TKF

Catalogue

ANGA 2007

Handout selection of Optical Fibre Cables FTTX

About TKF

BV Twentsche Kabelfabriek (TKF) was founded in 1930 and has grown from a local Dutch cable manufacturer to an international leader in cable technology, servicing customers all around the globe.

TKF started optical fibre cable production in 1986 and has acquired a leading position in the international broadband market,

operating group of companies, focusing on development and delivery of innovative Telecom, Building and Industrial Solutions. The building blocks forming these innovative solutions are

TKF has dedicated itself to efficient and reliable cable solutions, matching specific customer requirements - looking for longterm relationships - building bridges between a growing number of professional partners.

providing single mode and multimode fibre cables to various European operators, installers and end-customers. TKF is a full member of TKH Group, an internationally

technologies, know-how, products, and value added services such as consulting, development, assembly and logistic support. TKH strategy is aimed at offering solutions, and strives for a high return on investment for her clients.

TKF consciously opts for an active role in a number of market segments. As a result, TKF can respond better to clients demands. Visit our website www.tkf.nl for more information.

Symbols

Rodent protected
The cable is designed to protect the core from damage caused by rodents.

Rodent resistant
The cable is provided with a corrugated steel tape underneath the outer sheath..

Flame-retardant
halogen-free outer sheath The outer sheath of the cable is made of a flame-retardant and self-extinguishing material. The material is non-toxic and non-corrosive.

General information
Information about the company, products, markets, standards and certificates.

Reduced diameter
Cables with a small diameter due to the use of sector-shaped conductors

Flexible cables
cables with a reduced bending force index due to the use of stranded conductors.

Instrumentation cables
cables specially designed for very small measured value signals due to the use of a single or double shield around the specially stranded conductors.

Product information
specific information about the product and /or its application.

Telecommunication cables
cables with specific properties for transporting telecommunication signals due to the use of specific groups of conductors stranded for this application, whether or not with a single or double shield.

Radial water blocking
The outer sheath of the cable is designed and well tested to prevent water entering into the cable. The cable is provided with a moisture barrier that prevents radial ingress of water.

Longitudinal water blocking
Due to the cable construction and the materials used, water inside the core cannot spread through the cable longitudinally.

Contents

Copper braiding
cables with (tin-plated) copper braiding with improved properties against electromagnetic influences and increased mechanical protection.

EMC/EMI
excellent EMC/EMI properties.

Ship's cables
halogen-free cables that are difficult to burn, specifically designed for use on board ships and offshore platforms.

Motor cables
triple-core cables specifically designed as feeder cables for motors.

Signal cables
Cables with numbered cores, specifically designed for the transport of signals between processes and controls.

Medium and high-voltage cables
single-core or triple-core medium-voltage cables designed for the transport and distribution of voltages from 6/10 kV up to 36/50 kV.

LTC

LTC

Non-metallic, loose tube outdoor duct cable, longitudinal water-protected.
Installation: blowing into conduits, on cable trays.

Characteristics for use	Properties	Unit
Product group	Outdoor Cables	
Series	Glasvezelkabel Single Mode	
Type	LTC	
Standardization	IEC 60794-1-2	
Halogen free (acc. EN 50267-2-2)	Yes	
Longitudinal water blocking	Yes	
Strain relief	Yes	
Installable by blowing	Yes	
Application	Outside	
Type of tube	Loose tube, gel filled	
Fibre Type	See type table	
Material outer sheath	PE	
Colour outer sheath	See type table	
Tensile load	See type table	N
Transportation and storage temperature	-30 / 70	℃
Installation temperature	-5 / 50	℃
Operation temperature range	See type table	℃
Construction and Colour codes	See appendix	

