



## LTC TP

## 72x SM G.657.A1 (6x12)

Article number: 76393

Date: 30-03-2020



## Product characteristics

Cable type	LTC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	72
Number of fibers per optical element	12
Number of cores	6
Optical element	Loose tube, gel filled
Cable metal free	No
Number of layers	1 Layer
Strip method	2 Rip cords
Strain relief	Yes
Type of strain relief	FRP
Material outer sheath	PE
Colour outer sheath	Black
Outer sheath thickness	1,5 mm
Outer diameter approx.	10,5 mm
Marking	ACE - TKF LTC TP 72x SM G.657.A1 (6x12) A-DQ(ZN)2Y 76393 {Batch} {Year} {Length}



## Application

Standardization	EN IEC 60794-3-10
Test procedures	EN IEC 60794-1-2
Application	Outside
Euro fire class according to EN 13501-6	Fca

## Mechanical specification

Tensile load short term (Tm)	2400 N
Max. fiber strain at Tm	0,33 %
Tensile load Long Term (TI)	1200 N
Min. bending radius during installation	220 mm
Min. bending radius after installation	165 mm
Crush resistance acc. meth.E3A	2000 N/dm
Impact strength	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	-40/70 °C
Operational temperature range Ta1 - Tb1	-30/70 °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
UV resistant	Yes
UV-protection	ISO 4892/2

### Other specification

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

Unit	meter
Weight (kg)	0.082
Default packaging	H X 2000/100



# 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 <sup>2</sup> ·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 <sub>0</sub>	max. 0.06	ps/√km
Max. attenuation at 1383 nm (α <sub>1383</sub> ) [note a]	< max. α <sub>1310</sub>	-
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	-

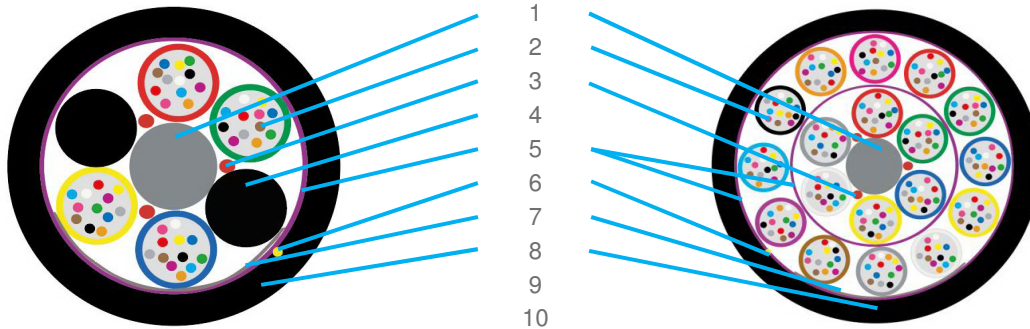
note a: after hydrogen ageing

# TECHNICAL PRODUCT INFORMATION

## Cable construction and colour code

### LTC TP

FO cable with turning point markers.



### Description

- 1 Centre element, FRP optional with over sheath
- 2 Loose tube with optical fibres
- 3 Water blocking yarns or tape
- 4 Filler
- 5 Water blocking tape
- 6 Ripcord
- 7 Turning Point markers
- 8 Outer sheath

### Standard colours

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

note +t: indicates a black tracer