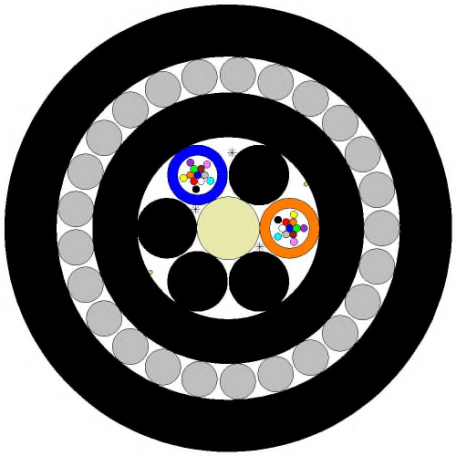
SM@RTCORE®

External Underground Loosetube Optical Cable – GSW Armoured

IEC 60794-3-11
ACMA - AS/CA S008

Cable Design



- Drawing not to scale -

- **Multi-loose tube construction –** Single layer 2 to 72 fibres
- **Central strength member (CSM):** Glass fibre reinforced plastic material (GRP)
- **Tube:** Thermoplastic material, containing up to 12 optical fibres filled with a low viscosity, thixotropic, non-melting gel fully compatible with fibre coating and tube material
- **Stranding:** The required numbers of elements (tubes and fillers) are SZ stranded around the central strength member
- **Longitudinal water tightness:** Water swellable elements (dry-core)
- **Bedding:** Polyethylene in compliance with AS 1049
- **Armour:** Galvanised steel wire 1.25mm in compliance with AS/NZS 3863
- **Sheath:** UV resistant polyvinyl chloride in compliance with AS 1049

This armoured optical cable is designed for external underground installations. GSW armour provides mechanical and rodent protection.

Technical data

Number of Fibres		**2 to 72**		
Number of elements		6		
Tube / Filler diameter	mm	2.1		
Cable nominal diameter	mm	15.6		
Cable nominal weight	kg/km	420		
Max. installation tension	kN	9.0		
Max. crush resistance	kN/100mm	4.0 (Short term) / 2.0 (Long term)		
Min. bending radius	mm	At full load 30 x Cable OD At no load 15 x Cable OD		
Temperature range	°C	Installation -0 -> +50	Transport & Storage -20 -> +70	Operation -10 -> +70

Optical Characteristics

See the attached cabled optical fibre data sheet.

Identification

Fibre and Buffer Tube Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

Fillers are either natural (opaque) or black, jelly filled tubes (with no fibres) are also used.

Sheath Colour:

The outer sheath colour is black.

Sheath Marking:

The outer sheath is marked in 1 metre intervals as follows:

PRYSMIAN DW SM@RTCORE ARMOURED Part Number T/N #### MM/YY MADE IN AUSTRALIA *****M >> | << *****M

Main mechanical characteristics

Parameter	Test method	Test conditions	Acceptance criteria*
Tensile strength	IEC 60794-1-21-E1 Figure 2	Load: As per cable maximum tensile strength in table above.	After 30 minutes the maximum strain on the fibre should not exceed 0.6% and no attenuation change throughout test
Crush	IEC 60794-1-21-E3	Short time: 10 min Long time: 120 min Load: As per maximum crush resistance in table above Number of positions: 3 adjacent sections (ensuring one over tube and one over lay reversal)	No damage to the sheath or to the core structure and no attenuation change throughout test
Impact	IEC 60794-1-21-E4	Weight: 1.5 kg Height: 1.0 m Anvil radius: 12.5 mm Impacts: 1	After 5 minutes no fibre breaks, no damage to the sheath or to the core structure and no attenuation change throughout test
Bend	IEC 60794-1-21-E11	Mandrel diameter: 30 x Cable OD Bend: 360º (1turn)	No attenuation change throughout test
Temperature cycling	IEC 60794-1-22-F1	Sample length: 1000 m (minimum) Temperature range: – 10 °C to +70 °C	There should be no average attenuation increase at the temperature extremes when compared to the attenuation at ambient temperature. No individual fibre should measure an attenuation increase greater than 0.15 dB/km
Water penetration	IEC 60794-1-22-F5B	Sample length=3m, Water height=1m	No water leakage after 24 hour (see note 1)

Note 1. This test is performed along the cable core contained within the polyethylene bedding (prior to armouring)

** All optical measurements for singlemode fibres performed at 1550 nm.*

Logistic

Packing:

Timber drums to AS/NZS 2857 with NOLCO-FLEX protection.

Delivery Lengths:

Standard delivery length is 2 km with a tolerance of - 1% / + 3%