Fibre Optic Cables

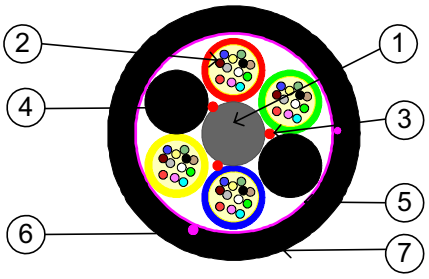
LTC

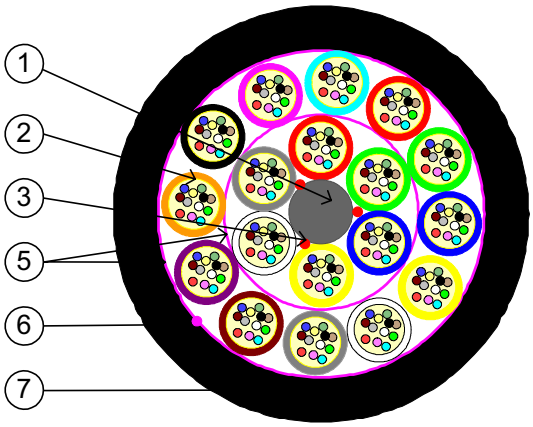
Art. Number TKF	Construction	Optical fibre standard	Net weight (kg/km)	Bending radius after	Outer diameter (mm)	Tensile load (N)
74500	4 x Singlemode (2 x 2)	ITU-T G.652.D	72	150	10	2000
74501	6 x Singlemode (3 x 2)	ITU-T G.652.D	73	150	10	2000
74502	8 x Singlemode (4 x 2)	ITU-T G.652.D	74	150	10	2000
74526	12 x Singlemode (2 x 6)	ITU-T G.652.D	72	150	10	2000
74503	12 x Singlemode (6 x 2)	ITU-T G.652.D	76	150	10	2000
74504	24 x Singlemode (6 x 4)	ITU-T G.652.D	76	150	10	2000
74505	24 x Singlemode (2 x 12)	ITU-T G.652.D	86	160	10,9	2000
74506	36 x Singlemode (6 x 6)	ITU-T G.652.D	76	150	10	2000
74507	36 x Singlemode (3 x 12)	ITU-T G.652.D	87	160	10,9	2000
74510	48 x Singlemode (4 x 12)	ITU-T G.652.D	89	160	10,9	2000
74509	48 x Singlemode (8 x 6)	ITU-T G.652.D	99	170	11,4	2500
74508	48 x Singlemode (6 x 8)	ITU-T G.652.D	91	160	10,9	2500
74511	60 x Singlemode (5 x 12)	ITU-T G.652.D	90	160	10,9	2000
74512	72 x Singlemode (6 x 12)	ITU-T G.652.D	91	160	10,9	2000
74513	84 x Singlemode (7 x 12)	ITU-T G.652.D	103	180	11,7	2500
74514	96 x Singlemode (8 x 12)	ITU-T G.652.D	117	190	12,5	2500
74515	108 x Singlemode (9 x 12)	ITU-T G.652.D	132	200	13,3	2500
74516	120 x Singlemode (10 x 12)	ITU-T G.652.D	151	210	14,1	3000
74517	132 x Singlemode (11 x 12)	ITU-T G.652.D	169	225	15	3500
74518	144 x Singlemode (12 x 12)	ITU-T G.652.D	188	240	15,9	3500
74519	192 x Singlemode (16 x 12)	ITU-T G.652.D	169	230	15,3	1750
74520	216 x Singlemode (18 x 12)	ITU-T G.652.D	191	240	16,1	2500
74521	288 x Singlemode (24 x 12)	ITU-T G.652.D	252	280	18,5	3000
74522	384 x Singlemode (16 x 24)	ITU-T G.652.D	247	280	18,6	2000
74523	432 x Singlemode (18 x 24)	ITU-T G.652.D	278	290	19,5	3000
74524	576 x Singlemode (24 x 24)	ITU-T G.652.D	378	340	22,8	3500
74525	624 x Singlemode (26 x 24)	ITU-T G.652.D	420	360	24	3500
74527	864 x Singlemode (36 x 24)	ITU-T G.652.D	498	390	26,1	4000

Product information

Cable construction and colour code

LTC **FO cable with stranded loose tubes**





Description:

1 Centre element, FRP optional with over sheath
2 Loose tube with optical fibres (2, 4, 6, 8, 12 or 24 fibres per tube)
3 Water blocking yarns or tape
4 Filler
5 Water blocking tape
6 Ripcord (optional)
7 Outer sheath (PE)

