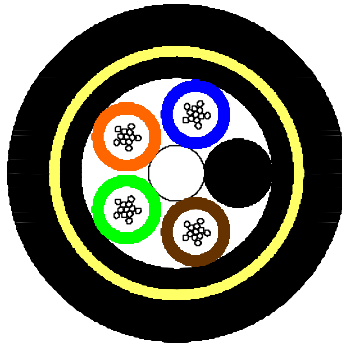


SM@RTSPAN® ADSS

All Dielectric Self-supported Aerial Cable 150m Span (Double Sheath)

Cable Design

ACMA - AS/CA S008



- Drawing not to scale -

- **Multi-loose tube construction**
- **Central strength member (CSM):** Glass fibre reinforced plastic material (GRP) with or without over-sheathing
- **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
- **Inner Sheath:** Polyethylene in compliance with AS 1049
- **Reinforcing:** High modulus aramid yarns
- **Sheath:** UV stabilised polyethylene in compliance with AS 1049

This all dielectric loose tube aerial optical cable is designed for external self-supporting applications requiring short distance spans between poles (maximum 150 metres).

Technical data

Number of Fibres		up to 60	72	96	144
Number of elements		5	6	8	12
Tube / Filler diameter	mm	2.4			
Cable nominal diameter	mm	12.0	12.6	14.1	17.3
Tolerance	mm	± 0.3			
Cable nominal weight	kg/km	105	120	150	230
Modulus of elasticity @ 20°C	kN/mm ²	8.1	9.1	6.6	6.0
Theoretical effective area	mm ²	88.1	96.4	122	185
Thermal expansion coeff. @ 20°C	1/°C	10.0 x 10 ⁻⁶	9.5 x 10 ⁻⁶	12.3 x 10 ⁻⁶	14.0 x 10 ⁻⁶
Calculated break load	kN	13.9	17.2	15.8	22.1
Max. everyday tension	kN	1.3	1.4	1.8	2.7
Max. working tension at:					
100km/hr wind & No ice	kN	3.0	3.3	3.7	5.0
50km/hr wind & 5mm radial ice	kN	2.6	2.9	3.2	4.4
Min. installation sag	%	1.5			
Max. crush resistance	kN/100mm	2.0 (Short term) / 1.0 (Long term)			
Min. bending radius	mm	At full load 20 x Cable OD (including coils in poles) At no load 15 x Cable OD			
Temperature range	°C	Installation -0 -> +50		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@RTSPAN ADSS Part Number T/N #### MM/YY MADE IN AUSTRALIA *****M

Main mechanical characteristics

Parameter	Test method	Test conditions	Acceptance criteria*
Tensile strength	IEC 60794-1-21-E1 Figure 2	As per cable maximum tensile strength (max. working tension) in table above.	After 30 minutes the maximum strain on the fibre should not exceed 0.2% 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
Torsion	IEC 60794-1-21-E7	Sample length: 1 m Rotation: a) 180° clockwise, b) return to starting position, c) 180° anticlockwise, d) return to starting position. Four movements constitute one cycle). Complete 10 cycles (a to d) in one minute maximum	During the final tenth cycle at a), c) and after completion (no rotation) check transmitting fibres. 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: 360° (1tum)	No attenuation change throughout test
Bend under tension	Concurrent to tensile test IEC 60794-1-21-E18A	Mandrel diameter: 40 x Cable OD Bend: 360° (1tum)	After 1minute no fibre breaks, no damage to the sheath or to the core structure and 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 greater than 0.15 dB/km

* 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 6 km with a tolerance of - 1% / + 3%

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