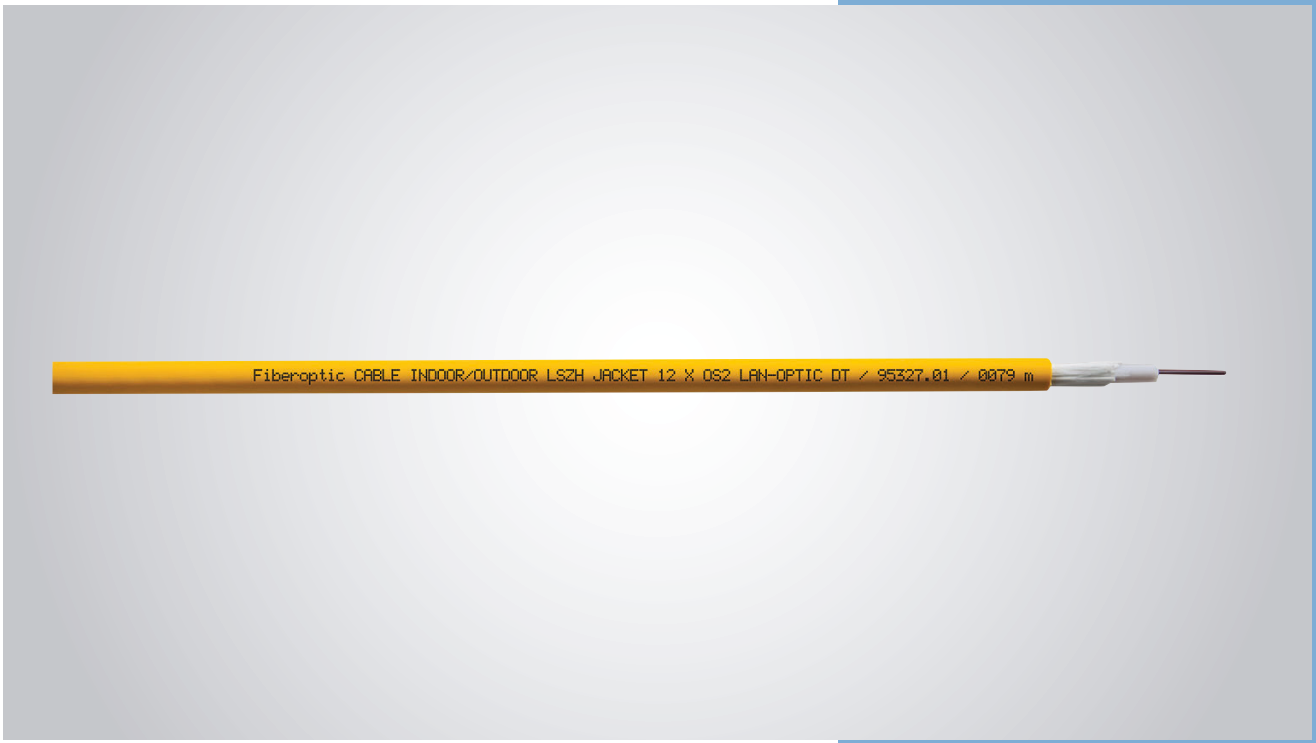
Fiberkabel 12X9/125 LSZH gul inden/udendørs LAN-OPTIC OS2



Anvendelse

Anvendes i datainstallationer som backbone, eller ved lange afstande, hvor der ønskes stor båndbredde. Kabelet kan anvendes inden/udendørs. Skal føres i rør, ved udendørs installationer.

