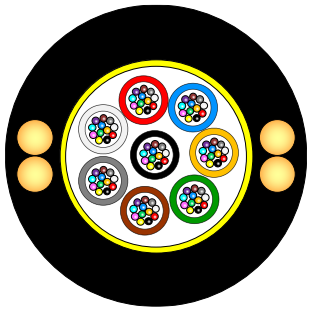
FlexTube®

prysmian

ADSS optical fibre cable

TC09421



-96FO- not to scale -

CABLE DESIGN

According to IEC/EN 60794-3-20

- Micromodule: thin wall flexible tubing, FlexTube®, filled with a suitable compound, housing the single-mode optical fibres. The fibres inside the tubes can be accessed without the need of any specific tool.
- Longitudinal Water Tightness: water swellable materials (dry core).
- Peripheral Strength Member: aramid yarns.
- Strength Members: glass fibre reinforced plastic material (GRP).
- Outer Sheath: UV resistant HDPE.

CABLE APPLICATION

These FlexTube® outdoor All Dielectric Self-Supported (ADSS) optical fibre cables are optimized for aerial installation and for blowing or pulling into ducts. Please contact your sales representative for ordering guides and installation information.

TECHNICAL DATA

No. of Fibres (grouped by 12) (1)		96	192
Material Code	-	60115949	60113281
Configuration (Tubes x Fibres/Tube)	-	8x12	16x12
Fibre Primary Coating Diameter	µm	250	200
Micromodule - Ø	mm	1.3	1.1
Cable Diameter - Ø	mm	13.5	13.5
Cable Weight	kg / km	129	129
CTE (2)	1E-6/°C	7.3	7.3
Effective Area	mm²	20.2	20.2
Modulus of Elasticity	daN / mm²	7650	7650
MIT / TL (2)	daN	139	139
MAT (2)	daN	507	507
RTS (2)	kN	21.6	21.6
Aramid Yarns	dTex	≥ 55000	≥ 75000

Minimum Bending Radius	mm	Under Maximum Tension: 20 x Cable Ø		Without Tension: 12.5 x Cable Ø
Temperature Range	°C	Transport & Storage: -40 → +70	Installation: -10 → +50	Operation: -30 → +70

(1) Other configurations upon specific request.

(2) Aerial parameters. CTE: thermal elongation coefficient, MIT / TL: maximum tension at installation or long term, MAT: maximum allowable tension, RTS: no optical consideration, non-reversible damages

INSTALLATION CONDITIONS

Climatic Conditions	Sag (%)	Maximum Span (m) (3)
NESC Medium	1.0/1.3/2.0	84 / 109 / 130

(3) examples of computed values.

OPTICAL CHARACTERISTICS

See the attached cabled optical fibre data sheet.

MAIN CHARACTERISTICS

Test	Standard	Specified Value	Acceptance Criteria (4)
Tensile Performance (MAT)	IEC 60794-1-21-E1	see above table, 5min	Δl/l fibre ≤ 0.25 %, Δα ≤ 0.5 dB reversible
Crush - Short Term Load	IEC 60794-1-21-E3A	2000 N / 100 mm, 10 min	Δα ≤ 0.05 dB reversible, no damage
Impact	IEC 60794-1-21-E4	5 J, 3 impacts, R = 300 mm	Δα ≤ 0.05 dB after test, no damage
Repeated Bending	IEC 60794-1-21-E6	R = 20 x OD, 50 cycles	Δα ≤ 0.05 dB reversible
Torsion	IEC 60794-1-21-E7	±180°, 2 m, 100N, 5 cycles	Δα ≤ 0.05 dB reversible
Bend	IEC 60794-1-21-E11	R = 10 x OD, 5 turns, 3 cycles	Δα ≤ 0.05 dB reversible
Sheath Abrasion	IEC 60794-1-22-E2A	0.75 m sample, 55 ± 5 cycles/min, 300 cycles, 4 N load, 4 abrasions, 100 mm distance between successive abrasions with 90° rotation	No penetration of sheath
Sheath Marking Abrasion	IEC 60794-1-22-E2B Method 1	needle Ø = 1mm, 4N, 60 cycles	After the test the marking shall be legible
Temperature Cycling	IEC 60794-1-22-F1	-30 °C to +70 °C	Δα ≤ 0.05 dB reversible
Water Penetration (excluding outer sheath)	IEC 60794-1-22-F5	3 m sample, 1 m water, 24 h	no water penetration

(4) values for single-mode fibres, all optical measurements performed at 1550nm in accordance with ITU-T G650 recommendation.

IDENTIFICATION

Fibre Colours

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

Tube Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	slate	white	red	black	yellow	violet	rose	aqua
No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	blue	orange	green	brown	slate	white	red	light green	yellow	violet	rose	aqua

Sheath Colour

The outer sheath colour is black.

Sheath Marking

The outer sheath is marked in 1-meter intervals as follows:

PRYSMIAN SA OPTICAL CABLE TOL<number of tubes>D <number of fibres> (<number of fibres/tube>SMR)T/E ΔEH <third party certification initials> Fca <month>/<year> <length marking>

LOGISTICS

Packing	Wooden drums with protection.
Standard Delivery Length (5)	4000 m ± 200 m.

(1) other delivery lengths available upon agreement.