BELDEN
SENDING ALL THE RIGHT SIGNALS

Technical Data Sheet

GCDD

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	24	36	48	60	72
62.5/125-OM1	GCDD124	GCDD136	GCDD148	GCDD160	GCDD172
50/125-OM2 BW 600/1200	GCDD224	GCDD236	GCDD248	GCDD260	GCDD272
50/125-OM3	GCDD324	GCDD336	GCDD348	GCDD360	GCDD372
50/125-OM2e	GCDD424	GCDD436	GCDD448	GCDD460	GCDD472
50/125-OM2 BW 500/500	GCDD524	GCDD536	GCDD548	GCDD560	GCDD572
50/125-OM4	GCDD624	GCDD636	GCDD648	GCDD660	GCDD672
9/125 ITU G.655	GCDD724	GCDD736	GCDD748	GCDD760	GCDD772
9/125 ITU G.652D-OS2	GCDD824	GCDD836	GCDD848	GCDD860	GCDD872
Std. plywood reel (non-returnable)	Ø 1400 * 900 mm 120 kg				
Std. delivery length	2100 ± 100m				

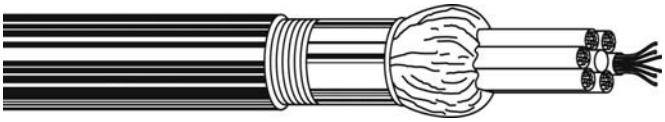
Applications

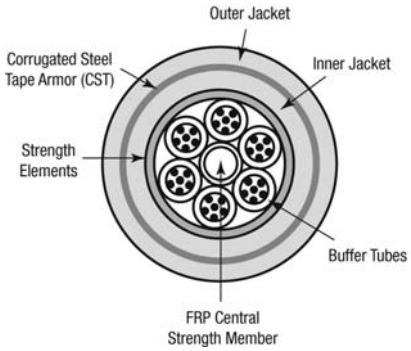
- For **outdoor and indoor** use in structured (data) wiring systems such as (**campus backbone)**.
- For **outdoor and indoor** use in networks for telecom, cable TV and/or broadcast.
- Easy to install in ducts, tunnels and trenches by means of compressed air or pulling wire.
- Suitable for direct burial (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 (Ø 250 ± 15 µm). 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) 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. 72
Cable core	6 tubes
Ø Central element (mm)	2.7
Ø Loose tube (mm)	2.5
Ø nom./max. (mm)	15.2 / 15.5
Energy of flame (kJ/m)	3900
Weight (kg/km)	280

Optical Characteristics

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

European Partnumber Coding, Position 5	Fibre-Type	Mode-Field /CladdingDiameter (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	
Tansport/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	≤ 3500 N
Short term	≤ 7000 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
IEC 60331-25	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 **vitally 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	22/03/10	SN
05	Changed energy	22/11/10	TvR

Date: 03/08/09	Page 1 of 1	Part Number:
Orig.: SN	Review:	GCDD