

Dielectric Antirodent Cables for Indoor Applications

Cable Design

REE ET044 Ed.4



- 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 elements.
- **Inner Sheath:** HFFR compound, two ripcords beneath.
- **Peripheral Strength Elements and Rodent Protection:** glass yarns.
- **Outer Sheath:** HFFR compound, two ripcords beneath.

These cables are suitable for indoor installation in cable trays or galleries. Fully dielectric design gets rid of electrical risks and avoids the need for grounding. Dielectric armour enhances mechanical resistance and protects the cable against rodents. Halogen free, flame retardant double sheath prevents the cable from spreading flames and does not evolve toxic nor opaque gases in the event of fire.

Technical data

No. of Fibres		24	24	48	96
No. of tubes x fibres/tube		4 x 6	2 x 12	4 x 12	4 x 24
Cable Diameter	mm	12.6			13.4
Cable Weight	kg / km	160			180
Minimum Bending Radius	mm	Without Tension 15 x Cable-Ø		Under Maximum Tension 20 x Cable-Ø	
Temperature Range	°C	Installation -10 to +50	Transport & Storage -40 to +70	Operation -30 to +70	

Please refer to our General Installation, Safety & Handling recommendations before handling.

Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile Strength	IEC 60794-1-21 E1	1600 N	$\Delta\alpha \leq 0.05$ dB
Crush	IEC 60794-1-21 E3	3000 N/100 mm, max. 15 min	$\Delta\alpha \leq 0.05$ dB after test
Impact	IEC 60794-1-21 E4	5 N.m, 10 impacts, R=300mm	no damage
Cable Bend	IEC 60794-1-21 E11	300 mm, 5 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-22 F1	-20°C to +70°C	$\Delta\alpha \leq 0.1$ dB/km
Water Penetration	IEC 60794-1-22 F5B	sample=1m, 24 h	no water leakage under inner sheath

All optical measurements at 1550 nm (SMF) and 1300 nm (MMF). Acceptance criteria for MM fibres ≤ 0.2 dB for all mechanical test and ≤ 0.5 dB/km for temperature cycling, instead of 0.05 dB (SMF).

Optical Characteristics

Fibre Type	ITU-T Rec.	Maximum Attenuation (dB/km)				Minimum Bandwidth (MHz·km)	
		850nm	1300nm	1310nm	1550nm	850nm	1300nm
Single Mode	G.652.D	-	-	0.35	0.22	-	-
Multimode	G.651.1 OM3	3.0	1.0	-	-	1500	500

Other characteristics according to ET044 and to the relevant ITU-T Recommendation

Fire Performance

Test	Test Standard	Specified Value	Acceptance Criteria
Euroclass	EN 50575		Eca

Identification

Fibre Colours

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

No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	yellow ¹	white ¹	orange ¹	red ¹	pink ¹	aqua ¹	yellow ²	white ²	orange ²	red ²	pink ²	aqua ²

<colour>¹ with evenly spaced black ring marks
<colour>² with evenly spaced double black ring marks

Buffer Tube Colours

No.	1	2	3	4
Colour	blue	white	red	green

All filler elements are black.

Sheath Colour:

The inner and outer sheath colour is black.

Sheath Marking:

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

REE - <year of manufacture> - TVT <nf> FO <SM/MM> - <Manufacturer> -
<length marking in meter>

Logistic

Packing:

Wooden drums with protection.

Delivery Lengths:

Standard delivery lengths are 2km, 4km with a tolerance of -1% / +3%

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