

FLEXTube®

Duct dielectric optical FlexTube® cable

IEC 60794-3
ACMA - AS/CA S008

Cable Design



- Drawing not to scale -

- **Micro-module:** Thin wall tubing filled with a suitable compound, housing the single-mode optical fibres
- **Longitudinal water tightness:** Water swellable elements (dry-core)
- **Strength members:** Aramid Yarns. Glass fibre reinforced plastic material embedded in sheath
- **Sheath:** Polyethylene in compliance with AS 1049
- **Outer jacket:** UV stabilised polyamide (Nylon) in compliance with AS 1049 integrally bonded to PE sheath

This thin wall FlexTube® dielectric optical cable is designed for outdoor installation in ducts. Polyamide provides anti-termite protection. The FlexTube® design provides easier storage & faster installation. Finger access to the fibres: No specific tools to open the FlexTube®.

Technical data

Number of Fibres (12F groups)		144	288	360
Module diameter	mm		1.3	
Cable nominal diameter	mm	10.0	12.7	14.8
Cable nominal weight	kg/km	70	115	150
Max. installation tension	kN	1.0	2.5	2.7
Max. crush resistance	kN/100 mm	1.5 (Short term)		2.0 (Short term) / 1.0 (Long term)
Min. bending radius	mm	At full load 20 x OD At no load 15 x OD		At full load 20 x OD At no load 10 x OD
Temperature range	°C	Installation -0 -> +50		Transport & Storage -20 -> +70 Operation -10 -> +70

Optical Characteristics

See the attached cabled optical fibre data sheet: SM_G652D Flextube or BendBright-XS C24

Identification

Fibre 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

Module colours for cables up to 144 fibres (≤12 modules)

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

Module Colours for cables with more than 144 fibres (>12 modules)

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	grey	white	red	light green	yellow	violet	pink	aqua
No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	blue	orange	green	brown	grey	white	red	light green	yellow	violet	pink	aqua
No.	25	26	27	28	29	30						
Colour	blue	orange	green	brown	grey	white						

Sheath Colour:

The outer sheath colour is blue.

Sheath Marking:

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

PRYSMIAN DW FLEXTUBE Part Number T/N ##### MM/YY MADE IN AUSTRALIA ***** >> | << *****

^ Customised marking legend is available (subject to agreement)

Main mechanical characteristics

Parameter	Test method	Test conditions	Acceptance criteria*
Tensile strength	IEC 60794-1-21-E1	Load: As per cable maximum installation tension in technical data table above	Fibre strain \leq 0.6%. No physical damage and no change in attenuation after test.
Crush	IEC 60794-1-21-E3	Load: As per maximum crush resistance in technical data table above Duration: 10 min (short-term) / 120 min (long-term)	No physical damage. No change in attenuation after test (short-term) or during test (long-term).
Impact	IEC 60794-1-21-E4	Impact energy: 15 J Anvil radius: 300 mm	No physical damage. No change in attenuation after test.
Torsion	IEC 60794-1-21-E7	Sample length: 1 m Rotation: +/-180 degree, 10 cycles	No physical damage. No change in attenuation after test.
Bend	IEC 60794-1-21-E11	Mandrel radius: As per Min. bending radius at no load in technical data table above No. of turns/helix: 4, No. of cycles: 3	No physical damage. No change in attenuation after test.
Bend under tension	Concurrent to tensile test	Mandrel radius: As per Min. bending radius at full load in technical data table above Bend: 360°, 1 turn	No physical damage. No change in attenuation after test.
Temperature cycling	IEC 60794-1-22-F1	Sample length: 1000 m (minimum) Temperature range: As per Operation temperature range in technical data table above	No change in attenuation between 10°C & 30°C. Max. change in attenuation \leq 0.15dB/km between Min. & Max. operation temperatures.
Cable aging	IEC 60794-1-22-F9	85°C for 168 h followed by Temperature cycling	Max. change in attenuation \leq 0.10dB/km after test
Water penetration	IEC 60794-1-22-F5C	Sample length=3m, Water height=1m	No water leakage after 24 hours

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

Logistic

Packing:

Timber drums generally to AS/NZS 2857 with flexible cable wrap protection

Delivery Lengths:

Standard delivery length is 5 km with a tolerance of - 1% / + 3%