

GIPS__2

Interconnect Cables

Indoor

I-K(ZN)H

2017-02-28 v10.0

Ordering Information

Belden European Part Numbers

Fibre Description / count	1.6	1.8	2.0	2.1	2.4	2.8	3.0
62.5/125-OM1	GIPS1A2	GIPS1B2	GIPS1C2	GIPS1H2	GIPS1D2	GIPS1E2	GIPS1F2
50/125-OM2 BI	GIPS2A2	GIPS2B2	GIPS2C2	GIPS2H2	GIPS2D2	GIPS2E2	GIPS2F2
50/125-OM3 BI	GIPSDA2	GIPSDB2	GIPSDC2	GIPSDH2	GIPSDD2	GIPSD E2	GIPSD F2
50/125-OM4 BI	GIPSEA2	GIPSEB2	GIPSEC2	GIPSEH2	GIPSED2	GIPSEE2	GIPSEF2
9/125 ITU G.657A1 BI	GIPSAA2	GIPSAB2	GIPSAC2	GIPSAH2	GIPSAD2	GIPSAE2	GIPSAF2
9/125 ITU G.657A2 BI	GIPSFA2	GIPSFB2	GIPSFC2	GIPSFH2	GIPSFD2	GIPSFE2	GIPSFF2
9/125 ITU G.657B3 BI	GIPSIA2	GIPSIB2	GIPSIC2	GIPSIH2	GIPSID2	GIPSIE2	GIPSIF2
Std. plastic reel (non-returnable)	Ø 238 * 107 mm weight 0.4 kg						
Std. delivery length	2100 ± 105m						

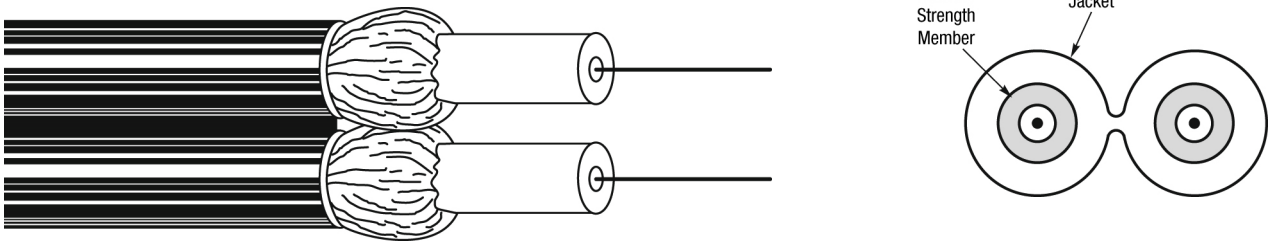
Applications

- **Flexible terminating leads** such as pigtailed, patchcords and test leads.
- Support all computer network applications such as **FDDI, Gigabit Ethernet and ATM.**
- Short distance applications for indoor use.

Features & Benefits

- These cables are based on **excellent strippable** semi-tight buffered optical fibres
- **All dielectric** (metal-free) optical fibre leads permitting **direct (detensioned) termination with connectors.**
- These cables are **halogen free (FRNC / LSNH)**
- **Predicted lifetime > 30 years.**

Construction & Dimensions



Cable Specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres: $\varnothing 245 \pm 10 \mu\text{m}$.
2. Dry FRNC / LSNH Semi-Tight buffer: $\varnothing 0.90 \pm 0.05 \text{ mm}$.
3. Aramid yarns as strength members.
4. Halogen-free (FRNC/LSNH) outer jacket.

Identification: BELDEN OFC – "cable type" – "number x type of fibre" + date-, meter- and P/N-marking.

Mechanical Data

Diameter	1.6	1.8	2.0	2.1	2.4	2.8	3.0
\varnothing nom, out (mm)	1.6 x 3.3 ± 0.2	1.8 x 3.7 ± 0.2	2.0 x 4.1 ± 0.2	2.1 x 4.3 ± 0.2	2.4 x 4.9 ± 0.2	2.8 x 5.7 ± 0.2	3.0 x 6.1 ± 0.2
\varnothing nom, in (mm)	1.3 \pm 0.1	1.3 \pm 0.1	1.3 \pm 0.1	1.4 \pm 0.1	1.8 \pm 0.2	1.8 \pm 0.2	1.8 \pm 0.2
Weight (kg/km)	5.9	6.5	8.7	8.9	11.3	14.5	18.3
Energy of Flame (kJ/m)	106	114	128	138	156	186	208

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)
A	9/125 G.657A1 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	≤ 0.06	≤ 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	≤ 0.06	≤ 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 0.15 dB/km (1310 nm), max. 0.09 dB/km (1550 nm) and max. 0.27 dB/km (1625 nm)

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. (um)
						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 25 mm (dB)	Turns 10 Radius 15 mm (dB)	Turn 1 Radius 10 mm (dB)	Turn 1 Radius 7.5 mm (dB)	Turn 1 Radius 5 mm (dB)
A	9/125 G.657A1	1550 1625	0.01 0.05	0.2 0.5	0.2 0.5		
F	9/125 G.657A2	1550 1625		0.03 0.1	0.1 0.2	0.5 1.0	
I	9/125 G.657B3	1550 1625			0.03 0.10	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 Installation Temperature Range Operating Temperature Range	IEC 60794-1-22-F1	-40 to +70 °C -15 to +50 °C -40 to +70 °C	IEC 60794-2-10
Strippability Secondary coating only Secondary + primary coating		≤ 30 cm ≤ 10 mm	
Bending radii for fibres and tight buffers Installation/operation For Bend Insensitive fibres		>25 mm see Optical Characteristics	
Cable Min. Bend Radius Operation (Long Term) For Bend Insensitive fibres:	IEC 60794-1-21-E11	60mm see Optical Characteristics	IEC 60794-2-10
Cable Max. Tensile Strength Operation (Long Term) Cable Max. Tensile Strength Installation (Short Term)	IEC 60794-1-21-E1	150 N 150 N	IEC 60794-2-10
Cable Max. Crush Resistance Installation (Short Term)	IEC 60794-1-21-E3	5 kN/m	IEC 60794-2-10

Safety

	Testing standard	Description / Value
Reaction to fire	IEC 60332-1 UL 1666 EN 50575	Eca
Smoke density	IEC 61034-2	
Halogen acid gas content	IEC 60754-1	Zero
Degree of acidity of gases	IEC 60754-2 IEC 60754-2	Min. 4.3 pH Max. 10 µS/mm

Guide to installation and handling

- It is vitally important to not exceed the specified values.
- Interconnection optical fibre cables have been designed for short distance (≤ 10 m) applications inside buildings.

Options

- Tight Buffered fibres.
- Non standard colours.