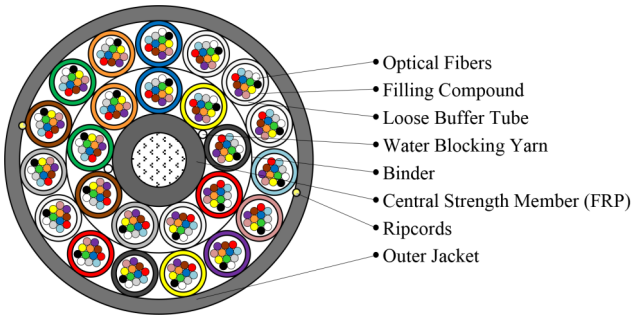
PRODUCT SPECIFICATION

EUROLAN Fibercable

Microcable 288x9/125 250µm G657A1



Ordering information		
Part number	E-number	Description
39M-S250-288-100BL	4701046	Eurolan microcable 288X9/125 G657A1 10 mm 250µm T6000

Construction	
Items	**Description**
Number of fibers	288
No of fibers in tube	12
No of PBT Loose buffer tube	9 + 15
Filling compound in Loose Buffer Tube	Thixotropic Jelly compound
No of PE filler	0
Central strength member	FRP
Water blocking material	Water swellable yarn around the CSM
Ripcord	Two aramid yarn
Outer jacket	Black HDPE
Cable diameter (± 0,2mm)	10,2
Approx cable weight (kg/km)	82
Minimum beding radius (mm)	220 under load 110 no load
Color code	S12

√ **Description:**

Color codes fibers, gel filled color coded loose tubes, water swellable yarn, SZ stranded around the dielectric central strength member, ripcords and outer PE jacket.

√ **Glass:**

OS2 9/125 G.657.A1

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Performance of G.657A1 Single Mode Fiber

Items	Units	Specification
Attenuation at 1310/1383/1550nm	dB/km	≤ 0,36 / ≤ 0,35 /≤0,22
Chromatic Dispersion at 1285~1330/1550	ps/nm.km	≤ 3,5 / ≤ 18
Zero Dispersion Wavelenght	nm	1300 ~ 1324
Zero Dispersion Slope	ps/nm². km	≤ 0,092
Cable PMD (PMD_Q)	ps/√km	≤ 0,2 (20 section link)
Cut-off Wavelength, (cabled fiber)	Nm	≤ 1260
Attenuation vs. Bending at 1550/1625nm	dB	≤ 0,25 / ≤ 1,0 at R15mm x10 ≤ 0,75 / ≤ 1,5 at R10mm x1
Mode Field Diameter	µm	8,9 ± 0,4 at 1310nm
Core/cladding Concentricity Error	µm	≤ 0,5
Cladding Diameter	µm	125 ± 0,7
Cladding Non-circularity	%	≤ 1,0
Coating Diameter	µm	245 ± 10
Proof Test	Gpa	≥ 0,69

Mechanical and Enviromental performance

Items	Test method and requirements
Tensile Loading and bending test	Test method: IEC 60794-1-21: Method E1 - Length under tension: Min.50m - Mandrel diameter: Typically 1m or Min. 40D (D=cable diameter) - Installation tensile Load: 1 x W (W= cable weight in kg/km) - Duration Maximum tension: 10 minutes Acceptance Criteria - Fiber strain: ≤ 0,60% during the test - No change in attenuation after removal of load
Crush test	Test method: IEC 60794-1-21: Method E3A - Load: 500N/10cm - Duration of load: 1 minute - Test number: 3 times at 3 different places (Min. 500mm apart and different from the lay length of the tubes) Acceptance Criteria - No change in attenuation after removal of load

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Mechanical and Enviromental performance (continued)

Items	Test method and requirements
Impact test	**Test method: IEC 60794-1-21: Method E4** - No. of impact: One in 3 different places (Min. 500mm apart) - Striking surface curvature radius: Flat or min. 300mm - Impact energy:1J (e.g. 15cm x 0,7kg) **Acceptance Criteria** - Residual increase in attenuation: ≤0,1dB
Repeated bending	**Test method: IEC 60794-1-21: Method E6** - Bending diameter: 40D - No. of cycles: 25 - Load: adequate to assure uniform contact with the mandrel - Flexing speed: 30 cycles /minute **Acceptance Criteria** - No damage to the sheath and to the cable elements
Torsion	**Test method: IEC 60794-1-21: Method E7** - Length under test: 2m - Load: Adequate to assure minimum sag (bend) between clamps - No. of cycles: 10 - Test speed: Max. 1 min/cycle - Rotating angle: ± 180° **Acceptance Criteria** - No damage to the sheath and to the cable elements - No change to attenuation after test
Kink	**Test method: IEC 60794-1-21: Method E10** - Min. diameter: 4D **Acceptance Criteria** - No damage to the sheath and to the cable elements
Bend	**Test method: IEC 60794-1-21: Method E11A** - Bending diameter: 40D - Method: Single helix - No. of turns: 4 - No. of cycles: 3 **Acceptance Criteria** - No change in attenuation after test
Temperature cycling	**Test method: IEC 60794-1-22: Method F1** - Temperature condition (1) Operation: T_{A1}: -15°C, T_{B1}: 60°C (2) Storage: T_{A2}: -20°C, T_{B2}: 70°C - Temperature cycle sequence (2 cycles) 1st cycle: $T_{A2} \rightarrow T_{B2}$ 2nd cycle: $T_{A1} \rightarrow T_{A2} \rightarrow T_{B1} \rightarrow TB2 \rightarrow 23°C$ - Soak time at each temperature: ≥ 16 hours - Attenuation shall be measured at 23°C (reference attenuation) before the sequence and at the end of the soak time at each step ($T_{A1}, T_{A2}, T_{B1}, T_{B2}$) in the 2nd cycle. **Acceptance Criteria** - No change in attenuation for T_{A1} and T_{B1} - Max 0,15dB/km for T_{A2}, T_{B2}

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Mechanical and Enviromental performance (continued)

Items	Test method and requirements
Water penetration test	Test method: IEC 60794-1-22: Method F5B - Length of specimen: 3m - Height of pressure head: 1m - Test time: 24 hours Acceptance Criteria - No water shall be detected at the unsealed end of the sample