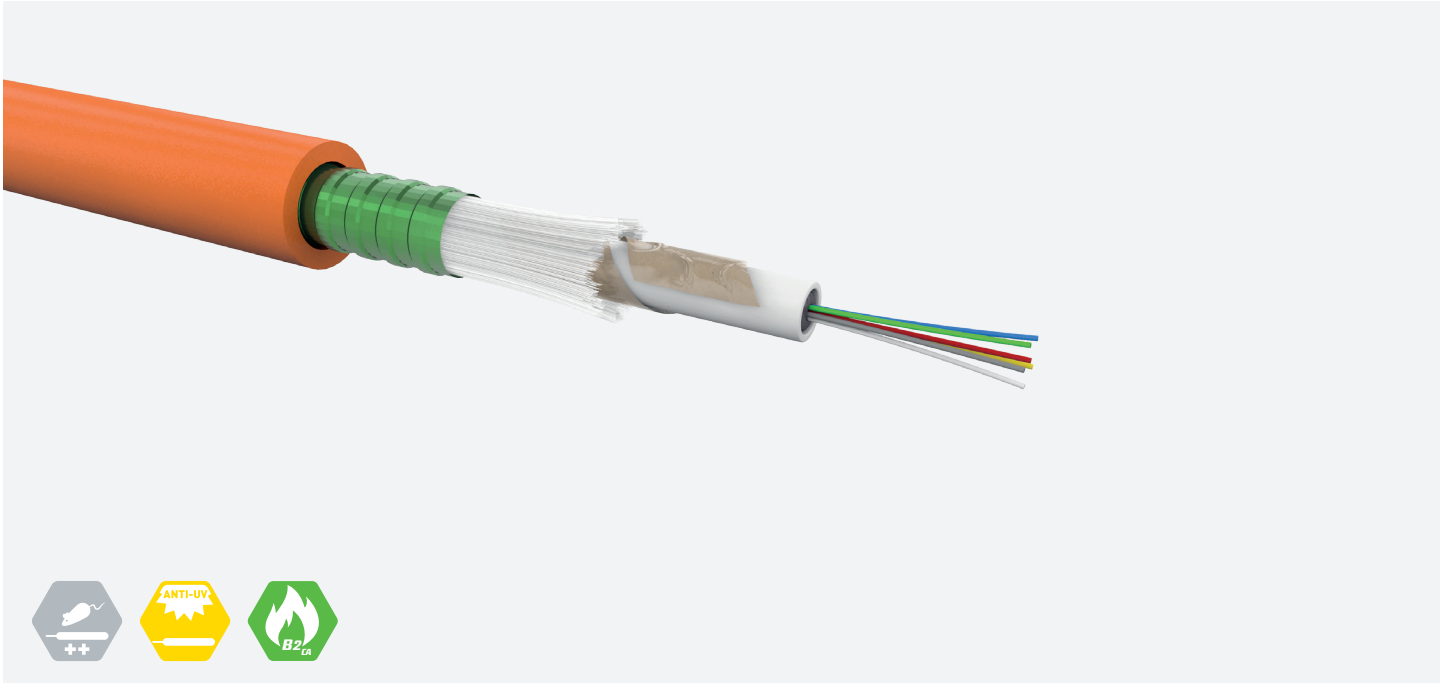




## INDOOR/OUTDOOR CENTRAL LOOSE TUBE FIRE RESISTANT CABLE (180 min)

GGM FxxBxCFIRST



### FIBRE COLOUR CODE

ACCORDING IEC 60304

1 Red	13 Red*
2 Green	14 Green*
3 Blue	15 Blue*
4 Yellow	16 Yellow*
5 White	17 White*
6 Grey	18 Grey*
7 Brown	19 Brown*
8 Purple	20 Purple*
9 Aqua	21 Aqua*
10 Black	22 Natural*
11 Orange	23 Orange*
12 Pink	24 Pink*

\* with black rings

### FEATURES

- ▶ Central loose tube 250 µm optical fibre, with a thin layer of gel
- ▶ Up to 48 fibres (with 2 bundles of 24F)
- ▶ Multimode 50/125 OM3, 50/125 OM4 or singlemode 9/125 OS2
- ▶ Easy slitting
- ▶ MMF fibres compliant to ITU-T G651.1
- ▶ SMF fibers compliant to ITU-T G652B/G652D
- ▶ OM3 & OM4 fibres integrate bend optimized fiber technology
- ▶ Indoor/outdoor rated cable with corrugated steel tape & water-swallowable glass yarns protection against rodents
- ▶ Fire barrier with 2 layers of mica tape
- ▶ Low smoke, Halogen Free Flame Retardant (HFFR) & UV resistant
- ▶ Circuit integrity: 180 min (IEC 60331-25)
- ▶ Circuit integrity with shock: 120 min (EN 50200)
- ▶ EN 13501-6 Fire rating: B2ca-s1a, d1, a1
- ▶ Fire behaviour according to EN 50575, EN 50399, EN 60332-3, EN 61034-2, EN 60754-2
- ▶ Compliant to IEC 60794-1 cable performance requirements
- ▶ IEC 60304 colour coded
- ▶ Outer jacket color: orange
- ▶ Standard put up: 2000 m

