

## GDDF

Multi Loose Tube Cables  
Outdoor - Corrugated Steel Tape Armor (CST)  
A-DF(ZN)2Y(SR)2Y  
Full Rodent Protection

### Ordering Information

Belden European Part Numbers

Fibre type / count	108	120	132	144
62.5/125-OM1	GDDF108	GDDF120	GDDF132	GDDF144
50/125-OM2 BW 600/1200	GDDF208	GDDF220	GDDF232	GDDF244
50/125-OM3	GDDF308	GDDF320	GDDF332	GDDF344
50/125-OM2e	GDDF408	GDDF420	GDDF432	GDDF444
50/125-OM2 BW 500/500	GDDF508	GDDF520	GDDF532	GDDF544
50/125-OM4	GDDF608	GDDF620	GDDF632	GDDF644
9/125 ITU G.655	GDDF708	GDDF720	GDDF732	GDDF744
9/125 ITU G.652D-OS2	GDDF808	GDDF820	GDDF832	GDDF844
Std. plywood reel (non-returnable)	Ø 1400 * 900 mm 120 kg			
Std. delivery length	2100 ± 100m			

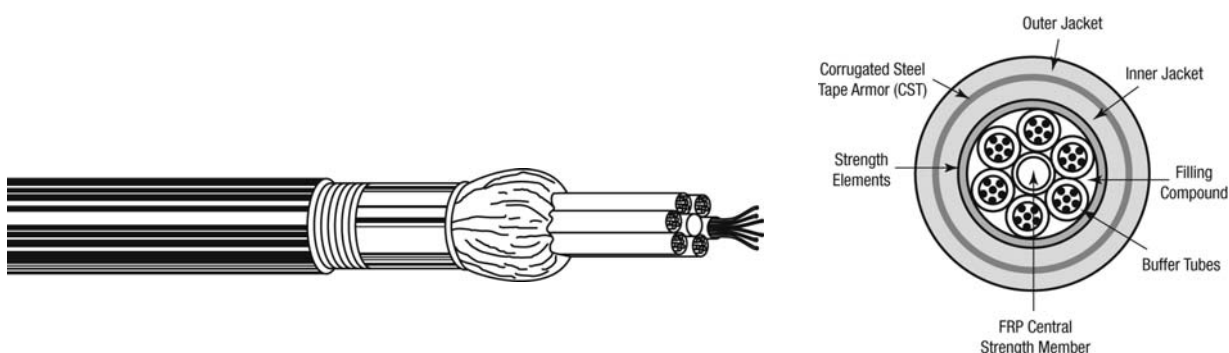
### Applications

- For **outdoor** use in structured (data) wiring systems such as (**campus backbone**).
- For **outdoor** 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

- **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.
  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).  
Colour coding of the loose tubes: 1. red – 2. green – rest white.
  4. Jelly filling compound between interstices, and PET foil over cable core.
  5. Swellable (for the longitudinal watertightness) aramid yarns as strength members.
  6. PE inner jacket.
  7. Corrugated Steel Tape Armoring (CST): longitudinally applied steel tape (0.155 mm).
  8. Black UV resistant PE outer jacket.
- Identification: BELDEN OFC – “cable type” – “number x fibre type” + date-, meter- and P/N marking.

## Mechanical Data

No. of fibres	Max. 144
Cable core	12 tubes
$\varnothing$ Central element (mm)	3.0/7.5
$\varnothing$ Loose tube (mm)	2.5
$\varnothing$ nom./max. (mm)	20.5 / 20.8
Energy of flame (kJ/m)	11400
Weight (kg/km)	377

## 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 <sup>A</sup>	≤ 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	
<b>Temperature range</b> according to IEC 60794-1-2-F1 Transport/storage Installation Operation	-30 to + 70 °C -5 to + 50 °C -30 to + 70 °C
<b>Pulling tension</b> according to IEC 60794-1-2-E1 Long term Short term	≤ 4000 N ≤ 8000 N
<b>Bending radii for fibres and tubes</b> Installation/operation	>25 mm
<b>Watertightness (core + inner jacket)</b> according to IEC 60794-1-2-F5	Yes
<b>Crush resistance</b> according to IEC 60794-1-2-E3 Armoured Central Loose Tube Cable	≤ 50 KN/m
<b>Bending radii cable</b> Static according to IEC 60794-1-2-E11 Dynamic according to IEC 60794-1-2-E6	15 x Ø 20 x Ø

## 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 indoor/outdoor use.
- **Non-standard cable constructions**, colours, details and/or additional information regarding specifications are available on request.

## Revision

Rev.	Description	Date	Init.
02	Extended description watertightness	22/03/10	SN
03	Changed energy	22/11/10	TvR
Date: 15/02/10		Page 1 of 1	
Orig.: SN		Part Number: GDDF	
Review:			