



LTC RP

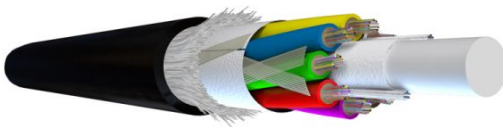
12x SM G.657.A1 (2x6)

Article number: 74552

Date: 26-03-2024

The Loose Tube Cable Rodent-Protected (LTC RP) is a robust, nonmetallic, loose tube outdoor duct cable, rodent protected, longitudinal water-protected, with high pulling force. Installation: by blowing or pulling, into conduits or on cable trays.

LTC RP
12x SM G.657.A1 (2x6)

**Product characteristics**

Cable type	LTC
Fibre type	Single mode 9/125
Optical fibre standard	ITU-T G.657.A1
Number of fibers	12
Number of fibers per optical element	6
Optical element	Loose tube, gel filled
Cable metal free	Yes
Number of layers	1 Layer
Strip method	1 Rip cord
Strain relief	Yes
Material outer sheath	HDPE
Colour outer sheath	Black
Outer sheath thickness	1,5 mm
Outer diameter approx.	10,0 mm



Marking	DQ(ZN)B2Y 74552 {Batch} {Year} {Length} ACE - TKF LTC RP 12x SM G.657.A1 (2x6) A-
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Application

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

Mechanical specification

Tensile load short term (Tm)	4000 N
Tensile load Long Term (TI)	2000 N
Min. bending radius during installation	200 mm
Min. bending radius after installation	150 mm
Impact strength	5 J
Striking surface radius	10 mm
Torsion resistance	360 °/m

Optical specification

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

Environmental specification

Longitudinal water blocking	Yes
Longitudinal watertight construction	Super Absorbing Polymer
Installation temperature	-15/55 °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
UV resistant	Yes
UV-protection	ISO 4892/2
With rodent protection	Yes



Other specification

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

Unit	meter
Netto Weight (kg/m)	0.079
Default packaging	H X 12000/600



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	-

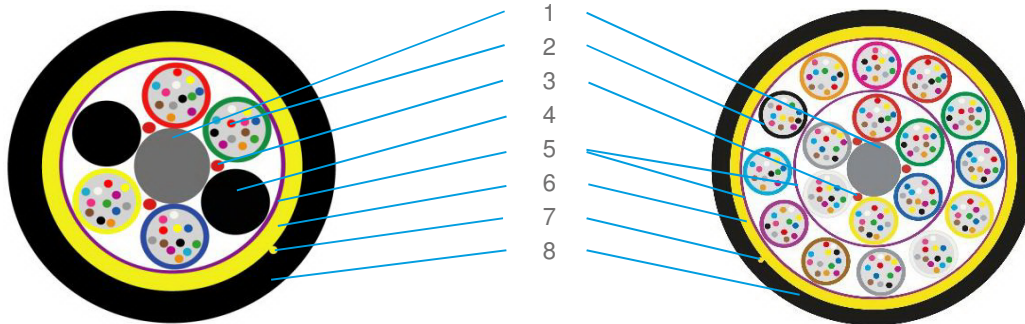
[note a: after hydrogen ageing]

TECHNICAL PRODUCT INFORMATION

Cable construction and colour code

LTC RP

FO cable with stranded loose tubes - Rodent protection



Description

- 1 Central element (FRP), optional with overshooth
- 2 Loose tube with optical fibres
- 3 Waterblocking yarns or tape
- 4 Filler
- 5 Waterblocking tape
- 6 Glass yarn strength members (rodent protection)
- 7 Ripcord (optional)
- 8 Outer sheath

Standard colours

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

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