Universal (outdoor & indoor use) Central tube Optical Fibre Cables

improved rodent protection, max. 24 fibres

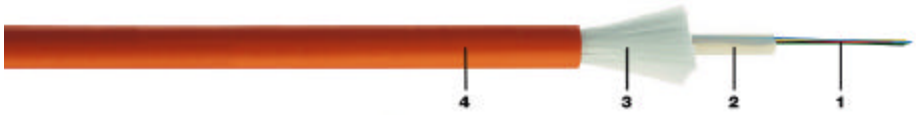
Application

- For **outdoor and indoor** use in structured (data) wiring systems such as **campus backbone, building backbone (riser)** and/or horizontal cabling.
- For **outdoor and indoor** use 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

- A simple **all dielectric** cable construction (and consequently **more cost-effective up to 24 fibres** then multi-tube cables) with **improved rodent protection**.
- These cables are **halogen-free** (= FRNC and LSNH) and therefore suitable for both outdoor and indoor use. Consequently splicing can be avoided and the installation gets more cost-effective.
- **Predicted lifetime > 30 years**.

Construction & dimensions



Cable specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres: Ø 250 ± 15 µm.
2. Central tube, jelly filled (non-dripping and silicon-free) with up to 24 fibres.
   Individually colour coded optical fibres:
   1 – 12: red - natural - yellow - blue - green - violet - brown - black - orange - turquoise - pink and white
   13 – 24: red - natural - yellow - blue - green - violet - brown - grey - orange - turquoise - pink and white with black rings.
3. Swellable yarns as strength members and for the longitudinal watertightness and **improved rodent protection**.
4. **Orange** halogen-free (FRNC/LSNH) outer jacket.
   Identification: BELDEN OFC – "cable type" – "number x type of fibre" + date-, meter- and P/N-marking.

Mechanical data

	improved rodent protection
No. of fibres	max. 24
Ø Central tube (mm)	4.2
Ø nom./max. (mm)	10.2 / 10.5
Weight (kg/km)	104
Energy of flame (kJ/m)	1680

Ordering information

Belden European Part Numbers

Fibre-type/-count	**4**	**6**	**8**	**12**	**16**	**24**
62.5/125-OM1	GURB104	GURB106	GURB108	GURB112	GURB116	GURB124
50/125-OM2	GURB204	GURB206	GURB208	GURB212	GURB216	GURB224
50/125-OM2e	GURB404	GURB406	GURB408	GURB412	GURB816	GURB824
50/125-OM3	GURB304	GURB306	GURB308	GURB312	GURB316	GURB324
9/125-OS1	GURB904	GURB906	GURB908	GURB912	GURB916	GURB924
Std. reel (non-returnable)	plywood reel ∅ 1000 * 530 mm, weight 18 kg					
Std. delivery length	2100 ± 100 m					

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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·km)	Ethernet Performance (m)		Refractive Index
					1GbE	10Gbe	
62.5/125 OM1	62.5 ± 2.5 125 ± 1	850 1300	3.0 / 3.2 0.6 / 0.8	≥ 200 ≥ 600	275 550	33 n.a.	1.895 1.890
50/125 OM2	50 ± 2.5 125 ± 1	850 1300	2.5 / 2.7 0.5 / 0.8	≥ 600 ≥ 1200	550 550	82 n.a.	1.881 1.876
50/125 OM2e	50 ± 2,5 125 ± 1	850 1300	2,5 / 2,7 0,5 / 0,8	≥ 600 ≥ 1200	750 2000	110 na	1,881 1,876
50/125 OM3	50 ± 2.5 125 ± 1	850 1300	2.5 / 2.7 0.5 / 0.8	≥ 1500 ≥ 500	900 550	300 n.a.	1.882 1.877

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·km))	PMD (ps/vkm)	Refractive Index
9/125 OS1	9.2± 0.4 125 ± 1	1310 1550	0.33 / 0.38 0.20 / 0.25	≤ 3.5 ≤ 18	 ≤ 0.2	1.867 1.867

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

Mechanical, physical and/or environmental

Temperature range according to IEC 60798-1-2-F1
Transport/storage - 30 to + 70 ºC
Installation - 5 to + 50 ºC
Operation - 30 to + 70 ºC

Watertightness according to IEC 60798-1-2-F5

Pulling tension according to IEC 60798-1-2-E1
Cable with improved RP ≤ 4000 N

Crush resistance according to IEC 60798-1-2-E3
Cable ≤ 15000 N/m

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

Bending radii cable
Static according to IEC 60798-1-2-E11 – 10 x Ø
Dynamic according to IEC 60798-1-2-E6 –15 x Ø

Halogen-free according to IEC 60754-2 (HD 602)
Corrosivity pH ≥ 3.5 - µS/cm ≤ 100

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 ≥ 0.3 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

- Cables with a PE jacket for outdoor use.
- Non-standard cable constructions, colours, details and/or additional information regarding specifications are available on request.