



## CTC ADSS

## 12x SM G.657.A1

Article number: 77644

Date: 28-03-2019

The ACE outdoor optical fibre cables are available from low fibre up to very high fibre count, in all types like loose tube cable (LTC), loose tube mini cable (LTMC) and central tube cable (CTC). We offer solutions for sub soiled duct systems, direct burial cables and a full range of self-supporting aerial cables. Besides the standard cables we can fulfil all requests for various environmental situations like rodent protection and steel wire armoured.



## Product characteristics

Optical fibre standard	ITU-T G.657.A1
Marking	ACE - TKF CTC ADSS 12x SM G.657.A1 (1x12) A-DQ(ZN)2Y 77644 {Batch} {Year} {Length}
Stripability optical element	> 1000 mm, down to primary coating
Weight (kg)	0.039
Colour outer sheath	Black
Material outer sheath	PE
Optical element	Loose tube, gel filled
Number of fibers per optical element	12
Cable metal free	Yes
Number of cores	1
Outer diameter approx.	7,1 mm
Number of fibers	12
Fibre type	Single mode 9/125
Cable type	ADSS
Strain relief	Yes



## Application

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

## Mechanical specification

Bending radius during installation	135 mm
Bending radius after installation	100 mm
Impact strength	15 J
Tensile load short term (Tm)	1350 N
Tensile load Long Term (Tl)	600 N
Striking surface radius	10 mm
Crush resistance acc. meth.E3A	1500 N/dm
Torsion resistance	360 °/m

## Optical specification

Attenuation @ 1310 nm	0,4 dB/km
Attenuation @ 1550 nm	0,3 dB/km
Attenuation @ 1625 nm	0,4 dB/km
Category according to EN 50173	OS2

## Environmental specification

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



Installation temperature

-15/50 °C

### Other specification

Standardization	EN IEC 60794-3-20
Halogen free (acc. EN 60754-1/2)	Yes

### Logistical specifications

Unit	meter
Default packaging	H X 4000/200



# Fibre specification G.657.A1

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

date : 25-01-2018

## 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, B6_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. 0.1	dB
Bending sensitivity - 10 turns around Ø30 mm - 1550 mm	max. 0.3	dB
Bending sensitivity - 10 turns around Ø30 mm - 1625 mm	max. 0.75	dB
Bending sensitivity - 1 turn around Ø20 mm - 1550 mm	max. 1.5	dB
Bending sensitivity - 1 turn around Ø20 mm - 1625 mm	max. 0.2	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

## Catenary calculations

### CTC ADSS

Aerial fibre optic drop cable: sag & tension calculations

	NESC light		NESC medium		NESC heavy	
Fibre count	max.8	12	max.8	12	max.8	12
Installation tension	448 N	477 N	232 N	258 N	130 N	148 N
Installed sag	1%	1%	1%	1%	1%	1%
Max. span	110 m	100 m	57 m	54 m	32 m	31 m
Max. tension tm	1350 N	1350 N	1350 N	1350 N	1350 N	1350 N
Max. sag	3.7 %	3.5 %	4.0 %	3.9 %	4.2 %	4.1 %
Cable & fibre strain	0.50 %	0.48 %	0.49 %	0.47 %	0.48 %	0.46 %

Fibre count	max.8	12	max.8	12	max.8	12
Installation tension	267 N	286 N	131 N	148 N	73 N	82 N
Installed sag	2%	2%	2%	2%	2%	2%
Max. span	131 m	120 m	64 m	62 m	36 m	34 m
Max. tension tm	1350 N	1350 N	1350 N	1350 N	1350 N	1350 N
Max. sag	4.4 %	4.3 %	4.6 %	4.5 %	4.6 %	4.5 %
Cable & fibre strain	0.50 %	0.48 %	0.49 %	0.48 %	0.48 %	0.46 %

Fibre count	max.8	12	max.8	12	max.8	12
Installation tension	203 N	220 N	98 N	111 N	54 N	62 N
Installed sag	3%	3%	3%	3%	3%	3%
Max. span	149 m	137 m	72 m	69 m	40 m	38 m
Max. tension tm	1350 N	1350 N	1350 N	1350 N	1350 N	1350 N
Max. sag	5.0 %	4.9 %	5.1 %	5.1 %	5.2 %	5.1 %
Cable & fibre strain	0.50 %	0.48 %	0.49 %	0.47 %	0.48 %	0.46 %

	Units	NESC light	NESC medium	NESC heavy
Wind velocity	m/s	26.5	17.7	17.7
	km/h	95	64	64
	mps	59	40	40
Ice thickness	mm	0	6.5	12.5
	inch	0	0.25	0.50
Additional load	kg/m	0.073	0.296	0.449
	lbs/ft	0.05	0.20	0.30
Temperature	°C	-1	-10	-20
	°F	30	15	0



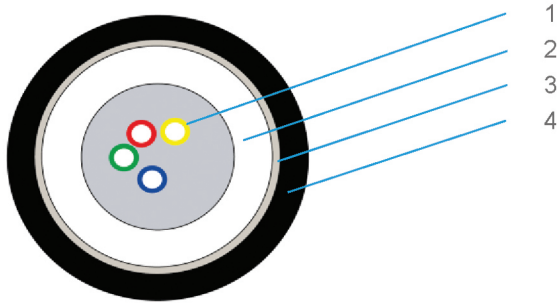
# TECHNICAL PRODUCT INFORMATION

## Cable construction and colour code

### CTC ADSS

FO cable with central tube

Outdoor application: aerial fibre-optic drop cable



### Description

- 1 Optical fibres
- 2 Central tube, gel-filled
- 3 Reinforcement of aramid yarns
- 4 Outer sheath (PE)

### Standard colours

Fibres

Group

- 1 Red
- 2 Green
- 3 Blue
- 4 Yellow
- 5 White
- 6 Grey
- 7 Brown
- 8 Violet
- 9 Turquoise
- 10 Black
- 11 Orange
- 12 Pink