FO-Patch cord FC PC/FC PC tde 9/125µ OS2 Duplex LSOH Length: xxxxx



tde - Fiber Optic Assemblies

The tde patch and trunk cables are manufactured completely at the German facility in Ohrte. Production processes at tde meet the latest standards, and the company has one of the most up-to-date fiber optic assembly houses in Europe. Fiber optic patch cables and trunk cables are manufactured in many different configurations using highly automated processes on two independent mass production lines. The range of products on offer encompasses the entire spectrum of connector types available on the market. Production capacity is around 100,000 fiber optic connectors per month, and this can be ramped up easily whenever required. To guarantee consistently top quality, only the best components from renowned vendors are used. All tde production staff have the necessary qualifications and education, and have been well trained in using specialist technical equipment such as laser cleavers and glue-dispensing robots.
Each cable application is subjected to a full test procedure comprising interferometer measurements, insertion loss and return loss measurements and a final visual inspection to ensure that only 100% error-free products are shipped to the customer.

Products made by tde perform at least internationally accepted quality standards and norms. The quality management system is ISO 9001, ISO 14001 and TL9000 certified.

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Technical Data

FO Connectors

Connector Type	FC UPC
Housing	Metal
Ferrule	Zirconia Straight Split, Spring-loaded Axially
Ferrule Hole	125.5 µ
Ferrule Concentricity	≤ 0.6 µ
Mating Cycles	500
Operating Temperature	-40°C up to +75°C
Strain Relief to	150 N
Manufacturer	tde

Optical performance

Fiber	Type	Wavelength	Insertion loss typ.	Insertion loss max.	Return loss min.
9/125µ	FC UPC	1550 nm	≤ 0.10 dB	0.25 dB	55 dB

FO Cables

Flame resistance	IEC 60332-3
	IEC 60754
	IEC 61034-1
	IEC 61034-2

Cable construction

Type	IVH02E9
Tight buffer	2x 900µ coated fibers (free movable in the compound)
Fiber type	SM 9/125µ, Corning G.657.A1 Ultra Fiber
Strength members	Aramid yarn (free movable in the compound)
Outer jacket	LSZH (Halogen free, low smoke, flame retardant thermoplastic compound)
Jacket color	Yellow, RAL 1021
Identification	"t d e – IVH02E09 - 2.4mm Ultra LSZH" and sequential meter marking + Lot number

Physical properties

Outer diameter cable	2x 2.4 ± 0.1 mm
Temperature range	-20°C to +70°C

FO Fiber

Type	Corning Ultra SMF-28® 09/125µ OS2 singlemode fiber

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Maximum Attenuation	At 1310 nm max. 0.32 dB/km At 1383 nm max. 0.32 dB/km At 1490 nm max. 0.21 dB/km At 1550 nm max. 0.18 dB/km At 1625 nm max. 0.20 dB/km
Attenuation vs. Wavelength	Range: 1285 - 1330 mm; Ref. λ: 1310 nm; Max. Difference: 0.03 dB/km Range: 1525 - 1575 mm; Ref. λ: 1550 nm; Max. Difference: 0.02 dB/km
Macrobend Loss	Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1550nm; Induced Attenuation: ≤ 0.50 dB Mandrel Radius: 10mm; Number of Turns: 1; Wavelength: 1625nm; Induced Attenuation: ≤ 1.5 dB Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1550nm; Induced Attenuation: ≤ 0.05 dB Mandrel Radius: 15mm; Number of Turns: 10; Wavelength: 1625nm; Induced Attenuation: ≤ 0.30 dB Mandrel Radius: 25mm; Number of Turns: 100; Wavelength: 1310nm, 1550nm, 1625nm; Induced Attenuation: ≤ 0.01 dB
Point Discontinuity	Wavelength: 1310 nm; Point Discontinuity: ≤ 0.05 dB Wavelength: 1550 nm; Point Discontinuity: ≤ 0.05 dB
Cable Cutoff Wavelength (λccf)	λccf ≤ 1260 nm
Mode-Field Diameter	At 1310 nm = 9.2 ± 0.4 µm At 1550 nm = 10.4 ± 0.5 µm
Dispersion	At 1550 nm = ≤ 18.0 [ps/(nm*km)] At 1625 nm = ≤ 22.0 [ps/(nm*km)]
	Zero Dispersion Wavelength (λ_0): 1304 nm ≤λ_0≤ 1324 nm Zero Dispersion Slope (S_0): ≤ 0.092 ps/(nm² *km)
Polarization Mode Dispersion (PMD)	PMD Link Design Value = ≤ 0.04 ps/√km Maximum Individual Fiber = ≤ 0.1 ps/√km

Dimensional Specifications

Fiber Curl	≥ 4.0 m radius of curvature
Cladding Diameter	125.0 ± 0.7 µm
Core-Clad Concentricity	≤ 0.5 µm
Cladding Non-Circularity	≤ 0.7%
Coating Diameter	242 ± 5 µm
Coating-Cladding Concentricity	< 12 µm

Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation 1310 nm, 1550 nm & 1625 nm
Temperature Dependence	-60°C to +85°C	≤ 0.05
Temperature Humidity Cycling	-10°C to +85°C up to 98% RH	≤ 0.05
Water Immersion	23°C ± 2°C	≤ 0.05
Heat Aging	85°C ± 2°C	≤ 0.05
Operating Temperature Range	-60°C to +85°C	

Mechanical Specifications

Proof Test	The entire fiber length is subjected to a tensile stress ≥ 100 kpsi (0.69 GPa).
Length	Fiber lengths available up to 63.0 km/spool.

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Performance Characterizations

Core Diameter	8.2 µm
Numerical Aperture	0.14
Effective Group Index of Refraction	1310 nm: 1.4676 1550 nm: 1.4682
Fatigue Resistance Parameter (nd)	20
Coating Strip Force	Dry: 0.6 lbs (3N) Wet: 14 days room temperature: 0.6 lbs (3N)
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1310 nm: -77 dB 1550 nm: -82 dB

Product variants & accessories

Art.-No.	Description
P-FCA/FCA09Dxxxxx	FO-Patch cord FC APC/FC APC tde 9/125µ OS2 Duplex LSOH Length: xxxxx
P-FC/FC09Dxxxxx	FO-Patch cord FC PC/FC PC tde 9/125µ OS2 Duplex LSOH Length: xxxxx

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