

OSA 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®.



### CABLE DESIGN

- **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

### Technical Specifications

Number of Fibres (12F groups)		144	288	360
Module diameter	mm		1.3	
Cable nominal diameter	mm	10.0	12.7	13.6
Cable nominal weight	kg/km	70	115	135
Max. installation tension	kN	1.0	2.5	2.7
Max. crush resistance	kN/100 mm	1.5 (Short term)	2.0 (Short 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: G652D C03 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						

## Loistic

### Sheath Colour:

The outer sheath colour is blue.

### Sheath Marking:

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

## Main Mechanical Characteristics

Parameter	Test method	Test conditions	Acceptance criteria*
Tensile strength	IEC 60794-1-21-E1 Figure 2	Load: As per cable maximum tension stated in technical data table	After 10 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 Load: As per maximum crush resistance stated in technical data table Number of positions: 3 adjacent sections	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: As per Min. bending radius at no load stated in technical data table Bend: 360° (5turn)	No attenuation change throughout test
Bend under tension	Concurrent to tensile test IEC 60794-1-21-E18A	Mandrel radius: As per Min. bending radius at full load state in technical data table Bend: 360° (1turn)	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
Water penetration	IEC 60794-1-22-F5B	Sample length = 3m, Water height = 1m	No water leakage after 24 hour

\* All optical measurements above are performed at 1550 nm except ACR test that is measured at 1625 nm.

## Logistic

### Packing:

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

### Delivery Lengths:

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

#### NSW - Silverwater

Unit 4, 52 Holker Street  
Silverwater NSW 2128

E: [sales@opticalsolutions.com.au](mailto:sales@opticalsolutions.com.au)

P: +61 2 9395 1400

F: +61 2 9647 0014

#### NSW - Sydney City

Unit 10, 10 Bradford Street  
Alexandria NSW 2015

E: [sydcity@opticalsolutions.com.au](mailto:sydcity@opticalsolutions.com.au)

P: +61 2 9304 4555

F: +61 2 9700 8055

#### VIC

Unit 3 / 1 Rocklea Drive  
Port Melbourne VIC 3207

E: [vicsales@opticalsolutions.com.au](mailto:vicsales@opticalsolutions.com.au)

P: +61 3 9646 4166

F: +61 3 9646 4155

#### QLD

Unit 2/ 40 Borthwick Ave  
Murarrie QLD 4172

E: [qldsales@opticalsolutions.com.au](mailto:qldsales@opticalsolutions.com.au)

P: +61 7 3399 5280

F: +61 7 3399 9805

#### ACT

22 Isa Street  
Fyshwick ACT 2609

E: [actsales@opticalsolutions.com.au](mailto:actsales@opticalsolutions.com.au)

P: +61 2 6162 4600

F: +61 2 6162 4605

#### WA

28a Teddington Rd  
Burswood WA 6100

E: [wasales@opticalsolutions.com.au](mailto:wasales@opticalsolutions.com.au)

P: +61 8 9361 7000

F: +61 8 9361 7011