

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.
2. Jelly filled (**non dripping and silicon-free**) loose tubes with primary coated optical fibres ($\text{Ø } 250 \pm 15 \mu\text{m}$). 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.
5. **Orange** halogen-free (FRNC/LSNH) outer jacket.
 Identification: BELDEN OFC – "cable type" – "number x 50/125" + date-, meter- and P/N-marking.

Mechanical data

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

Ordering information

Belden Europe code

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 \pm 100 m				



Optical characteristics

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

Fibre-type	Size (μm)	Wavelength (nm)	Attenuation average/max. (dB/km)	Bandwidth (MHz \cdot km)	Gigabit Ethernet Performance (m)	Refractive Index
50/125	50 \pm 2.5	850	2.5 / 2.7	\geq 600	550	1.481
	125 \pm 2	1300	0.5 / 0.8	\geq 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

Watertightness according to IEC 60794-1-2-F5

Pulling tension according to IEC 60794-1-2-E1

Type -72	\leq 3000 N
Type-96	\leq 4000 N

Crush resistance according to IEC 60794-1-2-E3

Loose tube	\leq 4000 N/m
Type-72	\leq 15000 N/m
Type-96	\leq 20000 N/m

Bending radii for fibres and tubes

Installation/operation	> 25 mm
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Bending radii cable

Static according to IEC 60794-1-2-E11	- 10 x \emptyset
Dynamic according to IEC 60794-1-2-E6	- 15 x \emptyset

Halogen-free according to HD 602 (IEC 60754-2)

Corrosivity	pH \geq 3.5 - $\mu\text{S}/\text{cm} \leq$ 100
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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.