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

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Product information

Product Characteristics - Optical fibres

Fibre:		
type of fibre	hydrogen passivated, dispersion unshifted, matched cladding singlemode fibre **9/125**µm	
standard	IEC-60793-2-50, B1.3	
standard	ITU-T G.652.D	

Characteristics:	Properties	Unit
Mode field diameter; 1310nm	9.2 ± 0.5	µm
Mode field diameter; 1550nm	10.4 ± 0.6	µm
Core non-circularity	max. 6	%
Core/Cladding concentricity error	max. 0.6	µm
Cladding diameter	125.0 ± 0.7	µm
Cladding non-circularity	max. 1.0	%
Coating diameter, uncoloured	245 ± 5	µm
Coating diameter, coloured	250 ± 15	µm
Coating/Cladding concentricity error	max. 12	µm
Temperature sensitivity; -60°C to +85°C	max. 0.05	dB/km
Bending sensitivity - 100 turns around Ø50mm - 1550nm	max. 0.05	dB
Bending sensitivity - 100 turns around Ø60mm - 1625nm	max. 0.05	dB
Proof test level	min. 0.69	GPa
Fibre curl	min. 4	m
Cable cut-off wavelength	max. 1260	nm
Zero-dispersion wavelength	1300 - 1324	nm
Zero-dispersion slope	max. 0.093	ps/nm².km
Chromatic dispersion; 1285nm - 1330 nm	max. 3.4	ps/nm.km
Chromatic dispersion; 1271nm - 1360nm	max. 5.3	ps/nm.km
Chromatic dispersion; 1550nm	max. 18	ps/nm.km
Chromatic dispersion; 1625nm	max. 22	ps/nm.km
Polarisation mode dispersion; PMD_Q	max. 0.20	ps/√km
Attenuation at 1383nm (α_{1383}) [note a]	max. α_{1310}	dB/km

note a: after hydrogen ageing

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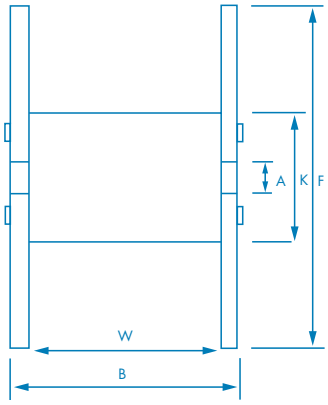
Reel size and weight

diameter flange	diameter core	diameter axle-hole	largest width	winding width	empty weight	volume
F	K	A	B	W		
mm	mm	mm	mm	mm	kg	m^3
600	315	100	420	300	16	0.2
800	400	100	560	400	40	0.4
1000	500	100	620	500	65	0.7
1200	600	100	760	600	100	1.2
1500	800	100	950	750	160	2.3
1750	1000	100	980	750	250	3.2
2000	1200	100	1080	850	325	4.5

Size and weight variances may occur



F = Diameter flange
K = Diameter core
A = Diameter axle-hole
B = Largest width
W = Winding width

Global customer support

General / Sales support		
Tel. +31(0)53 573 22 55	Fax 053-573 23 61	info@tkf.nl
Installation		
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Today's business is a global business. In order to offer customers the same excellent service, regardless of where they are located, TKF operates via a network of professional advisers and representatives.

For the address information of our representative for your region, please mail to:

info@tkf.nl

About TKF

BV Twentsche Kabelfabriek (TKF) founded in 1930, has grown from a local Dutch cable producer to a cable technology leader servicing customers all over the world.

A broad range of cable solutions is available for various applications, but only in one quality: TKF quality!

- Medium and high voltage cables
- Low voltage distribution cables
- Transformer switch connection cables

- Fibre Optic Cables
- Telecommunication cables
- Data cables
- CATV coaxial cables
- OSP Outside Plant Components
- ACE FTTx network solutions

- Low voltage installation cables and wires
- Signal and telecommunication cables
- Instrumentation cables
- Lead sheathed data and energy cables
- EMC motor cables

- Marine and offshore
- Rai infrastructure
- Security
- Traffic infrastructure
- Oil & Gas

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