

GIOS_G1

Interconnect Cables

Indoor

I-K

2015-09-30 v10.0

Ordering Information

Belden European Part Numbers

| Fibre Description / count | 1 |
|---------------------------------------|---------------------------------|
| 62.5/125-OM1 | GIOS1G1 |
| 50/125-OM2 BI | GIOS2G1 |
| 50/125-OM3 BI | GIOSDG1 |
| 50/125-OM4 BI | GIOSEG1 |
| 9/125 ITU G.657A1 BI | GIOSAG1 |
| 9/125 ITU G.657A2 BI | GIOSFG1 |
| 9/125 ITU G.657B3 BI | GIOSIG1 |
| Std. plastic reel (non-returnable) | ∅ 238 * 107 mm weight 0.4 kg |
| Std. delivery length | 2100 ± 105m |

Applications

- Structured (premises) wiring systems.
- Support all computer network applications such as **FDDI, Gigabit Ethernet and ATM.**

Features & Benefits

- Dry **FRNC / LSNH** Semi-Tight buffered fibres with excellent strippability.
- Colored fibre and colored buffer.
- **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. Individually colour coded optical fibres:
Red – grey – yellow – blue – green – violet – brown – black – orange – turquoise – pink and white.

Mechanical Data

| No. of fibres | 1 |
|-------------------------|------|
| \varnothing nom. (mm) | 0.9 |
| Weight (kg/km) | 0.67 |
| Energy of Flame (kJ/m) | 19 |

Jacket colours

| Color | Dark | | Light | |
|-----------|---------------|--------------|--------------------|--------------|
| | Color Code | Color sample | Color Code | Color sample |
| Yellow | Like RAL 1021 | | Like Pantone 100C | |
| Blue | Like RAL 5015 | | Like Pantone 2905C | |
| Green | Like RAL 6018 | | Like RAL 6019 | |
| Red | Like RAL 3000 | | Like RAL 3015 | |
| White | Like RAL 9010 | | | |
| Brown | Like RAL 8003 | | | |
| Orange | Like RAL 2003 | | | |
| Black | Like RAL 9005 | | | |
| Pink | Like RAL 3015 | | | |
| Grey | Like RAL 7000 | | | |
| Turquoise | Like RAL 6027 | | | |
| Purple | Like RAL 4005 | | | |

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: |
|---|----------------------|---------------------|
| Storage Temperature Range | IEC 60794-1-22-F1 | -40 to +70 °C |
| Installation Temperature Range | | -15 to +50 °C |
| Operating Temperature Range | | -40 to +70 °C |
| Strippability Secondary coating only Secondary + primary coating | | ≤ 100 cm ≤ 25 mm |
| Cable Max. Tensile Strength Operation (Long Term) | IEC 60794-1-21-E1 | 3 N |
| Cable Max. Tensile Strength Installation (Short Term) | | 3 N |
| Cable Max. Crush Resistance Installation (Short Term) | IEC 60794-1-21-E3 | 0.5 kN/m |

Safety

| | Testing standard | Description / Value |
|-----------------------------------|------------------|---------------------|
| Halogen acid gas content | IEC 60754-1 | Zero |
| Degree of acidity of gases | IEC 60754-2 | Min. 4.3 pH |
| | IEC 60754-2 | Max. 10 µS/mm |

Guide to installation and handling

- It is vitally important to not exceed the specified values.
- Semi-Tight buffered optical fibres have been designed for short distance (≤ 10 m) applications.

Options

- Non standard colours.
- Tight buffered fibres.