

GURA

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

Improved Rodent Protection

Ordering Information

Belden European Part Numbers

Fibre type / count	2	4	6	8	12
62.5/125-OM1	GURA102	GURA104	GURA106	GURA108	GURA112
50/125-OM2 BW 600/1200	GURA202	GURA204	GURA206	GURA208	GURA212
50/125-OM3	GURA302	GURA304	GURA306	GURA308	GURA312
50/125-OM2e	GURA402	GURA404	GURA406	GURA408	GURA412
50/125-OM2 BW 500/500	GURA502	GURA504	GURA506	GURA508	GURA512
50/125-OM4	GURA602	GURA604	GURA606	GURA608	GURA612
9/125 ITU G.655	GURA702	GURA704	GURA706	GURA708	GURA712
9/125 ITU G.652D-OS2	GURA802	GURA804	GURA806	GURA808	GURA812
Std. plywood reel (non-returnable)	plywood reel Ø 1000 * 530 mm, weight 18 kg				
Std. delivery length	4100 ± 100m				

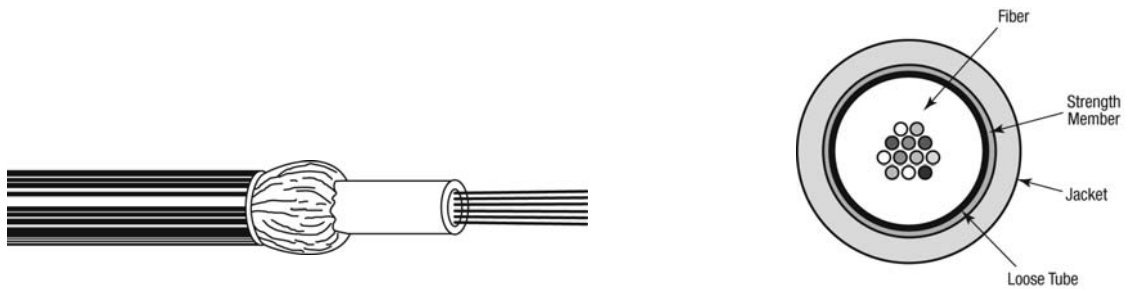
Applications

- For **outdoor and indoor** use in structured (data) wiring systems such as, campus backbone, **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, trenches. Suitable for **direct burial** (crush ≤ 100 N/cm).

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 12** 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: $\text{Ø } 250 \pm 15 \text{ }\mu\text{m}$.
2. Central tube, jelly filled (**non-dripping and silicon-free**) with **up to 12 fibres**.
Individually colour coded optical fibres:
red – natural – yellow – blue – green – violet – brown – black – orange – turquoise – pink and white.
3. Swellable yarns as strength members and for the longitudinal watertightness and the **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. 12
Ø Central tube (mm)	3.2
Ø nom./max. (mm)	7.1 / 7.4
Weight (kg/km)	55
Energy of flame (kJ/m)	755

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	Mode-Field Diameter (um)	Wave-length (nm)	Attenuation average/ max. (db/km)	Bandwidth (MHz*km)	Ethernet Performance (m)		Num. Apert. (um)	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	≤ 1400 N
	Short term	≤ 2500 N
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		≤ 20000 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
04	Crush resistance increased	29/03/10	SN
Date: 10/07/08		Page 1 of 1	Part Number:
Orig.: SN		Review:	GURA