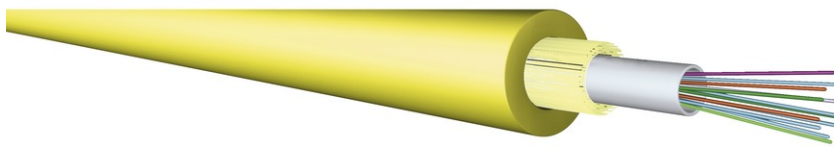


FO Indoor cable 12E9/125 μ OS2, LSOH



tde - Standard FO Cables

The standard fiber optic cable types of tde specifically for the assembling of patch and adapter cables, pigtails and trunk cables has been developed. Also the use in FTTH applications inside buildings is possible. The breakout cables have up to 24 individual elements with a 2mm diameter. The overall cable diameter is very slim.

These cables are characterized by very good termination properties. The cable jacket and the secondary coating are easy removable.

Application

- The intended application for this cable is as patch cords for data centres
- Suited for 12 fiber MPO/MTP[®] connectors
- Suited for single fiber connectors as tMD - tde Micro Distribution cable



tde[®] trans data elektronik GmbH

Headquarter address:

Lingener Str. 2
D-49626 Bippen/Ohrte
Tel.: +49 5435 9511 0
Fax.: +49 5435 9511 32

Sales office address:

Prinz-Friedrich-Karl-Str. 46
D-44135 Dortmund
Tel.: +49 231 914 36 99
Fax.: +49 231 914 31 29

info@tde.de | www.tde.de

FO Indoor cable 12E9/125 μ OS2, LSOH

Technical Data

Standards	EN 50173-5
	IEC 60794-2-20
	ISO/IEC 24764
Flame resistance	IEC 60332-1-2
	IEC 60332-2-2
	IEC 60754-1
	IEC 60754-2
	IEC 61034

Cable construction

Type	IVH12E09
Loose tube	12 coated fibers within PVC-core tube
Fiber type	SM-G652D, 9/125 μ , Corning SMF-28e+, OS2
Strength members	Aramid yarn
Outer jacket	LSZH (Halogen free, low smoke, flame retardant thermoplastic compound)
Jacket color	Yellow, RAL 1021
Identification	"t d e – IVH12E09–MPO LSZH" and sequential meter marking + Lot number

Physical properties

Outer diameter cable	3.0 \pm 0.1 mm
Diameter PVC-core tube	1.8 \pm 0.1 mm
Wall thickness PVC-core tube	0.35 mm – 0.40 mm
Max. tensile load	300 N
Min. bending radius	30 mm
Temperature range (storage, installation, operation)	-20°C to +70°C

FO Fiber

Type	Corning SMF-28e+ [®] 09/125 μ OS2 G.652.D singlemode fiber
Maximum Attenuation	At 1310 nm max. 0.33 - 0.35 dB/km At 1383 \pm 3 nm max. 0.31 - 0.35 dB/km At 1490 nm max. 0.21 - 0.24 dB/km At 1550 nm max. 0.19 - 0.20 dB/km At 1625 nm max. 0.20 - 0.23 dB/km
Attenuation vs. Wavelength	Range: 1285 - 1330 nm; Ref. λ : 1310 nm; Max. Difference: 0.03 dB/km Range: 1525 - 1575 nm; Ref. λ : 1550 nm; Max. Difference: 0.02 dB/km
Macrobend Loss	Mandrel Diameter:32mm; Number of Turns: 1; Wavelength: 1550nm; Induced Attenuation: \leq 0.03 dB Mandrel Diameter:50mm; Number of Turns: 100; Wavelength: 1310nm; Induced Attenuation: \leq 0.03 dB Mandrel Diameter:50mm; Number of Turns: 100; Wavelength: 1550nm; Induced Attenuation: \leq 0.03 dB Mandrel Diameter:60mm; Number of Turns: 100; Wavelength: 1625nm; Induced Attenuation: \leq 0.03 dB
Point Discontinuity	Wavelength: 1310 nm; Point Discontinuity: \leq 0.05 dB Wavelength: 1550 nm; Point Discontinuity: \leq 0.05 dB
Cable Cutoff Wavelength (λ_{ccf})	$\lambda_{ccf} \leq$ 1260 nm

FO Indoor cable 12E9/125 μ OS2, LSOH

Mode-Field Diameter	At 1310 nm = $9.2 \pm 0.4 \mu\text{m}$ At 1550 nm = $10.4 \pm 0.5 \mu\text{m}$
Dispersion	At 1550 nm = ≤ 18.0 [ps/(nm*km)] At 1625 nm = ≤ 22.0 [ps/(nm*km)]
	Zero Dispersion Wavelength (λ_0): 1310 nm $\leq \lambda_0 \leq$ 1324 nm Zero Dispersion Slope (S_0): ≤ 0.092 ps/(nm ² *km)
Polarization Mode Dispersion (PMD)	PMD Link Design Value = ≤ 0.06 ps/ $\sqrt{\text{km}}$ Maximum Individual Fiber = ≤ 0.1 ps/ $\sqrt{\text{km}}$
Norm	ITU-T Recommendation G.652 (Tables A, B, C, and D) IEC Specifications 60793-2-50 Type B1.3 TIA/EIA 492-CAAB Telcordia Generic Requirements GR-20-CORE ISO 11801 OS2

Dimensional Specifications

Fiber Curl	≥ 4.0 m radius of curvature
Cladding Diameter	$125.0 \pm 0.7 \mu\text{m}$
Core-Clad Concentricity	$\leq 0.5 \mu\text{m}$
Cladding Non-Circularity	$\leq 0.7\%$
Coating Diameter	$242 \pm 5 \mu\text{m}$
Coating-Cladding Concentricity	$< 12 \mu\text{m}$

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 \pm 2°C	≤ 0.05
Heat Aging	85°C \pm 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 (0.7 GPa).
Length	Fiber lengths available up to 63.0 km/spool.

Performance Characterizations

Core Diameter	8.2 μm
Numerical Aperture	0.14
Zero Dispersion Wavelength (λ_0)	1317 nm
Zero Dispersion Slope (S_0)	0.088 ps/(nm ² *km)
Effective Group Index of Refraction	1310 nm: 1.4676 1550 nm: 1.4682
Fatigue Resistance Parameter (nd)	20

FO Indoor cable 12E9/125 μ OS2, LSOH

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
L-IVH12E09-MPO	FO Indoor cable 12E9/125 μ OS2, LSOH
L-IVH12G50-MPO-OM2	FO Indoor cable 12G50/125 μ OM2, LSOH
L-IVH12G50-MPO-OM3	FO Indoor cable 12G50/125 μ OM3, LSOH
L-IVH12G50-MPO-OM4	FO indoor cable 12G50/125 μ OM4, LSOH
L-IVH12G62-MPO	FO Indoor cable 12G62,5/125 μ OM1, LSOH