



TKF CONNECTIVITY SOLUTIONS

79987 - STAC 4fo TeleNor

PRODUCT CATALOGUE

INNOVATIVE FIBRE OPTIC CABLE SOLUTIONS



STAC

4x SM G.657.A2 (1x4)

Article number: 79987

Date: 11-10-2022

This special indoor/outdoor drop cable with bend-insensitive fibre G.657.A2, protected by easy strippable soft tube, meets all requirements for FTTH access network: a small diameter, low weight, high tensile force and easily strippable features. The STAC is designed to connect the outside branch to customer's termination box without splicing, resulting in reduced installation-time. This cable consist of a double jacket design, with a 90° bend radius inner subunit (STIC) perfectly suitable for indoor application, a robust outer sheath for outdoor installation and tensile strength members between both jackets. The outer sheath can be easily removed, when entering the building. Due to its (semi-)dry construction, this cable is highly safe and can be used in any human habitation. The dry soft tube makes also easier its installation into the vertical riser shafts of MDU's. This multi-purpose cable can be installed by pulling in ducts, on external walls, or aerial between poles.

STAC
4x SM G.657.A2 (1x4)



Product characteristics

Cable type	STC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A2
Number of fibers	4
Number of fibers per optical element	4
Number of cores	1



Optical element	Soft tube
Cable metal free	Yes
Strip method	2 Rip cords
Stripability outer sheath	1000 mm
Stripability optical element	> 1000 mm, down to primary coating
Strain relief	Yes
Type of strain relief	FRP + Aramid
Material inner sheath	LSZH
Inner sheath thickness	0,75 mm
Diameter over inner sheath (nom.)	4,0 mm
Material outer sheath	HDPE
Colour outer sheath	Black
Outer sheath thickness	1.0 mm
Outer diameter approx.	6,5 mm
Max. outer diameter	6,8 mm
Marking	ACE - TKF STAC 4x SM G.657.A2 (1x4) 79987 {Batch} {Year} {Length}

Application

Standardization	EN IEC 60794-3
Test procedures	EN IEC 60794-1-2
Application	Outside
Euro fire class according to EN 13501-6	None

Mechanical specification

Tensile load short term (Tm)	800 N
Max. fiber strain at Tm	0,6 %
Tensile load Long Term (TI)	150 N
Max. fiber strain at TI	0,2 %
Min. bending radius during installation	100 mm
Min. bending radius after installation	50 mm
Crush resistance E3A short (1 min)	3000 N/dm
Crush resistance E3A long	2000 N/dm
Crush load E3A long application time	10 min
Striking surface radius	10 mm
Torsion resistance	360 °/m
Kink resistance	25 mm



Optical specification

Category according to EN 50173	OS2
Max. attenuation @ 1310 nm	0,36 dB/km
Max. attenuation @ 1550 nm	0,23 dB/km
Max. attenuation @ 1625 nm	0,26 dB/km

Environmental specification

Longitudinal water blocking	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Installation temperature	-5/50 °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
Color fastness	Blue wool scale 8

Other specification

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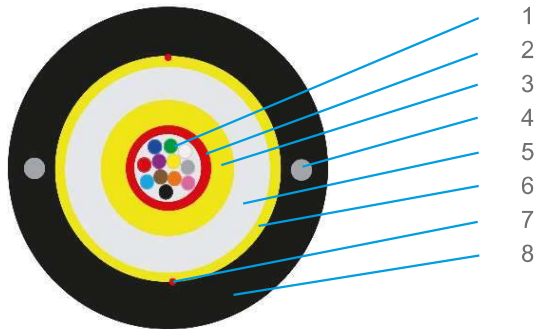
Logistical specifications

Unit	meter
Netto Weight (kg/m)	0.037
Default packaging	H X 1000/50

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

STAC



Description

- 1 Optical fibres
- 2 Soft tube
- 3 Strength member (waterblocking aramid yarns)
- 4 Embedded FRP rods
- 5 Inner sheath
- 6 Strength member (waterblocking aramid yarns)
- 7 Ripcord
- 8 Outer sheath

Colour code Telenor

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

Note: +t indicates a black tracer



STIC Dca

4x SM G.657.A2 (1x4)

Article number: 79989

Date: 11-10-2022

This special indoor cable with bend-insensitive fibre G.657.A2, protected by easy strippable soft tube, meets all requirements for modern building cabling: a small diameter, low weight, high tensile force and excellent bend and crush performance. Its easy, fast strippable sheath consist of special flame retardant LSZH-material, making the cable extremely robust, but flexible, with its 90° bend radius capability. Consequently, the STIC is perfectly suitable to be installed on the wall by using e.g. staples or glue. Due to its (semi-)dry construction, this cable is highly safe and can be used in any human habitation. The dry soft tube makes also easier its installation into the vertical riser shafts of MDU's.

