PRODUCT SPECIFICATION

CONNECT IT

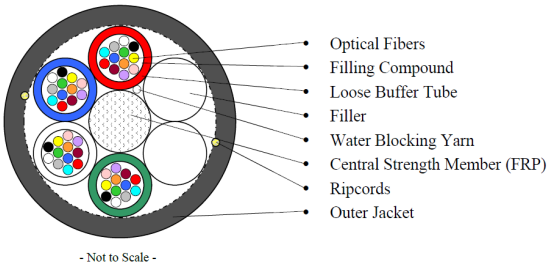
EUROLAN Micro Cable

Stranded loose tube 9/125 OS2 Singlemode

Ordering information

Part number	E-number	Description
39M-S3-24-39BL	4963877	Micro Cable 24X9/125 4,2 G.657A1 T6000
39M-S3-24-39BL -0	4963870	Micro Cable 24X9/125 4,2 G.657A1 Cut
39M-S3-48-60BL	4963977	Micro Cable 48x9/125 5,7 G.657A1 T6000
39M-S3-48-60BL-0	4963970	Micro Cable 48x9/125 5,7 G.657A1 Cut
39M-S3-96-60BL	4963987	Micro Cable 96x9/125 6,1G.657A1 T6000
39M-S3-96-60BL-0	4963980	Micro Cable 96x9/125 6,1 G.657A1 Cut
39M-S250-144-70BL	4701026	Micro Cable 144x9/125 6,7G.657A1 T6000
39M-S250-144-70BL-0	4701020	Micro Cable 144x9/125 6,7 G.657A1 Cut
39M-S250-192BL	4988927	Micro Cable 192x9/125 7,9 200µm G.657A1 T6000
39M-S250-192BL -0	4988920	Micro Cable 192x9/125 7,9 200µm G.657A1 Cut

Ex 48 fiber cable



Performance of G.657A1 Singlemode fiber

Items		Units	Specification
Attenuation at 1310/1383/1550nm		dB/km	≤ 0,36 / ≤ 0,35 / ≤ 0,22
Chromatic Dispersion at 1285nm ~ 1330/1550nm		ps/nm.km	≤ 2,8 / ≤ 18
Zero Dispersion Wavelenght		nm	1302 ~ 1322
Zero Dispersion Slope		ps/nm². km	≤ 0,092
Cable PMD (PMD_Q)		ps/√km	≤ 0,15 (20 section link)
Cut-off Wavelength, (cabled fiber)		nm	≤ 1260
Bending loss at 1550/1625nm	R15mm x 10[1]	dB	≤ 0,25 / ≤ 1,0
	R10mm x 1	dB	≤ 0,75 / ≤ 1,5
	R7,5mm x 1	dB	-
Mode Field Diameter at 1310nm		µm	8,9 ± 0,4
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

1) 10 turns with radius 15mm

RoHS Directive

All cables and any associated packing and labeling materials meets RoHS (Restriction of the Use of certain Hazardous Substances) regulations as appropriate.

ISPM 15

All wooden packing materials meets ISPM (International Standards for Phytosanitary Measures) regulations as appropriate.

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Cable Construction

Items		Description				
Number of fibers		24	48	96	144	192
Number of fibers in tube		4	12	12	24	24
Loose buffer tube		Thixotropic jelly filled nylon tube				
Numbers of tubes		6	4	8	6	8
Fillers	Material	PBT tube with filler, optical fiber or PE/PP rod				
	No of fillers	0	2	0	0	0
Central strenght member		FRP (non metallic, PE over-coat, if necessary)				
Water blocking material		Water swellable yarn around the CSM				
Rip cord		Two aramid yarn				
Outer jacket		Black HDPE				

Mechanical and enviromental perfomance

The mechanical and enviromental performance of the cable shall be in accordance with the table below. Unless otherwise specified, all attenuation measurements required in this section shall be performed at 1550nm for SM fibers. The phrase ”No change in attenuation” is defined as ”Values in the range ±0,05dB or dB/km are considered as no change” according to IEC 60794-1-20 (measurement uncertainty).

Items	Test method and acceptance criteria
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)

No of fiber	Tensile load (N)
24	500
48	1200
96	1600
144	1600
192	2500

- 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 perfomance (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:3J **Acceptance Criteria** - Attenuation increment ≤0,1dB after the test
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: 40D **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

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Mechanical and enviromental perfomance (continued)	
Items	**Test method and requirements**
Temperature cycling	**Test method: IEC 60794-1-22: Method F1** - Temperature cycle sequence (2 cycles) :23°C -> - 45°C -> 70°C - Soak time at each temperature: 4 hours **Acceptance Criteria** - Attenuation increment: Max 0,15dB/km
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

Teperature range	
Operation	-45°C to +70°C
Installation	-15°C to +50°C
Storage/Shipping	-45°C to +70°C

Fiber counts	No of fibers per tube	Cable Ø (mm)	Appr cable weight (kg/km)	Minimum bending radius (mm)	
				Under load	No load
24	4	4,2 ± 0,2	15	90	45
48	12	5,7 ± 0,2	27	120	60
96	12	6,1 ± 0,2	34	130	65
144	24	6,7 ± 0,2	37	140	70
192	24	7,9 ± 0,2	51	160	80

S12 Fibers and Tubes	1	2	3	4	5	6	7	8	9	10	11	12
	Red	Blue	White	Green	Yellow	Grey	Brown	Black	Violet	Orange	Turquoise	Pink
	13	14	15	16	17	18	19	20	21	22	23	24
	Red —	Blue —	White —	Green —	Yellow —	Grey —	Brown —	Clear —	Violet —	Orange —	Turquoise —	Pink —