

GORN

Central Loose Tube Cables

Outdoor

A-DQ(ZN)B2Y

Improved Rodent Protection, 1000N Permanent Load

2015-12-02 v6.0

Ordering Information

Belden European Part Numbers

Fibre Description / count	2	4	6	8	12	16	24
62.5/125-OM1	GORN102	GORN104	GORN106	GORN108	GORN112	GORN116	GORN124
50/125-OM2 BI	GORN202	GORN204	GORN206	GORN208	GORN212	GORN216	GORN224
50/125-OM3 BI	GORND02	GORND04	GORND06	GORND08	GORND12	GORND16	GORND24
50/125-OM4 BI	GORNE02	GORNE04	GORNE06	GORNE08	GORNE12	GORNE16	GORNE24
9/125 ITU G.655 C&D	GORN702	GORN704	GORN706	GORN708	GORN712	GORN716	GORN724
9/125 ITU G.652D & G.657A1 BI	GORN802	GORN804	GORN806	GORN808	GORN812	GORN816	GORN824
9/125 ITU G.657A2 BI	GORNF02	GORNF04	GORNF06	GORNF08	GORNF12	GORNF16	GORNF24
9/125 ITU G.657B3 BI	GORNI02	GORNI04	GORNI06	GORNI08	GORNI12	GORNI16	GORNI24
Std. plywood reel (non-returnable)	Ø800*475mm 7.65 kg						
Std. delivery length	2100 ± 105m						

Applications

- For **outdoor** use in structured (data) wiring systems (**campus backbone**)
- For **outdoor** use in networks for telecom, cable TV and/or broadcast.
- Suitable for **direct burial**.
- Easy to install in ducts, tunnels and trenches.

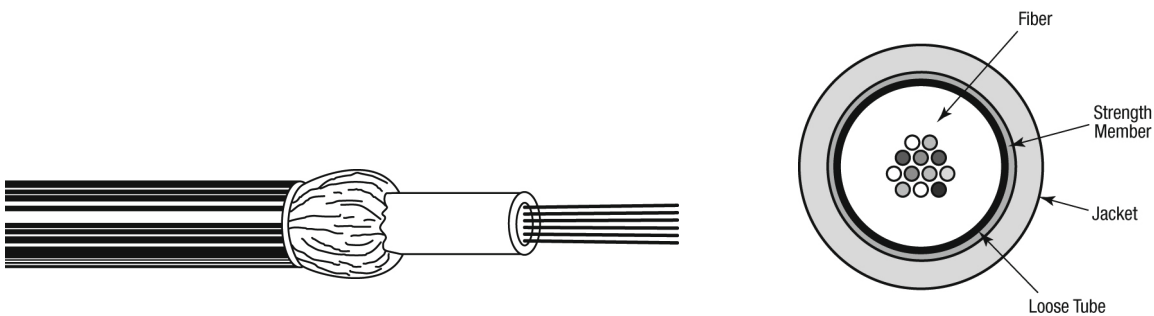
Features & Benefits

- A simple cable construction and consequently **more cost-effective up to 24 fibres** than multi-tube cables.
With standard or improved rodent protection.
- These cables are **all dielectric** and therefore immune to lightning and electromagnetic interference (EMC-safe), spark-free and require no earthing.
- **Predicted lifetime > 30 years.**

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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 glass yarns as strength members and for the longitudinal watertightness and the **improved rodent protection**.
4. Black UV resistant PE 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)	3.3
nom./max. (mm)	7.1 / 7.4
Energy of flame (kJ/m)	1056
Weight (kg/km)	44

Optical Characteristics

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

European P/N Coding, Position 5	Fibre-Type	Mode-Field /Cladding Diameter (um)	Wave-length (nm)	Attenuation ^B typical/ max. (dB/km)	Dispersion (ps/(nm·km))	PMD ^A (ps/km)	Cable Cut-off Wave-length (nm)
7	9/125 G.655 C&D	8.4 ± 0.6 125 ± 0.7	1550 1625	0.2 / 0.22 0.21 / 0.24	≤ 4.5 ≤ 7.9	≤ 0.04	≤ 1260
8	9/125 G.652D & G.657A1 BI OS2	9.2 ± 0.4 125 ± 0.7	1310 1550 1625	0.33 / 0.34 0.18 / 0.19 0.20 / 0.24	≤ 3.2 ≤ 17	≤ 0.06	≤ 1260
F	9/125 G.657A2 BI	8.9 ± 0.4 124.8 ± 0.3	1310 1550 1625	0.34 / 0.35 0.19 / 0.21 0.20 / 0.24	≤ 3.5 ≤ 18	≤ 0.2	≤ 1260
I	9/125 G.657B3 BI	8.8 ± 0.4 125 ± 0.4	1310 1550 1625	0.34 / 0.35 0.19 / 0.21 0.20 / 0.23	≤ 3.5 ≤ 18	≤ 0.06	≤ 1260

