GMRT

Mini-Breakout Cables (Distribution)
Mobile, Tactical – Indoor/ Outdoor, Heavy Duty
A/I-VQ(ZN)11Y(ZN)11Y
Improved Rodent Protection

Ordering Information

Belden European Part Numbers

Fibre type / count	2	4	6	12	16	24
62.5/125-OM1	GMRT102	GMRT104	GMRT106	GMRT112	GMRT116	GMRT124
50/125-OM2 BW 600/1200	GMRT202	GMRT204	GMRT206	GMRT212	GMRT216	GMRT224
50/125-OM3	GMRT302	GMRT304	GMRT306	GMRT312	GMRT316	GMRT324
50/125-OM3 Flex	GMRTD02	GMRTD04	GMRTD06	GMRTD12	GMRTD16	GMRTD24
50/125-OM4	GMRT602	GMRT604	GMRT606	GMRT612	GMRT616	GMRT624
50/125-OM4 Flex	GMRTE02	GMRTE04	GMRTE06	GMRTE12	GMRTE16	GMRTE24
9.125 ITU G.657A	GMRTA02	GMRTA04	GMRTA06	GMRTA12	GMRTA16	GMRTA24
Std. plywood reel (non-returnable)	Ø1000*588mm 83kg					
Std. delivery length	2100 ± 100m					

Applications

- These metal-free tactical cables have been designed for de-spooling and re-spooling repeatedly.
- Support computer network applications such as FDDI, Gigabit Ethernet and ATM.
- Easy to install. Not recommended for direct burial.

Features & Benefits

- Extremely strong, rugged, survivable tight-buffered cables for severe environments.
- These cables are halogenfree, flame retardant and watertight and therefore suitable for indoor and outdoor use.
- Helically stranded cable core for flexibility and outstanding mechanical protection for the fibers.
- Core-bonded Polyurethane inner and outer jacket providing simple installation.
- Glass-rovings between inner and outer jacket for improved mechanical strength.
- Predicted lifetime > 30 years.

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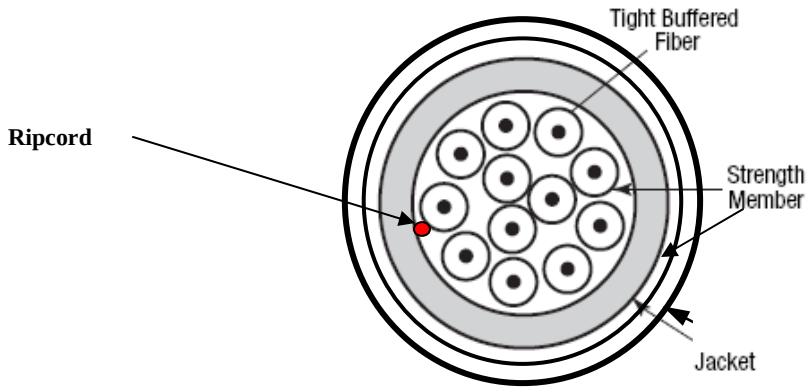
Construction & Dimensions



Cable Specifications (construction in accordance with IEC 60794)

1. Primary coated optical fibres: Ø 280 ± 15 µm.
2. Tight buffered fibres: Ø 0.9 ± 0.1 mm. Colour coding of the buffered fibres:
   white – red – blue – yellow – green – violet – brown – black – orange– turquoise – pink – grey.
   the secondary coating of fibres 1 – 12 is coloured
   the primary coating of fibres 13 – 16 is coloured and the secondary coating is transparent.
3. Swellable aramid yarns as common strength members and for the longitudinal watertightness.
4. **Black Polyurethane** inner jacket with (polyester) rip cord..
5. Swellable glassyarns as additional **strength members.**
6. **Black Polyurethane** outer jacket.

Identification: BELDEN OFC – HEAVY DUTY TACTICAL CABLE – ”number x type of fibre” +date-, meter- and P/N-marking.

Mechanical Data

No. of fibres	2	4	6	12	16	24
Ø Inner jacket nom. (mm)	5.8	5.8	7.0	8.2	8.3	8.5
Ø Outer jacket nom. (mm)	9.2	9.2	9.9	10.9	11.1	11.3
Max. pulling tension (N)						
Long term	1600	1600	1600	2200	2200	2200
Short term	2400	2400	2400	3300	3300	3300
Energy of flame (kJ/m)	1180	1256	1500	2270	2512	2720
Weight (kg/km)	87	88	99	103	175	200

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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)
A	**9/125 G.657A**	8.9 ± 0.4 125 ± 0.3	1310 1550 1625	0.35 / 0.5 0.21 / 0.3 0.24 / 0.4	≤ 3.5 ≤ 18	≤ 0.2	≤ 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	Core/ Cladding Diameter (um)	Wave-length (nm)	Attenuation average/ max. (dB/km)	Bandwidth (MHz•km)	Ethernet Performance (m)		Num. Apert. (µm)
						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
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
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
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
D	**50/125 OM3 Flex**	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
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
E	**50/125 OM4 Flex**	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

A test report (attenuation) is supplied with each delivery.

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Mechanical, Physical and/or Environmental Characteristics

Requirements		
Temperature range according to IEC 60794-1-2-F1 Transport/storage Installation Operation	-70 to + 85 ˚C -5 to + 50 ˚C -55 to + 85 ˚C	
Pulling tension according to IEC 60794-1-2-E1	See table with dimensions	
Bending radii for fibres Installation/operation (all fiber): Only for G657A: Only for OM3 Flex and OM4 Flex:	>25 mm Max. increase 0.02 dB/turn @1550nm with 32 mm Max. increase 0.20 dB/turn @1550nm with 20 mm Max. increase 0.20 dB/turn @850nm with 7.5 mm Max. increase 0.50 dB/turn @1300nm with 7.5 mm	
Strippability Secondary coating only Secondary + primary coating	≤ 10 cm ≤ 10 mm	
Watertightness according to IEC 60794-1-2-F5	Yes	
Crush resistance according to IEC 60794-1-2-E3 Tight buffer Cable	≤ 4000 N/ m ≤ 50 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	Only for G657A, OM3 Flex, OM4 Flex fiber: 4 x Ø 8 x Ø
Flame retardancy according to: IEC 60332-2 (EN 50265-2-2)	Pass	
Repeated bending according to IEC 60794-1-2-E6	> 700.000 times	

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.
- If a cable needs to be fastened, constrictions ≥ 0.3 mm must be prevented.
- It is advisable to cap the cable-ends during storage.

Options

- Non-standard cable constructions with different colours, details and/or additional information regarding specifications are available on request.

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Revision

Rev.	Description	Date	Init.
02	OM3+ changed to OM4	13/10/09	JW
03	Add OM3 Flex and OM4 Flex	30/08/2010	SN
04	Add 2 fibre constuction	19/10/2010	HB
05	Change diameter 4f	13/01/2012	SN
06	Cable Crush adjusted	14/02/2012	SN
07	16f added	16/03/2012	SN
08	Add halogenfree	02/07/2013	SN
09	Adjust Bending radii cable	25/07/2013	SN
10	Remove outer ripcord	19/02/2014	SN
11	Added 6 and 24 fibre construction; deleted Fiber types G652D, G655 and OM2e.	09/07/2014	TvR

Date: 16/10/08	Page 1 of 1	Part Number:
Orig.: SN	Review:	**GMRT**

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