

GURB

Central Loose Tube Cables Universal – Indoor/ Outdoor A/I-DQ(ZN)BH

Improved Rodent Protection

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 BW 600/1200	GURB204	GURB206	GURB208	GURB212	GURB216	GURB224
50/125-OM3	GURB304	GURB306	GURB308	GURB312	GURB316	GURB324
50/125-OM2e	GURB404	GURB406	GURB408	GURB412	GURB416	GURB424
50/125-OM2 BW 500/500	GURB504	GURB506	GURB508	GURB512	GURB516	GURB524
50/125-OM4	GURB604	GURB606	GURB608	GURB612	GURB616	GURB624
9/125 ITU G.655	GURB704	GURB706	GURB708	GURB712	GURB716	GURB724
9/125 ITU G.652D-OS2	GURB804	GURB806	GURB808	GURB812	GURB816	GURB824
Std. plywood reel (non-returnable)	Ø 1000 * 530mm 18 kg					
Std. delivery length	2100 ± 100m					

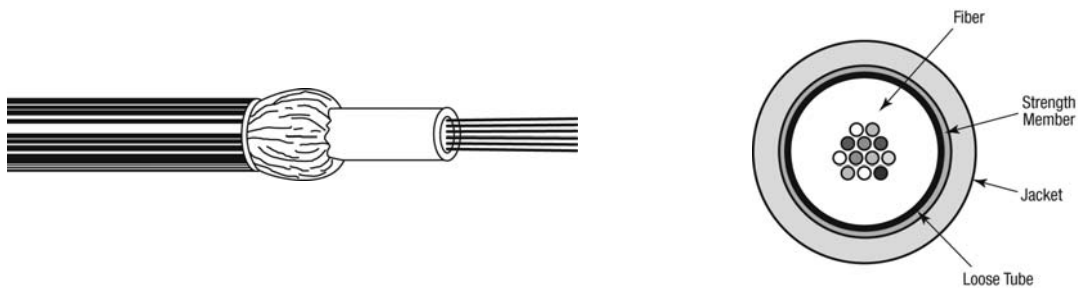
Applications

- 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 and trenches and/or tubes (by means of compressed air or pulling wire). Suitable for **direct burial**.

Features & Benefits

- 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.
- A simple **all dielectric** cable construction (and consequently **more cost-effective up to 24 fibres** than multi-tube cables) with **improved rodent protection**.
- **Predicted lifetime > 30 years**.

Construction & Dimensions



Cable Specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres: $\varnothing 250 \pm 15 \mu\text{m}$.
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 rings.
3. Swellable (for the longitudinal watertightness) yarns as strength members and for 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

No. of fibres	Max. 24
\varnothing Central tube (mm)	4.2
\varnothing nom./max. (mm)	10.2 / 10.5
Energy of flame (kJ/m)	1680
Weight (kg/km)	104

Optical Characteristics

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

European Partnumber Coding, Position 5	Fibre-Type	Mode-Field /Cladding Diameter (um)	Wave-length (nm)	Attenuation average/ max. (dB/km)	Dispersion (ps/(nm-km))	PMD (ps/km)	Cable Cut-off Wave-length (nm)
8	9/125 G.652D OS2	9.2 ± 0.4 125 ± 0.7	1310 1550	0.32 / 0.40 0.21 / 0.30	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260
7	9/125 G.655	8.4 ± 0.6 125 ± 1	1550	0.25 / 0.30	3.5 – 8.5	≤ 0.1 ^A	≤ 1260

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 (um)	Wave-length (nm)	Attenuation average/ max. (db/km)	Bandwidth (MHz•km)	Ethernet Performance (m)		Num. Apert. (µm)	Refr. Index
						1GBE	10 GBE		
1	62.5/125 OM1	62.5 ± 2.5 125 ± 1	850 1300	2.7 / 3.2 0.6 / 1.1	≥ 200 ≥ 600	275 550	33 n.a.	0.275 ± 0.015	1.495 1.490
5	50/125 OM2	50 ± 2.5 125 ± 1	850 1300	2.4 / 3.0 0.7 / 1.0	≥ 500 ≥ 500	600 600	82 n.a.	0.20 ± 0.015	1.481 1.476
2	50/125 OM2	50 ± 2.5 125 ± 1	850 1300	2.3 / 2.8 0.6 / 0.9	≥ 600 ≥ 1200	600 600	82 n.a.	0.20 ± 0.015	1.481 1.476
4	50/125 OM2e	50 ± 2.5 125 ± 1	850 1300	2.3 / 2.8 0.6 / 0.9	≥ 600 ≥ 1200	750 2000	110 na	0.20 ± 0.015	1.481 1.476
3	50/125 OM3	50 ± 2.5 125 ± 1	850 1300	2.5 / 3.0 0.5 / 1.0	≥ 1500 ≥ 500	900 550	300 n.a.	0.20 ± 0.015	1.482 1.477
6	50/125 OM4	50 ± 2.5 125 ± 1	850 1300	2.5 / 3.0 0.5 / 1.0	≥ 6000 ≥ 500	900 550	550 n.a.	0.20 ± 0.015	1.482 1.477

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

Mechanical, Physical and/or Environmental Characteristics

Requirements		
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
Pulling tension according to IEC 60794-1-2-E1	Long term	≤ 4000 N/ m
	Short term	≤ 8000 N/ m
Bending radii for fibres and tubes	Installation/operation	>25 mm
Watertightness according to IEC 60794-1-2-F5		Yes
Crush resistance according to IEC 60794-1-2-E3	Cable	≤ 15000 N/ m
Bending radii cable	Static according to IEC 60794-1-2-E11	10 x Ø
	Dynamic according to IEC 60794-1-2-E6	15 x Ø
Flame retardancy according to IEC 60332-3C (EN 50266-2-4)		Pass
Halogen-free according to IEC 60754-2 (EN 50267-2-2)	Corrosivity	pH ≥ 3.5 - μS/cm ≤ 100

Guide to installation and handling

- When laying and installing optical fibre cables it is **vitaly 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

- Outdoor cables with a black PE outer jacket.
- **Non-standard cable constructions**, colours, details and/or additional information regarding specifications are available on request.

Revision

Rev.	Description	Date	Init.
02	OM3+ changed to OM4	12/10/09	JW
03	OS2 added	25/11/09	JW
Date: 15/08/08		Page 1 of 1	
Orig.: SN		Review:	
			Part Number: GURB