

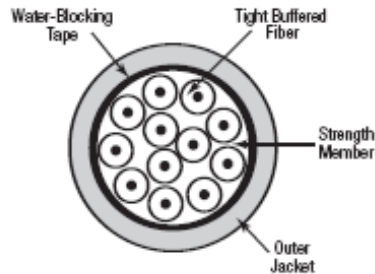
Application

- Structured (premises) wiring systems: **campus and/or 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. Not recommended for direct burial.

Key features

- These cables are **halogen-free** (= FRNC and LSNH) and watertight and therefore suitable for internal and external use. Consequently **splicing can be avoided** and the installation gets **more cost-effective.**
- These cables are **all dielectric** (metal-free).
- **Predicted lifetime > 30 years.**

Construction & dimensions



Cable specifications (construction in accordance with IEC 60794)

1. Swellable reinforced yarns as common strength members and for the longitudinal watertightness.
2. Primary coated optical fibres: $\text{Ø } 280 \pm 15 \mu\text{m}$.
3. Tight buffered fibres: $\text{Ø } 0.9 \pm 0.1 \text{ mm}$. Colour coding of the buffered fibres:
white – red – blue – yellow – green – violet – brown – black – orange – turquoise – pink – grey
of the fibres 1 – 12 the **secondary coating** is coloured
of the fibres 13 – 24 the **primary coating is coloured** and the secondary coating is transparent.
4. Swellable tape.
5. **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

No. of fibres	4	6	8	12	16	24
Ø nom. (mm)	5.4	5.9	5.9	7.6	8.6	9.6
Max. pulling tension (N)	400	450	450	500	500	600
Energy of flame (kJ/m)	296	347	371	622	845	1082
Weight (kg/km)	26	30	32	45	53	65

Optical characteristics

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

European Partnumber Coding, position 5	Fibre-type	Mode-Field Diameter (µm)	Wave-length (nm)	Attenuation average/max. (dB/km)	Dispersion (ps/(nm•km))	PMD (ps/√km)	Cable Cut-off Wavelength (nm)	Refr. Index
8	9/125-OS1 ITU-G.652D	9.2 ± 0.4 125 ± 0.7	1310 1550	0.35 / 0.5 0.21 / 0.3	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260	1.467 1.467

Characteristics (cabled) Single-Mode (Matched-Cladded optical fibres according to ITU-G.655

European Partnumber Coding, position 5	Fibre-type	Mode Field Diameter (µm)	Wave-length (nm)	Attenuation average/max. (dB/km)	Dispersion range (ps/(nm•km))	PMD (ps/√km)	Cable Cut-off Wavelength (nm)	Refr. Index
7	9/125	8.4 ± 0.6 125 ± 1	1550	0.25 / 0.28	3.5 – 8.5	≤ 0.1 ^A	≤ 1260	1.470

Note A- Link design value

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

European Partnumber Coding, position 5	Fibre-type	Core/Cladding Diameter (µm)	Wave-length (nm)	Attenuation average/max (dB/km)	Bandwidth (MHz•km)	Ethernet Performance (m)		Numerical Aperture (µm)	Refr. Index
						1GbE	10Gbe		
1	62.5/125 OM1	62.5 ± 2.5 125 ± 1	850	3.0 / 3.2	≥ 200	275	33	0.275 ±	1.495
			1300	0.7 / 0.9	≥ 600	550	n.a.	0.015	1.490
5	50/125 OM2	50 ± 2.5 125 ± 1	850	2.6 / 2.8	≥ 500	600	82	0.20 ±	1.481
			1300	0.6 / 0.9	≥ 500	600	n.a.	0.015	1.476
2	50/125 OM2	50 ± 2.5 125 ± 1	850	2.6 / 2.8	≥ 600	600	82	0.20 ±	1.481
			1300	0.6 / 0.9	≥ 1200	600	n.a.	0.015	1.476
4	50/125 OM2e	50 ± 2,5 125 ± 1	850	2.6 / 2,8	≥ 600	750	110	0.20 ±	1,481
			1300	0,6 / 0,9	≥ 1200	2000	na	0.015	1,476
3	50/125 OM3	50 ± 2.5 125 ± 1	850	2.6 / 2.8	≥ 1500	900	300	0.20 ±	1.482
			1300	0.6 / 0.9	≥ 500	550	n.a.	0.015	1.477
6	50/125 OM3+	50 ± 2.5 125 ± 1	850	2.6 / 2.8	≥ 6000	900	550	0.20 ±	1.482
			1300	0.6 / 0.9	≥ 500	550	n.a.	0.015	1.477

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

Strippability

Secondary coating only ≤ 10 cm
Secondary + primary coating ≤ 10 mm

Watertightness according to IEC 60794-1-2-F5

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

Tight buffer ≤ 4000 N /m
Cable ≤ 4000 N /m

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

See table with dimensions

Bending radii for fibres and tubes

Installation/operation > 25 mm

Bending radii cable

Static according to IEC 60794-1-2-E11 – 15 x Ø
Dynamic according to IEC 60794-1-2-E6 – 20 x Ø

Halogen-free according to IEC 60754-2 (HD 602)
Corrosivity pH ≥ 3.5 - $\mu\text{S}/\text{cm} \leq 100$

Flame retardancy according to IEC 60332-2



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 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.
- It is advisable to cap the cable-ends during storage.

Options

- Indoor Mini-Breakout cables with tight buffered fibres or with excellent strippable dry semi-tight buffered fibres.
- Non-standard cable constructions with improved rodent protection**, colours, details and/or additional information regarding specifications are available on request.

Ordering information

Belden European Part Numbers

Fibre-type/-count	4	6	8	12	16	24
62.5/125-OM1	GUMT104	GUMT106	GUMT108	GUMT112	GUMT116	GUMT124
50/125-OM2 BW 600/1200	GUMT204	GUMT206	GUMT208	GUMT212	GUMT216	GUMT224
50/125-OM3	GUMT304	GUMT306	GUMT308	GUMT312	GUMT316	GUMT324
50/125-OM2e	GUMT404	GUMT406	GUMT408	GUMT412	GUMT416	GUMT424
50/125-OM2 BW 500/500	GUMT504	GUMT506	GUMT508	GUMT512	GUMT516	GUMT524
50/125-OM3+	GUMT604	GUMT606	GUMT608	GUMT612	GUMT616	GUMT624
9/125-OS1 ITU G.655	GUMT704	GUMT706	GUMT708	GUMT712	GUMT716	GUMT724
9/125-OS1 ITU G.652D	GUMT804	GUMT806	GUMT808	GUMT812	GUMT816	GUMT824
Std. plywood reel (non-returnable)	$\varnothing 560 \times 336\text{mm}$ 4.25kg	$\varnothing 800 \times 475\text{mm}$, 7.65 kg		$\varnothing 1000 \times 530\text{mm}$, 18kg		
Std. delivery length	2100 \pm 100 m					

Updates

Revised:

Revision number	Description	Date	Initials
01	Introduction revised version	24/04/07	SN
02			
03			
04			