

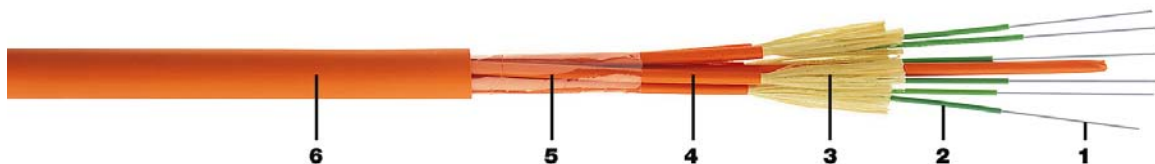
## Application

- Structured (premises) wiring systems: **building backbone (riser) and/or horizontal cabling**.
- Support all computer network applications such as **FDDI, Gigabit Ethernet and ATM**.
- **Easy to install** in ducts, tunnels and trenches.

## Key features

- The individual single fibre units (of which these metal-free breakout cables are composed) permit direct **(detensioned) terminations with separate single-way connectors**, which eliminate splicing of pigtailed and/or breakout kits.
- These cables are **halogen-free** (= FRNC and LSNH) and **metal-free** (all dielectric).
- **Predicted lifetime > 30 years**.

## Construction & dimensions



### Cable specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres:  $\text{Ø } 280 \pm 15 \mu\text{m}$ .
  2. Tight buffered fibres:  $\text{Ø } 0.9 \pm 0.1 \text{ mm}$ .
  3. Reinforced yarns as strength members.
  4. **Orange** (with multi-mode fibres) or **Yellow** (with single-mode fibres) halogen-free (FRNC/LSNH), numbered jacket ( $\text{Ø } 2.1 \pm 0.2 \text{ mm}$ ).
  5. Tape.
  6. **Orange** (with multi-mode fibres) or **Yellow** (with single-mode fibres) halogen-free (FRNC/LSNH) outer jacket with rip cord.
- Identification: BELDEN OFC – “cable type” – “number x type of fibre” + date-, meter- and P/N-marking.

### Mechanical data

No. of fibres	2	4	6	8	12	24
Cable core	2+ 2BE	CE+4	CE+6	CE+8	3+9	2+8+14
Ø nom. (mm)	5.3	6.2	8.0	9.4	10.5	14.3
Max. pulling tension (N)	400	400	600	800	1200	2400
Energy of flame (kJ/m)	379	507	928	1235	1424	2677
Weight (kg/km)	25	31	59	77	87	175

BE = Blind Element, CE = Central Element

## Options

- Mixed fibre types.
- Breakout cables with excellent strippable dry semi-tight buffered fibres.
- **Non-standard cable constructions**, colours, details and/or additional information regarding specifications are available on request.

## Optical characteristics

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

Fibre-type	Size ( $\mu\text{m}$ )	Wavelength (nm)	Attenuation average/max. (dB/km)	Bandwidth (MHz $\cdot$ km)	Ethernet Performance (m)		Refractive Index
					1GbE	10GbE	
<b>62.5/125</b> <b>OM1</b>	62.5 $\pm$ 2.5	850	3.0 / 3.2	$\geq$ 200	275	33	1.495
	125 $\pm$ 1	1300	0.7 / 0.9	$\geq$ 600	550	n.a.	1.490
<b>50/125</b> <b>OM2</b>	50 $\pm$ 2.5	850	2.6 / 2.8	$\geq$ 600	550	82	1.481
	125 $\pm$ 1	1300	0.6 / 0.9	$\geq$ 1200	550	n.a.	1.476
<b>50/125</b> <b>OM2e</b>	50 $\pm$ 2.5	850	2,6 / 2,8	$\geq$ 600	750	110	1,481
	125 $\pm$ 1	1300	0,6 / 0,9	$\geq$ 1200	2000	n.a.	1,476
<b>50/125</b> <b>OM3</b>	50 $\pm$ 2.5	850	2.6 / 2.8	$\geq$ 1500	900	300	1.482
	125 $\pm$ 1	1300	0.6 / 0.9	$\geq$ 500	550	n.a.	1.477

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

Fibre-type	Size ( $\mu\text{m}$ )	Wavelength (nm)	Attenuation average/max. (dB/km)	Dispersion (ps/(nm $\cdot$ km))	PMD (ps/ $\sqrt{\text{km}}$ )	Refractive Index
<b>9/125-OS1</b> patchcord quality	9.2 $\pm$ 0.4	1310	0.35 / 0.5	$\leq$ 3.5		1.467
	125 $\pm$ 1	1550	0.21 / 0.3	$\leq$ 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	- 5 to + 55 °C

#### Strippability

Secondary coating only	$\leq$ 10 cm
Secondary coating + primary coating	$\leq$ 10 mm

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

Single fibre unit	$\leq$ 110 N
Cables: see table with dimensions	

#### Crush resistance according to EC 60794-1-2-E3

Tight buffer	$\leq$ 4000 N/m
Single fibre unit	$\leq$ 4000 N/m
Cable	$\leq$ 7500 N/m

#### Bending radii for fibres and tight buffers

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	- 20 x $\emptyset$

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

Corrosivity	pH $\geq$ 3.5 - $\mu\text{S/cm}$ $\leq$ 100
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#### Flame retardancy according to IEC 60332-1

## 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.
- If a cable needs to be fastened, constrictions must be avoided.
- To ease insertion certified lubricants (e.g. paraffin) may be used. The use of soap or similar substances as lubricants is strictly prohibited.
- Indoor optical fibre cables have been designed for use inside buildings. Consequently they are not longitudinal watertight.
- It is advisable to cap the cable-ends during storage

## Ordering information

### Belden European Part Numbers

Fibre-type/-count	<b>2</b>	<b>4</b>
62.5/125-OM1	GIBT102	GIBT104
50/125-OM2	GIBT202	GIBT204
50/125-OM2e	GIBT402	GIBT404
50/125-OM3	GIBT302	GIBT304
9/125-OS1	GIBT902	GIBT904
Std. reel (non-returnable)	plywood reel $\varnothing$ 800 * 475 mm, weight 7.65 kg	
Std. del. length	2100 $\pm$ 100 m	

Fibre-type/-count	<b>6</b>	<b>8</b>
62.5/125-OM1	GIBT106	GIBT108
50/125-OM2	GIBT206	GIBT208
50/125-OM2e	GIBT406	GIBT408
50/125-OM3	GIBT306	GIBT308
9/125-OS1	GIBT906	GIBT908
Std. reel (non-returnable)	plywood reel $\varnothing$ 1000 * 530 mm, weight 18 kg	
Std. del. length	2100 $\pm$ 100 m	

Fibre-type/-count	<b>12</b>	<b>24</b>
62.5/125-OM1	GIBT112	GIBT124
50/125-OM2	GIBT212	GIBT224
50/125-OM2e	GIBT412	GIBT424
50/125-OM3	GIBT312	GIBT324
9/125-OS1	GIBT912	GIBT924
Std. reel (non-returnable)	wooden reel $\varnothing$ 1250 * 688 mm, weight 81 kg	
Std. del. length	2100 $\pm$ 100 m	