



CTC CS

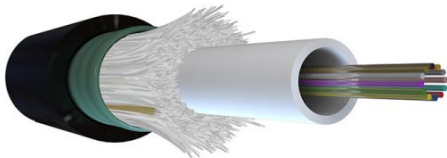
8x SM G.657.A1 (1x8)

Article number: 75213

Date: 12-01-2024

The Central Tube Cable Corrugated Steel (CTC CS) is a metallic, central tube outdoor cable, with longitudinally watertight cablecore, armoured with corrugated steel tape (excellent rodent resistance). Installation: Pulling into conduits, on cable trays or directly buried.

CTC CS
8x SM G.657.A1 (1x8)

**Product characteristics**

Cable type	CTC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	8
Number of fibers per optical element	8
Number of cores	1
Optical element	Loose tube, gel filled
Cable metal free	No
Strip method	1 Rip cord
Stripability optical element	> 1000 mm, down to primary coating
Strain relief	Yes
Type of strain relief	E-glass
Armouring	Yes
Armouring/reinforcement	Corrugated steel tape



Material outer sheath	PE
Colour outer sheath	Black
Outer sheath thickness	1,4 mm
Outer diameter approx.	8,2 mm
Marking	ACE - TKF - CTC CS 8 x SM G.657.A1 (1x8) 75213 {Year} {Batch} {Length}

Application

Standardization	EN IEC 60794-3-10
Test procedures	EN IEC 60794-1-2
Application	Outside
Euro fire class according to EN 13501-6	Fca

Mechanical specification

Tensile load short term (Tm)	2000 N
Max. fiber strain at Tm	0,6 %
Tensile load Long Term (TI)	600 N
Min. bending radius during installation	160 mm
Min. bending radius after installation	120 mm
Crush resistance E3A short (1min)	1500 N/dm
Crush resistance E3A long	750 N/dm
Crush load E3A long application time	10 min
Crush resistance E3B short term (1min)	1500 N
Crush resistance E3B long term	750 N
Crush load E3B long application time	10 min
Mandrel diameter by Crush meth. E3B	25 mm
Impact strength	10 J
Striking surface radius	300 mm
Torsion resistance	180 °/m
Kink resistance	120 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	0,28 dB/km



Environmental specification

Longitudinal water blocking	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Cable longitudinally watertight	Yes
Radial water blocking	Yes
Radial water blocking cable	Yes
Installation temperature	-15/60 °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
UV resistant	Yes
UV-protection	ISO 4892/2
Color fastness	Blue wool scale 8
Rodent resistant	Yes

Other specification

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

Unit	meter
Netto Weight (kg/m)	0.085
Default packaging	H X 4000/200



TECHNICAL PRODUCT INFORMATION

Product characteristics - optical fibres

21-06-2023

Fibre specification G.657.A1

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 ² ·km
Chromatic dispersion: 1285 - 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/√km
PMD _Q	max.	0.04	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	-

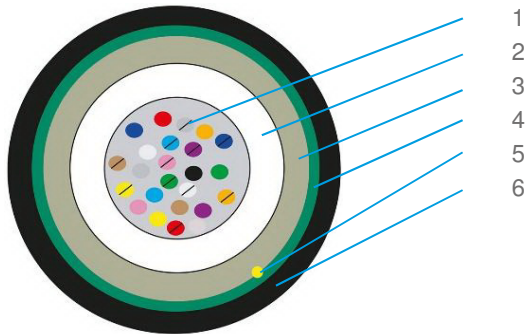
[note a: after hydrogen ageing]

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

CTC CS

FO cable with central tube, corrugated steel tape protection



Description

- 1 Optical fibres
- 2 Central tube with fibres
- 3 Reinforcement of glass yarns
- 4 Corrugated steel tape
- 5 Ripcord
- 6 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



DECLARATION OF PERFORMANCE (DOP) CE

Nr. DoP0084

1. Unique identification code for the product type:
This declaration concerns all optical fibre cables which are not tested for CPR rating.
2. Intended use of the construction product:
Supply of optical fibre cables in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke.
3. Manufacturer:
**TKF (B.V. Twentsche Kabelfabriek)
Spinnerstraat 15
7481 KJ Haaksbergen
Netherlands
Tel.: +31(0)53 573 22 55
E-mail: info@tkf.nl**
4. System of assessment and verification of constancy of performance of the construction product asset out in CPR, Annex V: **System 4**
5. Notified body: N.A.
6. Declared performance:

Essential characteristics	Performance	Harmonized technical specification
Reaction to fire	Fca	EN50575:2014/A1:2016
Dangerous substances	NPD	(EC) No 1907/2006, (REACH)

7. The performance of the product identified is in conformity with the declared performance.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in this document.

Signed for and on behalf of the manufacturer by:

H. Woldhuis
R&D Manager Optical Fibre Cables

Haaksbergen, September 20th 2023

Signature