

GCRD

Multi Loose Tube Cables

Outdoor

A/I-DQ(ZN)BH

Improved Rodent Protection

Ordering Information

Belden European Part Numbers

Fibre type / count	24	36	48	60	72
62.5/125-OM1	GCRD124	GCRD136	GCRD148	GCRD160	GCRD172
50/125-OM2 BW 600/1200	GCRD224	GCRD236	GCRD248	GCRD260	GCRD272
50/125-OM3	GCRD324	GCRD336	GCRD348	GCRD360	GCRD372
50/125-OM2e	GCRD424	GCRD436	GCRD448	GCRD460	GCRD472
50/125-OM2 BW 500/500	GCRD524	GCRD536	GCRD548	GCRD560	GCRD572
50/125-OM4	GCRD624	GCRD636	GCRD648	GCRD660	GCRD672
9/125 ITU G.655	GCRD724	GCRD736	GCRD748	GCRD760	GCRD772
9/125 ITU G.652D-OS2	GCRD824	GCRD836	GCRD848	GCRD860	GCRD872
Std. plywood reel (non-returnable)	Ø 1250 * 688 mm 93 kg				
Std. delivery length	2100 ± 100m				

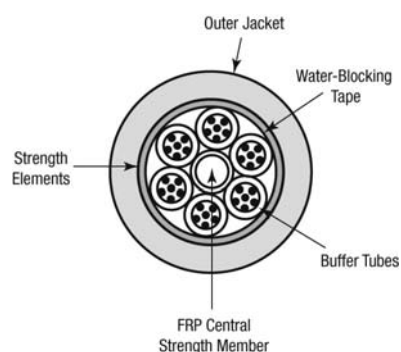
Applications

- For **outdoor and indoor** use in structured (data) wiring systems such as (**campus backbone**).
- For **outdoor and indoor** use in networks for telecom, cable TV and/or broadcast.
- Easy to install in ducts, tunnels and trenches by means of compressed air or pulling wire.
- Suitable for direct burial.

Features & Benefits

- **Installation friendly dry interstices** between the loose tubes.
- **Improved rodent protection** provided by waterblocking glassyarns.
- **Predicted lifetime > 30 years.**

Construction & Dimensions



Cable Specifications (construction in accordance with IEC 60794)

1. Dielectric central element of glass reinforced plastic (GRP), also as protection against kinks, surrounded by swelling yarns.
2. Jelly filled (non-dripping and silicon-free) loose tubes with primary coated optical fibres ($\varnothing 250 \pm 15 \mu\text{m}$).
Individually colour coded optical fibres: red – green – blue – yellow – violet – pink – orange – black – grey – brown – white – turquoise.
3. The loose tubes are stranded around the central element, if necessary with fillers (PE-natural), surrounded by swelling tape.
Colour coding of the loose tubes: 1. red – 2. green – rest white.
4. Swellable (for the longitudinal watertightness) glass yarns as strength members.
5. Black UV resistant FRNC/LSNH outer jacket.
Identification: BELDEN OFC – “cable type” – “number x fibre type” + date-, meter- and P/N marking.

Mechanical Data

No. of fibres	Max. 72
Cable core	6 tubes
$\varnothing$ Central element (mm)	2.6
$\varnothing$ Loose tube (mm)	2.5
$\varnothing$ nom./max. (mm)	13.7 / 14.0
Energy of flame (kJ/m)	3000
Weight (kg/km)	169

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 h (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 Installation Operation	-30 to + 70 °C -5 to + 50 °C -30 to + 70 °C
Pulling tension according to IEC 60794-1-2-E1 Long term Short term	≤ 3500 N ≤ 7000 N
Bending radii for fibres and tubes Installation/operation	>25 mm
Watertightness according to IEC 60794-1-2-F5	Pass
Crush resistance according to IEC 60794-1-2-E3 Cable	≤ 20 KN/m
Bending radii cable Static according to IEC 60794-1-2-E11 Dynamic according to IEC 60794-1-2-E6	15 x Ø 20 x Ø
Flame retardancy according to IEC 60332-3-22 (EN 50266-2-2) IEC 61034 (EN 50268)	Pass 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

- Cables for outdoor use.
- **Non-standard cable constructions**, colors, 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	30/11/09	JW
04	Changed diameter, energy and weighth	22/11/10	TvR
Date: 18/12/08		Page 1 of 1	Part Number:
Orig.: SN		Review:	GCRD