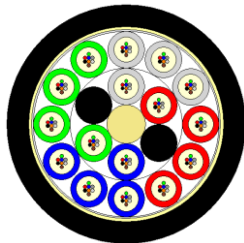


Optical Cables for Indoor/Outdoor Installation (KT)

Cable Design

IEC/EN 60794



128 fibre cable- not to scale -

- **Central Strength Member (CSM):** glass fibre reinforced plastic rod (FRP), with plastic oversheathing when needed.
- **Loose Tube:** thermoplastic material, containing 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.
- **Peripheral Strength Elements:** aramid yarns.
- **Outer Sheath:** HFFR, 2 ripcords beneath.

Technical data

No. of Fibres		8	16	48	64	128
No. of tubes x no. fibres/tube	1 st layer	4 x 2	4 x 4	6 x 8	8 x 8	4 x 8
No. of tubes x no. fibres/tube	2 nd layer	-	-	-	-	12 x 8
Loose Tube / Filler - Ø	mm	2.3	2.3	2.3	2.3	2.3
CSM - Ø	mm	2.4	2.4	2.4	2.6	2.4
CSM-Oversheathing - Ø	mm	-	-	-	3.9	-
Outer Sheath Thickness	mm	1.5				
Cable Diameter	mm	10.2	10.2	10.2	11.7	14.8
Cable Weight	kg / km	95	100	100	130	195
Minimum Bending Radius	mm	Without Tension 15 x Cable-Ø			Under Maximum Tension 20 x Cable-Ø	
Temperature Range	°C	Installation -10 to +60		Transport & Storage -40 to +70		Operation -20 to +70

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

Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Max. Installation Tension	IEC 60794-1-2-E1	2200 N	$\Delta\alpha \leq 0.05$ dB after the test
Crush	IEC 60794-1-2-E3	1200 N / 100 mm max. 15 min	$\Delta\alpha \leq 0.05$ dB, no damage
Impact	IEC 60794-1-2-E4	5 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB
Repeated Bending	IEC 60794-1-2-E6	R=15x D, 100 N, 100 cycles	$\Delta\alpha \leq 0.05$ dB
Torsion	IEC 60794-1-2-E7	100N, +/- 1 turn per cycle, 5 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Cable Bend	IEC 60794-1-2-E11	R=10 x D, 5 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB
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=1m, water column=1m, 24h	no water leakage

All optical measurements at 1550 nm

Optical Characteristics

See the attached cabled optical fibre data sheet.

Fire Performance

Test	Test Standard	Specified Value	Acceptance Criteria
Single Cable Test	IEC 60332-1	unburnt cable length	> 50 mm
Halogen Content	IEC 60754-1	halogen content	< 0.5 %
Corrosivity of Smoke Gases	IEC 60754-2	pH-value	≥ 4.3
Conductivity of Smoke Gases	IEC 60754-2	conductivity	≤ 10 μ S

Identification

Fibre Colours

No.	1	2	3	4	5	6	7	8
Colour	green	red	blue	yellow	grey	violet	brown	orange

Buffer Tube Colours

8,16 -fibre cables

No.	1	2	x	3	4	x
Colour	white	red	filler	blue	green	filler

48-fibre cable

Nº	1	2	3	4	5	6
Colour	white	white	red	red	blue	blue

64-fibre cable

Nº	1	2	3	4	5	6	7	8
Colour	white	white	red	red	blue	blue	green	green

128-fibre cable

No.	1	2	x	3	4	x
Colour	white	red	filler	blue	green	filler

Nº	5	6	7	8	9	10	11	12	13	14	15	16
Colour	white	white	white	red	red	red	blue	blue	blue	green	green	green

Sheath Colour

The outer sheath colour is black.

Sheath Marking

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

<customer name> <no. of fibre> KT < fibre type> <week of manufacture> <year of manufacture> <Manufacturer> <ID number> <length marking in meter>

Logistic

Packing

Wooden drums with protection.

Delivery Lengths

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

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