

MUC



MUC - Micro Unitube Cable

The MUC is a non-metallic, waterproof customer drop cable, consisting of optical fibres in a jelly-filled central tube, surrounded by aramid-yarns (as tensile strength elements) and protected by a smooth polyamid outdoorsheath.

This outdoor cable is thin, light in weight and flexible and can be installed with narrow bending radii, therefore very suitable for application in the access network.

Installation: blowing into microducts of 4.0mm (inside diameter).

Commercial information		Properties	Unit
Product group		Fibre optic cable	
Series		Fibre optic cable Single mode	
Type		MUC	
Description		2x SM G.657.A1	
Net weight		5	kg/Km
Marking	ACE - TKF MuC 2x SM G.657.A1 74618 {Batch} {Year} {Length}		

Article number / standard length	EAN number	Properties	Unit
74618	8713182124076	Drum à 1	m
74618H X 6000/300	8713182127336	Drum à 6000	m

Construction		Properties	Unit
Standardization		IEC 60794-5-10	
Test procedures		IEC 60794-1-2	
Application		Outside	
Cable metal free		Yes	
Blow in		Yes	
Strain relief		Yes	
Oil resistant (acc. EN 60811-2-1)		Yes	
Longitudinal water blocking		Yes	
Number of fibres		2	
Number of fibres per tube		2	
Number of cores		1	
Type of duct		Loose tube, gel filled	
Fibre type		Single mode	
Optical fibre standard		ITU-T G.657.A1	



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Construction	Properties	Unit
Number of layers	1 Layer	
Type of strain relief	Aramid fibre	
Material outer sheath	Polyamide	
Colour outer sheath	Black	

Characteristics for use	Properties	Unit
Halogen free	Acc. IEC 60754-1	
UV-protection	ISO 4892/2	
Outer sheath thickness	0.25	mm
Outer diameter approx.	2.45	mm
Max. cord diameter	2.6	mm
Bending radius during installation	30	mm
Bending radius after installation	20	mm
Tensile load short term (Tm)	200	N
Tensile load Long Term (Tl)	75	N
Max. fiber strain at Tm	0.4	%
Installation temperature	-15 / 50	°C
Operation temperature range	-30 / 70	°C
Transportation and storage temperature	-40 / 70	°C

Technical characteristics	Properties	Unit
Attenuation @ 1310 nm	0.36	dB/km
Attenuation @ 1550 nm	0.25	dB/km
Attenuation @ 1625 nm	0.35	dB/km
Crush resistance acc. meth.E3A	800	N/dm
Impact strength	2	J
Striking surface radius	300	mm
Torsion resistance	360	°/m
Kink resistance	40	mm

Product Characteristics - Optical fibres

Fibre:			
	type of fibre	hydrogen passivated, dispersion unshifted, matched cladding bending loss insensitive singlemode fibre 9/125µm	
		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, B6-a1	
	standard	ITU-T G.657.A1	

Characteristics:	Properties	Unit
Mode field diameter; 1310nm	9.0 ± 0.3	µm
Mode field diameter; 1550nm	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. 0.6	%
Coating diameter, uncoloured	242 ± 5	µm
Coating diameter, coloured	248 ± 6	µm
Coating/Cladding concentricity error	max. 8	µm
Temperature sensitivity; -60°C to +85°C	max. 0.05	dB/km
Bending sensitivity - 10 turns around Ø30mm - 1550nm	max. 0.1	dB
Bending sensitivity - 10 turns around Ø30mm - 1625nm	max. 0.3	dB
Bending sensitivity - 1 turn around Ø20mm - 1550nm	max. 0.75	dB
Bending sensitivity - 1 turn around Ø20mm - 1625nm	max. 1.5	dB
Proof test level	min. 0.69	GPa
Fibre curl	min. 4	m
Cable cut-off wavelength	max. 1260	nm
Zero-dispersion wavelength	1300 - 1322	nm
Zero-dispersion slope	max. 0.090	ps/nm ² .km
Chromatic dispersion; 1285nm - 1330 nm	max. 3.2	ps/nm.km
Chromatic dispersion; 1550nm	max. 17.0	ps/nm.km
Chromatic dispersion; 1625nm	max. 21.0	ps/nm.km
Polarisation Mode Dispersion; maximum individual fibre	max. 0.1	ps/√km
Max. attenuation at 1383nm (α ₁₃₈₃) [note a]	< max. α ₁₃₁₀	
Effective Group Core Refractive Index; 1310 nm	1.465	-
Effective Group Core Refractive Index; 1550 nm	1.465	-
Effective Group Core Refractive Index; 1625 nm	1.465	-

note a: after hydrogen ageing