**CABLE PERFORMANCES**

	6 FIBRES	12 FIBRES	24 FIBRES	48 FIBRES
<b>Temperature</b>	<b>Operating</b>	-40 °C to +70 °C		
	<b>Storage</b>	-40 °C to +70 °C		
	<b>Installation</b>	-30 °C to +60 °C		
<b>Max. pulling force during installation (N)</b>	1200			
<b>Crush resistance (N/dm)</b>	2000			
<b>Min. static bending radius (mm)</b>	10x O.D.			
<b>Dynamic min bending radius (mm)</b>	20x O.D.			
<b>Nominal weight (kg/km)</b>	115	115	140	140
<b>Nominal diameter (mm)</b>	8.9	8.9	9.9	9.9
<b>Jacket thickness (mm)</b>	1.8			
<b>Tube diameter (mm)</b>	2.8	2.8	3.8	3.8

**OPTICAL PERFORMANCES**

	OM3 50/125	OM4 50/125	OS2/G652D 9/125
<b>Bandwith @850nm (MHz.km)</b>	≥ 2000*	≥ 4700*	NA
<b>Bandwith @1300nm (MHz.km)</b>	≥ 500	≥ 500	NA
<b>Typ. attenuation @850nm (dB/km)</b>	≤ 2.4	≤ 2.3	NA
<b>Typ. attenuation @1300nm (dB/km)</b>	≤ 0.6	≤ 0.6	NA
<b>Typ. attenuation @1310nm (dB/km)</b>	NA	NA	≤ 0.34
<b>Typ. attenuation @1550nm (dB/km)</b>	NA	NA	≤ 0.20
<b>Numerical aperture (μm)</b>	0.2 ± 0.015	0.2 ± 0.015	NA
<b>Core non-circularity</b>	≤ 5 %	≤ 5 %	NA
<b>Mode field diameter (1310/1550nm - μm)</b>	NA	NA	9.2 ± 0.4 / 10.3 ± 0.5
<b>Cladding diameter (μm)</b>	125 ± 1.0	125 ± 1.0	125 ± 0.5
<b>Cladding non-circularity</b>	≤ 0.7 %	≤ 0.7 %	≤ 0.5 %
<b>Coating diameter (μm)</b>	242 ± 5	242 ± 5	245 ± 5
<b>Core/cladding concentricity error (μm)</b>	≤ 1 μm	≤ 1 μm	≤ 0.4 μm
<b>Cut-off wavelength (nm)</b>	NA	NA	≤ 1260
<b>Zero dispersion wavelength (nm)</b>	1320 - 1365	1295 - 1340	1300 - 1324
<b>GIR @850nm</b>	1.482	1.482	NA
<b>GIR @1300nm</b>	1.477	1.477	NA
<b>GIR @1310nm</b>	NA	NA	1.466
<b>GIR @1550nm</b>	NA	NA	1.467
<b>PMD individual fiber (ps/√km)</b>	NA	NA	≤ 0.08
<b>Chromatic dispersion: 1285-1330nm (ps/nm.km)</b>	NA	NA	≤ 3.5
<b>Chromatic dispersion: 1550nm (ps/nm.km)</b>	NA	NA	≤ 17.0

\* EMBC calculation method

**PART NUMBERS**

	6 FIBRES	12 FIBRES	24 FIBRES	48 FIBRES
OM3	<b>GGM F6B3CFIRST</b>	<b>GGM F12B3CFIRST</b>	<b>GGM F24B3CFIRST</b>	<b>GGM F48B3CFIRST</b>
OM4	<b>GGM F6B4CFIRST</b>	<b>GGM F12B4CFIRST</b>	<b>GGM F24B4CFIRST</b>	<b>GGM F48B4CFIRST</b>
OS2	<b>GGM F6B9CFIRST</b>	<b>GGM F12B9CFIRST</b>	<b>GGM F24B9CFIRST</b>	<b>GGM F48B9CFIRST</b>