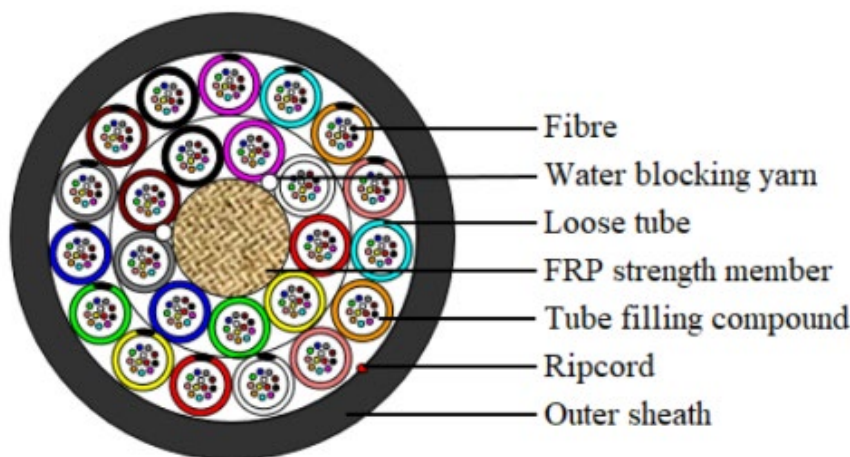


QXXE MICRO, FIBER OPTICAL MICRO BLOW CABLE

FOR BLOWING INSTALLATION IN MICRO DUCTS



1. APPLICATION/CONSTRUCTION

Identification	QXXE MICRO - G288 G.657.A1		
Application	Micro duct installation by the means of blowing		
Configuration	- Loose tubes with 12 optical fibers, filled with thixotropic compound. - Stranded loose tubes, SZ strand. - Central strength member made of fiber reinforced plastic (FRP), or coated FRP. - Cable strand: Dry, with water blocking yarns. - Outer sheath: HDPE, black, one ripcord under the sheath.		
Temperature Range	Storage and transport -40 to +70°C	Installation -20 to +60°C	Operation -30 to +70°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-5		
CPR	Fca (EN 50575:2014+A1:2016)		

2. DIMENSIONS

Number of fibers	/	288
Loose tube x fibers	/	24x12
Loose tube/Dummies	/	24/0
Loose tube $\varnothing$ ($\pm 0,1$)	mm	1.6
Outer sheath thickness	mm	0,3 minimum
Outer diameter ($\pm 0,3$)	mm	10,5
Weight/km	KG	95

Sizes and values without tolerances are nominal values, sheath thickness does not consider ripcord portion.

3. MECHANICAL PROPERTIES

Number of fibers		288
Max tensile load	N	3000
Crush resistance/10 cm	N	2000
Bending radius (Dynamic)	/	20 x OD
Bending radius (Static)	/	12 x OD
Loose tube bending radius	mm	≥14

See point 6: Test Methods

4. MARKING

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

Cable sheath marking: Black, ink jet white print marking with 1-meter intervals:

FIBERWORKS QXXE MICRO <n> G.657.A1 <batch ID> <meter marking>

<n>: Fiber qty.

5. OPTICAL FIBER CHARACTERISTICS

Standard	ITU-T G.657.A1		
Optical	Fiber attenuation, cabled	1310 nm: 0.36dB/km	1550 nm: ≤0.22dB/km
	Mode Field Diameter (MFD)	1310 nm: 8.4 ~ 9.2μm	
	Zero dispersion wavelength	1300~1324 nm	
	Zero dispersion slope	≤0.092 ps/nm ² ·km	
	Polarization mode dispersion (PMD)	≤0.1 ps/vkm	
	Cut-off wavelength	≤1260 nm	
	Macro bending loss 10 turns ø15 mm	1550 nm: ≤0.25 dB	1625 nm: ≤1.0 dB
	Macro bending loss 1 turn ø10 mm	1550 nm: ≤0.75 dB	1625 nm: ≤1.5 dB
Mechanical	Proof stress	≥0.69 Gpa	
Geometric	Cladding diameter	125 ± 0,7 μm	
	Core/clad concentricity error	≤0.5 μm	

6. TEST METHODS

Test	Conditions	Acceptance criteria
Tensile Strength IEC 60794-1-2 E1	Tensile load: see Point 3 Sample length: ≥ 50 m Test duration: 1 min	- Additional attenuation ≤ 0.05 dB - No damage
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min.	- Additional attenuation ≤ 0.05 dB - No damage
Impact IEC 60794-1-2 E4	Impact energy: 10J R=300mm Impact points: 3 Impact number: 1	- No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable dia. 25N, 25 cycles	- Additional attenuation ≤ 0.05 dB No damage
Torsion IEC 60794-1-2 E7	Sample length: 1 m: Angles: $\pm 180^\circ$ Cycles: 5, 40N	- No additional attenuation - No damage
Temperature cycling IEC 60794-1-2 F1	Steps: $-45^\circ\text{C} \sim +70^\circ\text{C}$ 12 hours, Cycles: 2	- The change in attenuation coefficient shall be less than 0.15dB/km
Water penetration IEC 60794-1-2 F5	Sample length: 3 m Water column height: 1 m, 24 h	-No leakage
Filling compound flow IEC 60794-1-2-E14	Sample length: 0.2 m 60°C, 24 h	-No compound flow from the cable in 24 h
Other parameters	Acc to: IEC 60794-1	

7. ORDERING INFORMATION

Elnr.	Product code	Product	Fiber qty	Fiber type	Category (fiber)
	K-QXXM-S-7A1-G288	QXXE MICRO, 288x G.657.A1	288	SM 9/125	OS2

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