U-STC B2ca

48x SM G.657.A1 (4x12)

Article number: 75605

Date: 23-06-2021

U-STC (Universal Soft Tube Cable) is a lightweight and robust dielectric distribution cable. The optical fibers are grouped into "soft tube" modules allowing easy and quick opening. Outdoors, it can be installed in a duct or on facade, therefore meeting many applications. With its very high fire resistance (B2ca), it is also suitable for indoor installation. It is therefore perfectly suited for the penetration of telecom exchanges, but also for the connection of FTTA mobile sites in high-rise buildings. The uniquely versatile U-STC cable is the ideal solution for all public buildings, but also for risk premises such as data centers, and road or rail infrastructure.

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48x SM G.657.A1 (4x12)

Product characteristics

Cable type	STC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	48
Number of fibers per optical element	12
Number of cores	4
Optical element	Soft tube
Cable metal free	Yes
Stripability outer sheath	1000 mm
Stripability optical element	> 100 mm, down to primary coating
Strain relief	Yes
Type of strain relief	FRP + E-glass
Material outer sheath	HFFR
Colour outer sheath	Black

Outer sheath thickness	2,0 mm
Outer diameter approx.	8,0 mm
Max. outer diameter	8,4 mm
Marking	unifiber - TKF U-STC B2ca 48x SM G.657.A1 (4x12) 75605 {Batch} {CE} DOP0104 {Year} {Length}

Application

Test procedures	EN IEC 60794-1-2
Application	Inside/Outside
Euro fire class according to EN 13501-6	B2ca
Euro class smoke production according to EN 13501-6	s1a
Euro class flaming droplets/particles according to EN 13501-6	d0
Euro class acidity according to EN 13501-6	a1

Mechanical specification

Tensile load short term (Tm)	2000 N
Cable strain by Tm	0,6 %
Max. fiber strain at Tm	0,6 %
Tensile load Long Term (Tl)	500 N
Max. fiber strain at Tl	0,2 %
Min. bending radius during installation	120 mm
Min. bending radius after installation	80 mm
Crush resistance E3A short (1min)	2000 N/dm
Crush resistance E3A long	1000 N/dm
Crush load E3A long application time	10 min
Crush resistance E3B short term (1min)	1000 N/dm
Crush resistance E3B long term	500 N/dm
Mandrel diameter by Crush meth. E3B	20 mm
Impact strength	5 J
Striking surface radius	300 mm
Torsion resistance	180 °/m
Kink resistance	80 mm

Optical specification

Category according to EN 50173	OS2
Max. attenuation @ 1310 nm	0,38 dB/km
Max. attenuation @ 1550 nm	0,25 dB/km
Max. attenuation @ 1625 nm	0,30 dB/km

Environmental specification

Longitudinal water blocking cable	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Installation temperature	-5/50 °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
TC sample length for TC acc. F1 or F12	1000 m
UV resistant	Yes
UV-protection	ISO 4892/2
Color fastness	Blue wool scale 8

Other specification

Halogen free (acc. EN 60754-1/2)	Yes
Low smoke (acc. EN 61034-2)	Yes
Smoke density	IEC 61034-1&2 / EN 50268-1&2
Vertical flame propagation (for single cable)	IEC 60332-1-2 / EN 50265-2-1
Effective E-modulus	6,0 GPa
Effective CTE	20 10^-6/°C
Cross sectional area	50,3 mm^2

Logistical specifications

Unit	meter
Weight (kg)	0,0725

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	$ps/nm^2 \cdot km$
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	-

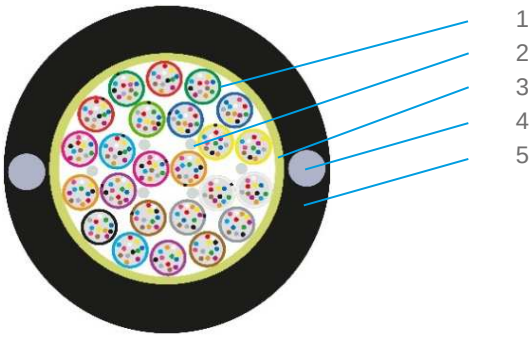
note a: after hydrogen ageing

Revision date: 11-5-2021

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

U-STC B2ca



Description

1	Soft tube with optical fibres
2	Swelling yarns
3	Waterblocking glass yarns
4	Embedded FRP rods
5	Outer sheath HFFR-LS

Eurofiber color code

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

note +t: indicates a black tracer