



## CTC Eca

### 4x SM G.657.A1 (1x4)

Article number: 75536

Date: 06-02-2023

The Central Tube Cable Low Smoke Zero Halogen (CTC Eca) is a light-weight, non-metallic, universal central tube cable (indoor/outdoor) with small diameter, rodent protected, longitudinal water-protected, with Low Smoke Zero Halogen outersheath. Installation: by blowing or pulling, into conduits or on cable trays.

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### Product characteristics

Cable type	CTC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	4
Number of fibers per optical element	4
Number of cores	1
Optical element	Loose tube, gel filled
Cable metal free	Yes
Stripability optical element	> 1000 mm, down to primary coating
Strain relief	Yes
Type of strain relief	E-glass
Material outer sheath	LSZH
Colour outer sheath	Black
Outer sheath thickness	1,2 mm



Outer diameter approx.	5,9 mm
Marking	ACE - TKF CTC Eca 4x SM G.657.A1 (1x4) U-DQ(ZN)BH 75536 {Batch} [-CE-] DOP0039 {Year} {Length}

## Application

Standardization	EN IEC 60794-6-20
Test procedures	EN IEC 60794-1-2
Application	Inside/Outside
Blow in	Yes
Euro fire class according to EN 13501-6	Eca

## Mechanical specification

Tensile load short term (Tm)	1300 N
Cable strain by Tm	0,6 %
Max. fiber strain at Tm	0,6 %
Tensile load Long Term (TI)	400 N
Max. fiber strain at TI	0,2 %
Min. bending radius during installation	110 mm
Min. bending radius after installation	55 mm
Crush resistance E3A short (1min)	4000 N/dm
Crush resistance E3A long	2000 N/dm
Crush load E3A long application time	10 min
Crush resistance E3B short term (1min)	2000 N/dm
Crush resistance E3B long term	600 N/dm
Crush load E3B long application time	10 min
Mandrel diameter by Crush meth. E3B	300 mm
Striking surface radius	300 mm
Torsion resistance	1800 °/m
Kink resistance	100 mm

## Optical specification

Category according to EN 50173	OS2
Max. attenuation @ 1310 nm	0,38 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
Radial water blocking	No
Radial water blocking cable	No
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
TC sample length for TC acc. F1 or F12	1000 m
UV resistant	Yes
UV-protection	ISO 4892-2, 4000h
Color fastness	Blue wool scale 8
With rodent protection	Yes

## Other specification

Halogen free (acc. EN 60754-1/2)	Yes
Vertical flame propagation (for single cable)	IEC 60332-1-2 / EN 50265-2-1

## Logistical specifications

Unit	meter
Netto Weight (kg/m)	0.034



# 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 °C	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 <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>Q</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	-

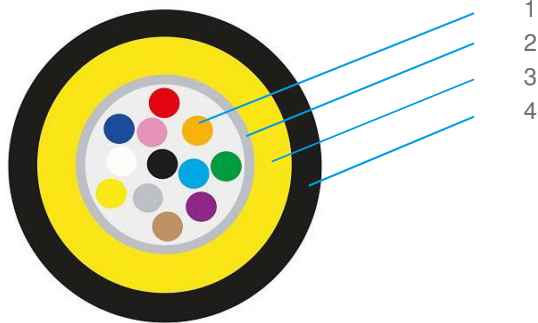
note a: after hydrogen ageing

## TECHNICAL PRODUCT INFORMATION

### Cable construction and colour code

#### CTC Eca

FO cable with central tube



#### Description

- 1 Optical fibres
- 2 Central tube with fibres
- 3 Reinforcement of glass yarns
- 4 Outer sheath

#### Standard colours

##### Fibres

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

note +t: indicates a black tracer