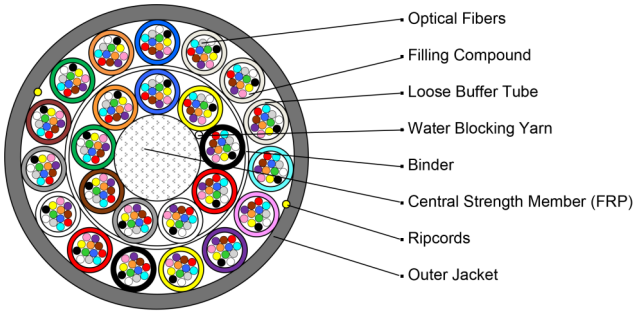
PRODUCT SPECIFICATION

EUROLAN Fibercable

Microcable 288x9/125 200µm G657A1



Ordering information		
Part number	**E-number**	**Description**
39M-S200-288-80BL	4701036	Eurolan microcable 288X9/125 G657A1 8 mm 200µm T6000
39M-S200-288-80BL-0	4701030	Eurolan microcable 288X9/125 G657A1 8 mm 200µm

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
Central strength member	FRP
Water blocking material	Water swellable yarn around the CSM
Ripcord	Two aramid yarn
Outer jacket	Black HDPE
Cable diameter (± 0,1mm)	7,9
Approx cable weight (kg/km)	60
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	dB/km	≤ 0,36 at 1310nm ≤ 0,35 at 1383nm ≤ 0,25 at 1550nm
Chromatic Dispersion	ps/nm.km	≤ 3,5 at 1285nm ~ 1330nm ≤ 18 at 1550nm
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 (15mm radius x 10turns)	dB	≤ 0,25 at 1550nm ≤ 1,0 at 1625nm
Attenuation vs. Bending (10mm radius x 1turn)	dB	≤ 0,75 at 1550nm ≤ 1,5 at 1625nm
Attenuation vs. Bending (7,5mm radius x 1turn)	dB	-
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	198 ± 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 - Temperature cycle sequence (2 cycles) 1_{ST} cycle: $T_{A2} \rightarrow T_{B2}$ 2_{ST} cycle: $T_{A1} \rightarrow T_{A2} \rightarrow T_{B1} \rightarrow T_{B2} \rightarrow 23°C$ - 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} and T_{B2}
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

	Operation (1)	Storage (2)
Low (A)	T_{A1}: -15°C	T_{A2}: -30°C
High (B)	T_{B1}: 60°C	T_{B2}: 70°C