

GCDG

Multi Loose Tube Cables

Universal – Indoor / Outdoor - Corrugated Steel Tape Armor (CST)

A/I-DQ(ZN)H(SR)H

Full Rodent Protection

Ordering Information

Belden European Part Numbers

Fibre type / count	4	6	8	12	18	24	30	36
62.5/125-OM1	GCDG104	GCDG106	GCDG108	GCDG112	GCDG118	GCDG124	GCDG130	GCDG136
50/125-OM2 BW 600/1200	GCDG204	GCDG206	GCDG208	GCDG212	GCDG218	GCDG224	GCDG230	GCDG236
50/125-OM3	GCDG304	GCDG306	GCDG308	GCDG312	GCDG318	GCDG324	GCDG330	GCDG336
50/125-OM2e	GCDG404	GCDG406	GCDG408	GCDG412	GCDG418	GCDG424	GCDG430	GCDG436
50/125-OM2 BW 500/500	GCDG504	GCDG506	GCDG508	GCDG512	GCDG518	GCDG524	GCDG530	GCDG536
50/125-OM4	GCDG604	GCDG606	GCDG608	GCDG612	GCDG618	GCDG624	GCDG630	GCDG636
9/125 ITU G.655	GCDG704	GCDG706	GCDG708	GCDG712	GCDG718	GCDG724	GCDG730	GCDG736
9/125 ITU G.652D-OS2	GCDG804	GCDG806	GCDG808	GCDG812	GCDG818	GCDG824	GCDG830	GCDG836
Std. plywood reel (non-returnable)	Ø 1250 * 688 mm 93 kg							
Std. delivery length	2100 ± 100m							

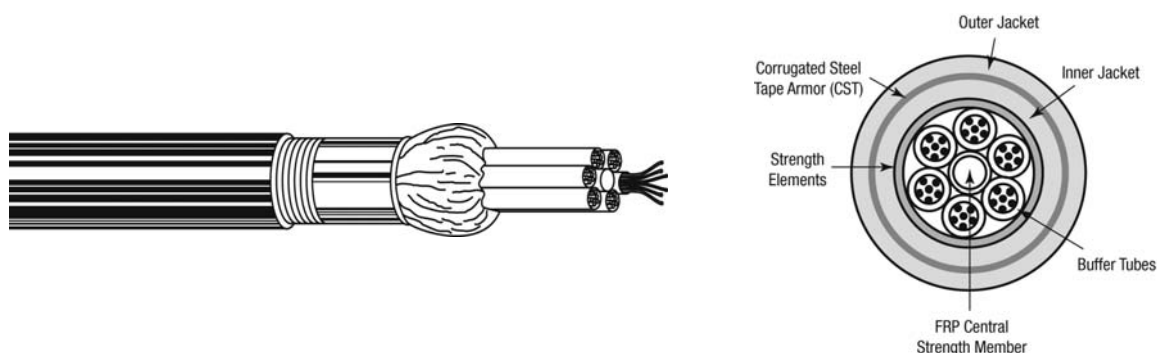
Applications

- 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 (crush ≤ 400 N/cm).

Features & Benefits

- **Installation friendly dry interstices** between the loose tubes.
- **High mechanical and full rodent protection** provided by corrugated steel tape (**CST**) armor.
- **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 ($\text{Ø } 250 \pm 15 \mu\text{m}$). Individually colour coded optical fibres: red – green – blue – yellow – violet – pink.
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) aramid yarns as strength members.
5. FRNC/LSNH inner jacket.
6. Corrugated Steel Tape Armoring (CST): longitudinally applied steel tape (0.155 mm).
7. 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. 36
Cable core	6 tubes
Ø Central element (mm)	1.9
Ø Loose tube (mm)	1.9
Ø nom./max. (mm)	13.2 / 13.5
Energy of flame (kJ/m)	2800
Weight (kg/km)	195

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. (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	-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	≤ 3000 N
	Short term	≤ 4000 N
Bending radii for fibres and tubes	Installation/operation	>25 mm
Watertightness (core + inner jacket)	according to IEC 60794-1-2-F5	Yes
Crush resistance according to IEC 60794-1-2-E3	Armoured Central Loose Tube Cable	≤ 50 KN/m
Bending radii cable	Static according to IEC 60794-1-2-E11	15 x Ø
	Dynamic according to IEC 60794-1-2-E6	20 x Ø
Flame retardancy according to	IEC 60332-3-22 (EN 50266-2-2)	Pass
	IEC 61034 (EN 50268)	Pass
Circuit Integrity according to	EN 50200	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 only.
- **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	30/11/09	JW
04	Extended description watertightness, adjust max. Pulling tension (short-term)	22/03/10	SN
05	Changed energy and weight	22/11/10	TvR
06	Add Circuit integrity	06/02/12	SN
Date: 15/07/08		Page 1 of 1	
Orig.: SN		Review:	
			Part Number: GCDG