LTMC

12x SM G.657.A1 (1x12)

Article number: 74832

Date: 22-03-2023

The Loose Tube Mini Cable (LTMC) is a non-metallic, longitudinal water-protected fibre optic cable, with reduced outer diameter and low bend radius, no waterpeak G.657.A1 fibres, suitable for Access or FTTx applications. Installation: blowing into miniducts.

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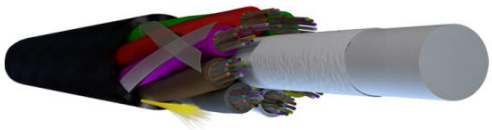


Product characteristics

Cable type	LTMC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	12
Number of fibers per optical element	12
Number of cores	1
Optical element	Loose tube, gel filled
Cable metal free	Yes
Number of layers	1 Layer
Strip method	1 Rip cord
Strain relief	Yes
Type of strain relief	FRP
Material outer sheath	HDPE
Colour outer sheath	Black
Outer sheath thickness	0,45 mm

Outer diameter approx.	6,0 mm
Marking	ACE - TKF LTMC 12x SM G.657.A1 (1x12) A-DQ(ZN)2Y 74832 {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)	1000 N
Max. fiber strain at Tm	0,5 %
Tensile load Long Term (Tl)	150 N
Min. bending radius during installation	120 mm
Min. bending radius after installation	90 mm
Crush resistance acc. meth.E3A	1200 N/dm
Torsion resistance	360 °/m
Kink resistance	180 mm

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	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Cable longitudinally watertight	Yes
Installation temperature	-15/50 °C
Transportation and storage temperature	-40/70 °C
Operational temperature range Ta1 - Tb1	-40/70 °C
Max. attenuation increase during Ta1 - Tb1	0,05 dB
Operational temperature range Ta2 - Tb2	-40/70 °C
Max. attenuation increase during Ta2 - Tb2	0,15 dB

TC sample length for TC acc. F1 or F12	1000 m
UV resistant	Yes
UV-protection	ISO 4892/2

Other specification

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

Logistical specifications

Unit	meter
Netto Weight (kg/m)	0.025
Default packaging	H X 12000/600

Fibre specification G.657.A1

ACE-DS-OT-VSP-SM-G657A1-v03-e date : 11-08-2020

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 ºC	max.	0.05	dB/km
Bending sensitivity - 100 turns around Ø50 mm - 1550 nm	max.	0.05	dB
Bending sensitivity - 100 turns around Ø60 mm - 1625 nm	max.	0.05	dB
Bending sensitivity - 10 turns around Ø30 mm - 1550 nm	max.	0.1	dB
Bending sensitivity - 10 turns around Ø30 mm - 1625 nm	max.	0.3	dB
Bending sensitivity - 1 turn around Ø20 mm - 1550 nm	max.	0.75	dB
Bending sensitivity - 1 turn around Ø20 mm - 1625 nm	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_Q	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

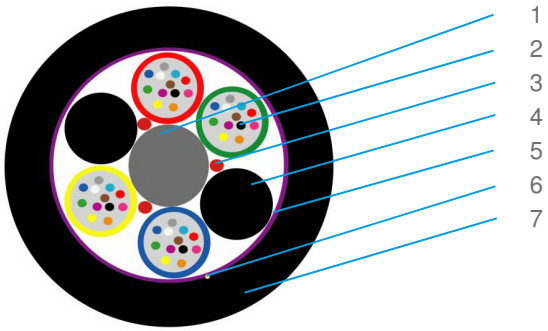
Revision date: 4-12-2019

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

LTMC

FO mini-cable with stranded mini loose tubes



Description

1	Central element (FRP), optional with oversheath
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	
1	Red	13	Red +t	1	Red
2	Green	14	Green +t	2	Green
3	Blue	15	Blue +t	3	Blue
4	Yellow	16	Yellow +t	4	Yellow
5	White	17	White +t	5	White
6	Grey	18	Grey +t	6	Grey
7	Brown	19	Brown +t	7	Brown
8	Violet	20	Violet +t	8	Violet
9	Turquoise	21	Turquoise +t	9	Turquoise
10	Black	22	Natural +t	10	Black
11	Orange	23	Orange +t	11	Orange
12	Pink	24	Pink +t	12	Pink

note +t: indicates a black tracer