

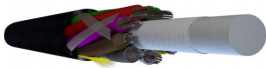


LTMC-S

144x SM G.657.A1 (12x12)

Article number: 77358

Date: 09-04-2020



Product characteristics

Cable type	LTMC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	144
Number of fibers per optical element	12
Number of cores	12
Optical element	Loose tube, gel filled
Cable metal free	Yes
Number of layers	1 Layer
Strip method	1 Rip cord
Stripability optical element	> 1000 mm, down to primary coating
Strain relief	Yes
Type of strain relief	FRP
Material outer sheath	HDPE
Colour outer sheath	Black
Outer sheath thickness	0,4 mm
Outer diameter approx.	7,5 mm
Marking	ACE - TKF LTMC-S 144x SM G.657.A1 (12x12) A-DQ(ZN)2Y 77358 {Batch} {Year} {Length}



Application

Standardization	EN IEC 60794-5-10
Test procedures	EN IEC 60794-1-2
Application	Outside
Blow in	Yes
Euro fire class according to EN 13501-6	Fca

Mechanical specification

Tensile load short term (Tm)	3000 N
Max. fiber strain at Tm	0,4 %
Tensile load Long Term (Tl)	500 N
Max. fiber strain at Tl	0,05 %
Min. bending radius during installation	150 mm
Min. bending radius after installation	115 mm
Crush resistance E3A short (1min)	1000 N/dm
Crush resistance E3A long	400 N/dm
Crush load E3A long application time	10 min
Impact strength	1,5 J
Striking surface radius	10 mm
Torsion resistance	360 °/m

Optical specification

Category according to EN 50173	OS2
Max. attenuation @ 1310 nm	0,35 dB/km
Max. attenuation @ 1550 nm	0,22 dB/km
Max. attenuation @ 1625 nm	0,25 dB/km

Environmental specification

Longitudinal water blocking cable	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Installation temperature	-15/55 °C



Transportation and storage temperature	-45/70 °C
Operational temperature range Ta1 - Tb1	-40/70 °C
Max. attenuation increase during Ta1 - Tb1	0,05 dB
TC sample length for TC acc. F1 or F12	1000 m
UV resistant	Yes

Other specification

Halogen free (acc. EN 60754-1/2)	Yes
Halogen free	IEC 60754-1/2

Logistical specifications

Unit	meter
Weight (kg)	0.052
Default packaging	H X 12000/600



Fibre specification G.657.A1

ACE-DS-OT-VSP-SM-G657A1-v02-e

date : 04-12-2019

Technical product information

Product characteristics - optical fibers

Fibre

Type of fibre	Hydrogen passivated, dispersion unshifted, matched cladding bending loss insensitive single mode fibre 9/125 µm Full compatible with G.652.D fibre Optical and geometrical properties exceed ITU-recommendations G.652.D and G.657.A1
Standard	IEC-60793-2-50, B-657.A1
Standard	ITU-T G.657.A1

Characteristics

Parameter	Properties	Unit
Mode field diameter: 1310 nm	9.0 ± 0.3	µm
Mode field diameter: 1550 nm	10.2 ± 0.4	µm
Core non-circularity	max. 6	%
Core/cladding concentricity error	max. 0.4	µm
Cladding diameter	125.0 ± 0.5	µm
Cladding non-circularity	max. 0.7	%
Coating diameter	242 ± 5	µm
Coating/cladding concentricity error	max. 8	µm
Temperature sensitivity: -60 to +85 °C	max. 0.05	dB/km
Bending sensitivity - 100 turns around Ø50 mm - 1550 mm	max. 0.05	dB
Bending sensitivity - 100 turns around Ø60 mm - 1625 mm	max. 0.05	dB
Bending sensitivity - 10 turns around Ø30 mm - 1550 mm	max. 0.1	dB
Bending sensitivity - 10 turns around Ø30 mm - 1625 mm	max. 0.3	dB
Bending sensitivity - 1 turn around Ø20 mm - 1550 mm	max. 0.75	dB
Bending sensitivity - 1 turn around Ø20 mm - 1625 mm	max. 1.5	dB
Proof test level	min. 0.70	GPa
Fibre curl	min. 4	m
Cable cut-off wavelength	max. 1260	nm
Zero-dispersion wavelength	1300 – 1324	nm
Zero-dispersion slope	max. 0.090	ps/nm ² ·km
Chromatic dispersion: 1285 nm – 1330 nm	max. 3.2	ps/nm·km
Chromatic dispersion: 1550 nm	max. 17	ps/nm·km
Chromatic dispersion: 1625 nm	max. 21	ps/nm·km
Polarisation mode dispersion: max. individual fibre	max. 0.1	ps/nm·km
PMD ₀	max. 0.06	ps/√km
Max. attenuation at 1383 nm (α ₁₃₈₃) [note a]	< max. α ₁₃₁₀	-
Effective group core refractive index: 1310 nm	1.4671	-
Effective group core refractive index: 1550 nm	1.4675	-
Effective group core refractive index: 1625 nm	1.4680	-

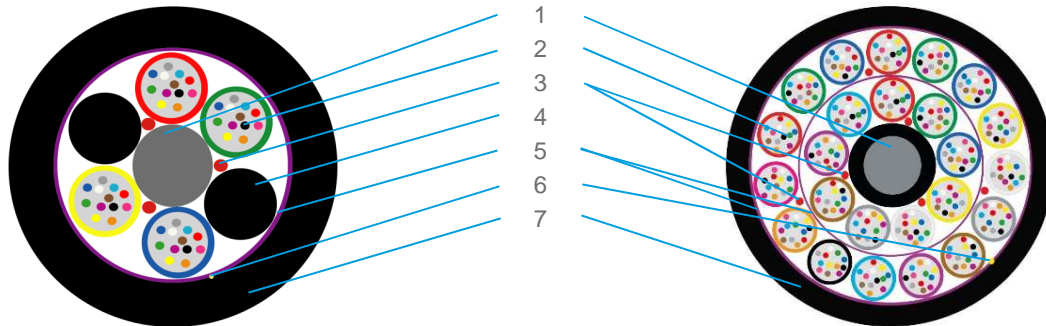
note a: after hydrogen ageing

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

LTMC-S

FO mini-cable with stranded mini loose tubes



Description

- 1 Central element (FRP), optional with overshooth
- 2 Loose tube with optical fibres
- 3 Waterblocking layer
- 4 Filler (only for constructions with 5 tubes or less)
- 5 Cross-binder
- 6 Ripcord
- 7 Outer sheath

Standard colours

Fibres		Tubes		
Group 1	Group 2	Layer 1	Layer 2	
1 Red	13 Red +t	1 Red	1 Red	
2 Green	14 Green +t	2 Green	2 Green	
3 Blue	15 Blue +t	3 Blue	3 Blue	
4 Yellow	16 Yellow +t	4 Yellow	4 Yellow	
5 White	17 White +t	5 White	5 White	
6 Grey	18 Grey +t	6 Grey	6 Grey	
7 Brown	19 Brown +t	7 Brown	7 Brown	
8 Violet	20 Violet +t	8 Violet	8 Violet	
9 Turquoise	21 Turquoise +t	9 Turquoise	9 Turquoise	
10 Black	22 Natural +t	10 Black	10 Black	
11 Orange	23 Orange +t	11 Orange	11 Orange	
12 Pink	24 Pink +t	12 Pink	12 Pink	
			13 Red	
			14 Green	
			15 Blue	

note +t: indicates a black tracer