Universal (Out- & Indoor use) Multi-tube Optical Fibre Cables



with Multi-Mode 50/125 fibres

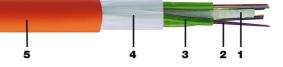
Application

- For outdoor and indoor use in structured (data) wiring systems such as campus backbone, building backbone (riser) and/or horizontal cabling. Support all current and future Categories (5, 6, 7 and ...) and all computer network applications such as FDDI, Gigabit Ethernet and ATM.
- Easy to install in ducts, tunnels, trenches and/or tubes (by means of compressed air or pulling wire). Suitable for direct burial (crush < 150 N/cm).

Key features

- Installation friendly dry interstices between the loose tubes.
- Halogen-free and all dielectric cables with standard rodent protection.
- Predicted life time > 30 years.

Construction & dimensions



Cable specifications (construction in accordance with IEC 60794)

- 1. Dielectric central element of glass reinforced plastic (GRP), also as protection against kinks, surrounded by swelling tape.
- Jelly filled (non dripping and silicon-free) loose tubes with primary coated optical fibres (Ø 250 ± 15 μm). Individually colour coded optical fibres: red – natural – yellow – blue – green – violet – brown – black – orange – turquoise – pink and white.
- 3. The loose tubes are stranded around the central element, if necessary with blind elements (black tubes without fibres). Colour coding of the loose tubes: 1. red 2. white rest green (50/125).
- 4. Swellable (for the longitudinal watertightness) yarns as strength members and for the standard rodent protection.
- Orange halogen-free (FRNC/LSNH) outer jacket. Identification: BELDEN OFC – "cable type" – "number x 50/125" + date-, meter- and P/N-marking.

Mechanical uala					
No. of fibres	24	48	60	72	96
Type-xxdcNH	Type-72			Type-96	
Cable core	2 x 12	4 x 12	5 x 12	6 x 12	8 x 12
Ø Central element (mm)	2.6			2.6 / 4.3	
Ø Loose tube (mm)	2.6			2.6	
Ø nom./max. (mm)	11.0 / 11.3			12.7 / 13.0	
Weight (kg/km)	130			167	
Energy of flame (kJ/m)	1945			2391	

Mechanical data

Ordering information

Belden Europe code

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Fibre-type/-count	24	48	60	72	96
50/125	49971	49972	49479	49984	49351
Colour code (orange)	3225	3225	3225	3225	3225
Reel code	043	043	043	043	043
Std. delivery length	2100 ± 100 m				

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with Multi-Mode 50/125 fibres

Optical characteristics

Characteristics (cabled) Multi-Mode -) Graded-Index optical fibres according to IEC 60793

Fibre-typ	Size	Wavelength	Attenuation average/max.	Bandwidth	Gigabit Ethernet Performance	Refractive Index
	(µm)	(nm)	(dB/km)	(MHz∙km)	(m)	muex
50/125	50 ± 2.5	850	2.5 / 2.7	≥ 600	550	1.481
50/125	125 ± 2	1300	0.5 / 0.8	≥ 1200	550	1.476

Fibres with improved Gigabit Ethernet performance on request available.

A test report (attenuation) is supplied with each delivery.

Mechanical, physical and/or environmental

Temperature range according	to IEC 60794-1-2-F1
Transport/storage	- 30 to + 70 °C
Installation	- 5 to + 50 °C
Operation	- 30 to + 70 °C

Pulling tension according to IEC 60794-1-2-E1Type -72 \leq 3000 NType-96 \leq 4000 N

Bending radii for fibres and	tubes
Installation/operation	> 25 mm

 Watertightness according to IEC 60794-1-2-F5

Bending radii cable Static according to IEC 60794-1-2-E11 - 10 x Ø

Dynamic according to IEC 60794-1-2-E1 - 10 \times Ø

Flame retardancy according to IEC 60332-3C

Guide to installation and handling

- When laying and installing optical fibre cables it is vitally important not to exceed the specified values set for pulling tension, bending radii and temperature.
- The installation methods have to be in accordance with the common standards.
- To ease insertion into tubes by means of compressed air or pulling wire, certified lubricants (e.g. paraffin) may be used. The use of soap or similar substances as lubricants is strictly prohibited.
- If a cable needs to be fastened, constrictions \geq 1 mm must be prevented.
- The jelly filling inside the tubes can be removed using a tissue soaked in turpentine.
- It is advisable to cap the cable-ends during storage.

Options

- Universal cables with improved rodent protection and Outdoor cables with a PE outerjacket.
- Non-standard cable constructions like different types of fibres in one cable, colours, details and/or additional information regarding specifications are available on request.