Note A- Link design value

Note B- Due to cabling the optical attenuation values can increase with max. 0.05 dB/km

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

European P/N Coding, Position 5	Fibre-Type	Core/ Cladding Diameter (um)	Wave-length (nm)	Attenuation ^C typical/ max. (dB/km)	Bandwidth (MHz·km)	Ethernet Performance (m)		Num. Apert. (µm)
						1 GBE	10 GBE	
1	62.5/125 OM1	62.5 ± 2.5 125 ± 1	850 1300	2.7 / 3.0 0.7 / 0.8	≥ 200 ≥ 600	220 550	33 300	0.275 ± 0.015
2	50/125 OM2 BI	50 ± 2.5 125 ± 1	850 1300	2.3 / 2.5 0.5 / 0.6	≥ 500 ≥ 500	600 600	83 300	0.20 ± 0.015
D	50/125 OM3 BI	50 ± 2.5 125 ± 1	850 1300	2.3 / 2.5 0.5 / 0.6	≥ 1500 ≥ 500	1000 550	300 300	0.20 ± 0.015
E	50/125 OM4 BI	50 ± 2.5 125 ± 1	850 1300	2.3 / 2.5 0.5 / 0.6	≥ 3500 ≥ 500	1100 550	550 300	0.20 ± 0.015

Note C- Due to cabling the optical attenuation values can increase with max. 0.4 dB/km

Macro Bending Performance Fibers

Maximum attenuation increase for Bend Insensitive Single Mode fibers in dB depending on turns and radius.

European P/N Coding, Position 5	Fibre-Type	Wave-length (nm)	Turns 100 Radius 30 mm (dB)	Turns 10 Radius 15 mm (dB)	Turn 1 Radius 16 mm (dB)	Turn 1 Radius 10 mm (dB)	Turn 1 Radius 7.5 mm (dB)	Turn 1 Radius 5 mm (dB)
7	9/125 G.655 C & D	1550 1625	0.05 0.05		0.5 0.5			
8	9/125 G.652D & G.657A1 BI OS2	1550 1625	0.03 0.03	0.25 1.0		0.75 1.5		
F	9/125 G.657A2 BI	1550 1625		0.03 0.1		0.1 0.2	0.5 1.0	
I	9/125 G.657B3 BI	1550 1625				0.03 0.1	0.08 0.25	0.15 0.45

Maximum attenuation increase for Bend Insensitive Multi Mode fibers in dB depending on turns and radius.

European P/N Coding, Position 5	Fibre-Type	Wave-length (nm)	Turns 100 Radius 37.5 mm (dB)	Turns 2 Radius 15 mm (dB)	Turns 2 Radius 7.5 mm (dB)
1	62.5/125 OM1	850 1300	0.5 0.5		
2	50/125 OM2 BI	850 1300	0.5 0.5	0.1 0.3	0.2 0.5
D	50/125 OM3 BI	850 1300	0.5 0.5	0.1 0.3	0.2 0.5
E	50/125 OM4 BI	850 1300	0.5 0.5	0.1 0.3	0.2 0.5

Mechanical, Physical and/or Environmental Characteristics

Description:	Tested according to:	Requirement:	According to Family specification:
Storage Temperature Range	IEC 60794-1-22-F1	-30 to +70 °C	IEC 60794-3-10
Installation Temperature Range		-5 to +50 °C	
Operating Temperature Range		-30 to +70 °C	
Bending Radius Tube (Installation and Operation)		> 25 mm	
Cable Water Blocking	IEC 60794-1-22-F5	Pass	
Cable Min. Bend Radius Operation (Long Term)	IEC 60794-1-21-E11	10 x Cable Diam.	IEC 60794-3-10
Cable Min. Bend Radius Installation (Short Term)	IEC 60794-1-21-E6	20 x Cable Diam.	
Cable Max. Tensile Strength Operation (Long Term)	IEC 60794-1-21-E1	1000 N	IEC 60794-3-10
Cable Max. Tensile Strength Installation (Short Term)		3000 N	
Cable Max. Crush Resistance Operation (Long Term)	IEC 60794-1-21-E3	7.5 kN/m	IEC 60794-3-10
Cable Max. Crush Resistance Installation (Short Term)		15 kN/m	

Safety

	Testing standard
Toxicity	NF X 70-100-2

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

- Universal (halogen-free) cables for outdoor and/or indoor use.
- **Non-standard cable constructions**, colours, details and/or additional information regarding specifications are available on request.