

Optical fibre cables for aerial installation (ADSS)

Cable Design

IEC/EN 60794



- not to scale -

- **Central Strength Member (CSM):** glass fibre reinforced plastic rod (FRP).
- **Loose Tube:** thermoplastic material, containing optical fibres and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, where needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable tape.
- **Inner Sheath:** polyethylene. One ripcord beneath.
- **Peripheral Strength Elements:** aramid yarns.
- **Dielectric antishotgun protection:** two helically applied antiballistic tapes.
- **Outer Sheath:** HDPE. One ripcord beneath.

Technical data

No. of Fibres			24
Design			6 x 4
Loose Tube / Filler - Ø	mm		2.3
CSM - Ø	mm		2.4
Inner Sheath Thickness	mm		1.2
Outer Sheath Thickness	mm		1.5
Length Span	m		400
Cable Diameter	mm		15.7
Cable Weight	kg / km		185
Modulus of Elasticity	kN / mm ²		88.5
Effective Area	mm ²		16.8
Thermal Expansion Coefficient	·10 ⁻⁶ °C ⁻¹		6.5
Max. Working Tension	kN		11.0
Breaking Strength	kN		28.0
Max. Recommended Space Potential*	kV		4
Minimum Bending Radius	mm	Without Tension 12 x Cable-Ø	Under Maximum Tension 20 x Cable-Ø
Temperature Range	°C	Installation - 5 to + 50	Transport & Storage - 30 to + 70 Operation - 20 to + 70

Please refer to our General Installation, Safety & Handling recommendations before handling.*for Potentials above 4kV and up to 12kV, Anti-tracking sheathing material available. Refer to the document "ADSS Cable-Tracking"

Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Max. Working Tension	IEC 60794-1-2-E1	See table above	no fibre strain, $\Delta\alpha \leq 0.05$ dB/100m
Crush	IEC 60794-1-2-E3	2000 N / 100 mm, max. 10 min	$\Delta\alpha \leq 0.05$ dB
Impact	IEC 60794-1-2-E4	10 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB
Torsion	IEC 60794-1-2-E7	100N, +/- 180°, 10 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20x D, 100N, 20 cycles	no damage
Cable Bend	IEC 60794-1-2-E11	R=20 x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-20°C to +70°C	$\Delta\alpha \leq 0.05$ dB/km
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water column=1m	no leakage under first sheath
Shotgun resistance	IEC 60794-1-2-E13	20 m, 1 shot	no fibre break

All optical measurements at 1550 nm.

Identification

Fibre Colours

No.	1	2	3	4
Color	green	red	blue	yellow

Buffer Tube Colours

No.	1	2	3	4	5	6
Color	green	red	blue	yellow	grey	violet

Filler Elements Colours:

All filler elements are uncoloured (natural).

Sheath Colour:

The inner and outer sheath colour is black.

Sheath Marking:

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

<Manufacturer> <year of manufacture> <no. and type of fibre> PKCP <length marking in meter>

Logistic

Packing:

Wooden drums with protection.

Delivery Length:

Standard delivery length is 4 km with a tolerance of - 1% / + 3%

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