting cables, as submarine cables or where exposure to excessive heat and/or corrosive products is involved. In case of any doubt concerning the suitability of a particular cable type for a particular application, guidance should be sought from the Prysmian Customer Service Team.

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Physical & electrical characteristics

12.7/22kV Copper								
Product code:	35XFED3C22	50XFED3C22	70XFED3C22	95XFED3C22	120XFED3C22	150XFED3C22	185XFED3C22	240XFED3C22
Nominal conductor area mm <sup>2</sup>	35	50	70	95	120	150	185	240
Nominal conductor diameter mm	7.0	8.2	9.8	11.5	12.9	14.3	16.0	18.2
Nominal diameter under armour mm	52.43	55.07	58.82	62.48	65.70	68.92	75.49	80.41
Nominal wire armour diameter mm	2.5	2.5	2.5	2.5	3.15	3.15	3.15	3.15
Nominal diameter mm	63.6	66.5	70.4	74.5	79.4	83.0	89.8	95.1
Nominal mass kg/100m	603	660	776	902	1110	1245	1449	1699
Pulling tension: Cond(s) kN	7.4	10.5	14.7	20.0	25.0	25.0	25.0	25.0
Pulling tension: Stocking kN	7.4	10.5	14.7	19.4	22.1	24.1	25.0	25.0
Pulling Tension: Armour wires kN	16.3	18.31	20.0	22.5	25.0	25.0	25.0	25.0
Min bending radius during install mm	1145	1195	1265	1340	1430	1490	1615	1710
Min bending radius set in position mm	760	795	845	890	950	995	1075	1140
Rdc @ ref temp: Phase cond Ohm/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754
Rac @ oper temp: Phase conductor	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.098
Inductance mH/km	0.438	0.418	0.385	0.367	0.351	0.340	0.336	0.323
Inductance reactance Ohm/km	0.137	0.131	0.121	0.115	0.110	0.107	0.106	0.102
Zo @ ref temp: Ro Ohm/km	2.87+j0.092	2.57+j0.085	1.76+j0.075	1.28+j0.069	1.02+j0.065	0.82+j0.061	0.66+j0.059	0.53+j0.055
Capacitance: Phase to earth uF/km	0.164	0.179	0.200	0.223	0.241	0.259	0.282	0.311
Capacitance: Charging curr. per phase A/km	0.65	0.71	0.80	0.89	0.96	1.03	1.12	1.24
ISC: Phase cond. kA, 1 sec	5.0	7.2	10.0	13.6	17.2	21.5	26.5	34
In ground, direct buried A	174	204	247	293	330	365	410	465
In ground, in duct A	145	170	210	252	285	314	353	403
In free air A; Spaced from wall	182	216	265	319	364	407	465	535
In free air A; Clipped to wall	171	202	248	298	339	380	433	497
Preferred duct nominal size	100	100	100	125	125	125	150	150

Note: For rating factors see technical information.

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