

Application

- For **outdoor** use in structured (data) wiring systems (**campus backbone**) and/or in networks for telecom, cable TV and/or broadcast.
- **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.
- **All dielectric** cables with standard rodent protection.
- **Predicted lifetime > 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 ($\varnothing 250 \pm 15 \mu\text{m}$). Individually colour coded optical fibres: red – natural – yellow – blue – green – violet – brown – black – orange – turquoise – pink and white.
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 yellow (9/125) green (50/125) or blue (62.5/125).
3. Swellable (for the longitudinal watertightness) yarns as strength members and for the standard rodent protection.
4. **Black** UV-resistant PE outer jacket.
Identification: BELDEN OFC – "cable type" – "number x type of fibre" + date-, meter- and P/N-marking.

Mechanical data

Cable-type-	48dcPER				
No. of fibres	6	12	24	36	48
Cable core	6*1	6*2	6*4	6*6	6*8
\varnothing Central element (mm)	2,1				
\varnothing Loose tube (mm)	2,1				
\varnothing nom./max. (mm)	9,8 / 10,1				
Weight (kg/km)	75				
Energy of flame (kJ/m)	2300				

Optical characteristics

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

	Size (μm)	Wavelength (nm)	Attenuation average/max. (dB/km)	Bandwidth (MHz \cdot km)	Ethernet Performance (m)		Refractive Index
					1GbE	10GbE	
62.5/125 OM1	62.5 \pm 2.5	850	3.0 / 3.2	\geq 200	275	33	1.495
	125 \pm 1	1300	0.6 / 0.8	\geq 600	550	n.a.	1.490
50/125 OM2	50 \pm 2.5	850	2.5 / 2.7	\geq 600	550	82	1.481
	125 \pm 1	1300	0.5 / 0.8	\geq 1200	550	n.a.	1.476
50/125 OM2e	50 \pm 2.5	850	2,5 / 2,7	\geq 600	750	110	1,481
	125 \pm 1	1300	0,5 / 0,8	\geq 1200	2000	na	1,476
50/125 OM3	50 \pm 2.5	850	2.5 / 2.7	\geq 1500	900	300	1.482
	125 \pm 1	1300	0.5 / 0.8	\geq 500	550	n.a.	1.477

Characteristics (cabled) Single-Mode - Matched-Cladded optical fibres according to ITU-G.652B

Fibre-type	Size (μm)	Wavelength (nm)	Attenuation average/max. (dB/km)	Dispersion (ps/(nm \cdot km))	PMD (ps/ $\sqrt{\text{km}}$)	Refractive Index
9/125 OS1	9.2 \pm 0.4	1310	0.33 / 0.38	\leq 3.5		1.467
	125 \pm 1	1550	0.20 / 0.25	\leq 18	\leq 0.2	1.467

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-48 \leq 4000 N

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

Loose tube \leq 4000 N/m
Type-48 \leq 15000 N/m

Bending radii for fibres and tubes

Installation/operation > 25 mm

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

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 (halogen-free) cables and Outdoor cables with improved rodent protection.
- **Non-standard cable constructions like different types of fibres in one cable**, colours, details and/or additional information regarding specifications are available on request.

Ordering information

Belden European Part Numbers

Cable-type- Fibre-type/-count	48dcPER				
	6	12	24	36	48
62.5/125-OM1					
50/125-OM2					
50/125-OM2e					
50/125-OM3					
9/125-OS1	YE00265	YE00266	YE00267	YE00288	YE00289
Std. reel (non-returnable)	wooden reel \varnothing 1250 * 688 mm, weight 81 kg				
Std. delivery length	4100 \pm 100 m				