STIC Dca
4x SM G.657.A2 (1x4)



Product characteristics

Cable type	STC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A2
Number of fibers	4
Number of fibers per optical element	4
Number of cores	1
Optical element	Soft tube
Cable metal free	Yes
Stripability outer sheath	1000 mm
Stripability optical element	> 1000 mm, down to primary coating
Strain relief	Yes
Type of strain relief	Aramid fibre
Material outer sheath	LSZH
Colour outer sheath	White
Outer sheath thickness	0,75 mm
Outer diameter approx.	4,0 mm



Marking	{Batch} {CE} DOP0053 {Year} {Length} ACE - TKF STIC Dca 4x SM G.657.A2 (1x4) 79989
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Application

Standardization	EN IEC 60794-2
Test procedures	EN IEC 60794-1-2
Application	Inside
Suitable for indoor installation	Simulated according IEC 60794-1-21 E27
90 degree bends (R = 1 mm) possible	Yes
Euro fire class according to EN 13501-6	Dca
Euro class smoke production according to EN 13501-6	s2
Euro class flaming droplets/particles according to EN 13501-6	d2
Euro class acidity according to EN 13501-6	a1

Mechanical specification

Tensile load short term (Tm)	300 N
Max. fiber strain at Tm	0,6 %
Tensile load Long Term (TI)	100 N
Min. bending radius during installation	50 mm
Min. bending radius after installation	30 mm
Crush resistance E3A short (1 min)	500 N/dm
Crush resistance E3A long	300 N/dm
Crush load E3A long application time	10 min
Striking surface radius	12,5 mm
Torsion resistance	360 °/m
Kink resistance	10 mm

Optical specification

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



Environmental specification

Longitudinal water blocking	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Cable longitudinally watertight	Yes
Installation temperature	-10/50 °C
Transportation and storage temperature	-25/60 °C
Operational temperature range Ta1 - Tb1	-10/50 °C
Operational temperature range Ta2 - Tb2	-25/60 °C
TC sample length for TC acc. F1 or F12	50 m

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
Vertical flame spread (for bunched cables)	IEC 60332-3-25 / EN 50266-2-5 (cat.D)
Caloric value	236 MJ/km

Logistical specifications

Unit	meter
Netto Weight (kg/m)	0.018
Default packaging	H X 1000/50



Fibre specification G.657.A2

ACE-DS-OT-VSP-SM-G657A2-v06-e

date : 13-05-2022

Technical product information

Product characteristics - optical fibers

Fibre

Type of fibre	Hydrogen passivated, dispersion unshifted, groove assisted, 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.A2
Standard	ITU-T G.657.A2

Characteristics

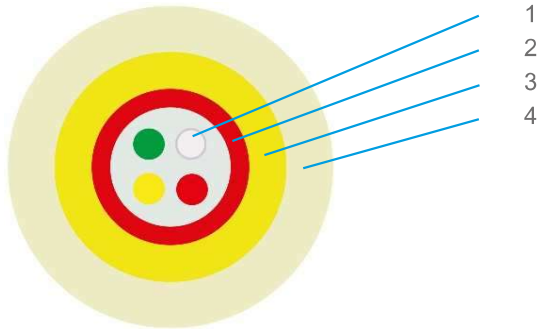
Parameter	Properties	Unit
Mode field diameter: 1310 nm	8.6 ± 0.4	µm
Mode field diameter: 1550 nm	9.6 ± 0.5	µm
Core/cladding concentricity error	max. 0.5	µm
Cladding diameter	125.0 ± 0.5	µm
Cladding non-circularity	max. 0.7	%
Coating diameter	242 ± 5	µm
Coating/cladding concentricity error	max. 8	µm
Temperature 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. 0.03	dB
Bending sensitivity - 10 turns around Ø30 mm - 1625 nm	max. 0.1	dB
Bending sensitivity - 1 turn around Ø20 mm - 1550 nm	max. 0.1	dB
Bending sensitivity - 1 turn around Ø20 mm - 1625 nm	max. 0.2	dB
Bending sensitivity - 1 turn around Ø15 mm - 1550 nm	max. 0.5	dB
Bending sensitivity - 1 turn around Ø15 mm - 1625 nm	max. 1.0	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: 1550 nm	max. 18	ps/nm·km
Chromatic dispersion: 1625 nm	max. 23	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	1.4676	-
Effective group core refractive index: 1550 nm	1.4683	-
Effective group core refractive index: 1625 nm	1.4685	-

note a: after hydrogen ageing

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

STIC Dca



Description

- 1 Optical fibres
- 2 Soft tube
- 3 Strength member (waterblocking aramid yarns)
- 4 Outer sheath

Colour code Telenor

Fibres

Group 1

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

Tubes

1	Red
2	Blue



 member of the TKH Group <



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