



LTC ADSS-30

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

Article number: 77956

Date: 11-09-2019

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 LTC ADSS-30 144 SM G.657.A1 12x12 A-DQ(ZN)2Y 77956 {Batch} {Year} {Length}
Weight (kg)	0.158
Colour outer sheath	Black
Material outer sheath	HDPE
Optical element	Loose tube, gel filled
Number of fibers per optical element	12
Cable metal free	Yes
Number of cores	12
Number of layers	1 Layer
Outer diameter approx.	14,3 mm
Number of fibers	144
Type of strain relief	FRP + Aramid
Strip method	1 Rip cord
Fibre type	Single mode 9/125



Cable type	ADSS
Strain relief	Yes
Outer sheath thickness	1,4 mm

Application

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

Mechanical specification

Maximum allowable tension (MAT)	5350 N
Maximum operational tension (MOT)	3050 N
Bending radius during installation	290 mm
Bending radius after installation	215 mm
Impact strength	15 J
Tensile load short term (Tm)	4450 N
Tensile load Long Term (TI)	3050 N
Max. fiber strain at Tm	0,2 %
Striking surface radius	300 mm
Crush resistance acc. meth.E3A	2000 N/dm
Torsion resistance	360 °/m
Cable strain by Tm	0,73 %

Optical specification

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

Environmental specification

Operational temperature range Ta1 - Tb1	-30/70 °C
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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
UV-protection	ISO 4892/2
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
Cross sectional area	160,0 mm ²
Effective E-modulus	3,58 GPa
Effective CTE	42,4 10 ⁻⁶ /°C
Halogen free	IEC 60754-1/2
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 : 09-09-2019

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

Catenary calculations

LTC ADSS 30

Based on the following installation conditions

Installation temperature 15 °C

Nominal sag 1%

The cables are suitable for the NESC-situations with spans, tensions and sags as listed in the table below

Fibre count	Tubes & fibers n x m	NESC light			NESC medium			NESC heavy		
		Temperature		-1 °C	Temperature		-10 °C	Temperature		-20 °C
		Wind velocity		26.5 m/s	Wind velocity		17.7 m/s	Wind velocity		17.7 m/s
		Ice thickness		0 mm	Ice thickness		6.5 mm	Ice thickness		12.5 mm
		max. span	max. tension	max. sag	max. span	max. tension	max. sag	max. span	max. tension	max. sag
		(m)	(N)	(%)	(m)	(N)	(%)	(m)	(N)	(%)
4	1 x 4	80	1370	3.10	48	1420	3.45	30	1495	3.66
8	2 x 4	80	1360	3.11	48	1410	3.47	30	1490	3.68
12	3 x 4	80	1370	3.10	48	1420	3.45	30	1495	3.67
24	6 x 4	80	1390	3.05	50	1480	3.45	30	1520	3.61
12	2 x 6	80	1330	3.26	50	1400	3.68	30	1430	3.87
24	4 x 6	78	1310	3.24	48	1360	3.64	30	1430	3.88
48	8 x 6	85	1845	2.97	60	1955	3.41	40	2090	3.75
48	4 x 12	78	1550	3.09	53	1650	3.48	34	1745	3.74
72	6 x 12	80	1600	3.07	54	1690	3.46	35	1800	3.74
96	8 x 12	80	2000	2.84	60	2160	3.22	40	2300	3.53
144	12 x 12	85	2915	2.59	70	3135	2.93	50	3370	3.33

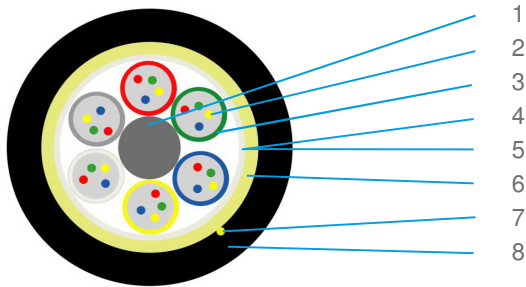
Table: operational conditions, max. achievable span, tension and sag.

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

LTC ADSS -30 / -80 / -150

All-dielectric self-supporting cable
FO cable with stranded loose tubes



Description

- 1 Central element (FRP)
- 2 Optical fibres
- 3 Sub units (2, 4, 6, 8, 12 or 24 fibres)
- 4&5 Binders & waterblocking tape
- 6 Waterblocking aramid
- 7 Ripcord
- 8 Outer sheath

Standard colours

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

note +t: indicates a black tracer