Specifikation

Konstruktion: Loose Tube
Antal fiber: 12
Fiberstørrelse: 9 my
IOR, 1310nm: 1.467
IOE, 1550nm: 1.468
IOE, 1625nm: 1.468
Kappe: LSZH
Trækstyrke: 1000 N
Standard: OS2 G652
CPR: Dca
Oplægning: Tromle 4000m

Vare-nr.: 232550
EANnr.: 5706683010583

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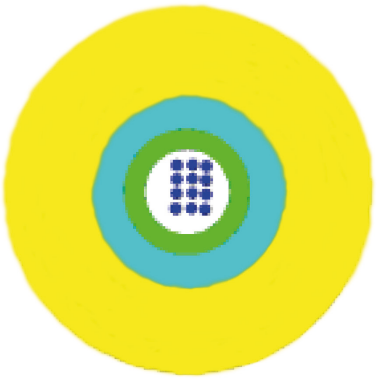

Application and installation

This cable can be used for LAN and WAN backbones, telecom access lines, fibre to business and fibre to the building drop connections as well as fibre to the home drop and access connections.

With its FireBur® LSHF sheathing this cable is ideal for mixed indoor and outdoor installation.
It is equally suited for installation in ducts and on trays.

Standards

ISO 11801 2nd edition, EN 50173-1:2002, IEC 60794-1

Flame resistance

IEC 60332-1-2, IEC 60754-1, IEC 60754-2, IEC 61034-2

Construction

Loose tube	Ø2.8 mm jelly filled loose tube with 12 fibres			
Fibre colour code	1	Red	13	Yellow w/mark every 70 mm
	2	Green	14	White w/mark every 70 mm
	3	Blue	15	Grey w/mark every 70 mm
	4	Yellow	16	Turquoise w/mark every 70 mm
	5	White	17	Orange w/mark every 70 mm
	6	Grey	18	Pink w/mark every 70 mm
	7	Brown	19	Yellow w/mark every 35 mm
	8	Violet	20	White w/mark every 35 mm
	9	Turquoise	21	Grey w/mark every 35 mm
	10	Black	22	Turquoise w/mark every 35 mm
	11	Orange	23	Orange w/mark every 35 mm
	12	Pink	24	Pink w/mark every 35 mm
Strength member	Waterblocked E-Glass fibre elements			
Sheath	1.0 mm yellowFireBur® sheath, UV stabilised, IEC 50290-2-27			
Sheath marking	Lan-Optic fiber optic cable indoor/outdoorLSZH jacket 12x0S2			

LAN-OPTIC

Fiberkabel 12x9/125 LSZH gul inden/udendørs LAN-OPTIC OS2

Physical properties

Attribute	IEC 60794-1-2 Method	Limits
Nominal outer diameter	-	6.0 mm
Nominal weight	-	40 kg/km
Maximum installation tensile strength	E1	1000 N (fibre strain less than 1/2 of proof test level)
Short term tensile strength	E1	750 N (fibre strain less than 1/3 of proof test level)
Permanent tensile strength	E1	500 N (no attenuation change, fibre strain less than 1/4 of proof test level)
Compressive strength (crush)	E3	1500 N
Impact	E4	15 Nm (no attenuation change, no broken cable elements)
Torsion	E7	5 cycles ± 1 turn
Kink	E10	The cables do not form a kink when a loop is drawn together to a diameter of 100 mm
Min. bending radius, unloaded	E11	R = 60 mm
Min. bending radius, loaded	-	R = 100 mm
Temperature range	F1	Storage: -40°C to +60°C Installation: -30°C to +40°C Operation: -30°C to +60°C.
Water penetration	F5B	No water on free end
Heat of combustion		630 MJ/km = 0,18 kWh/m

Compact / Lightweight / Flexible / Tough / Resistant / Totally dielectric / Watertight / Reduced diameter / Rodent protected.

Totally dielectric | Moisture protected | Watertight | Ultraviolet resistance | Rodent protetion | Flame retardant | Low smoke emission | Halogen free | Eca

Properties of cable with standard BendBright® fibre

ESMF, low water peak G652D, OS2, G657A1 low bend, FTTx

General and application

The optical fibres are made of a high grade doped silica core surrounded by a silica cladding;

They are coated with a dual layer, UV cured acrylate based coating.

This enhanced low macro bending sensitive, low water peak fibre, gives very good bending performance. This BendBright® fibre is suitable for all applications (access networks as well as general transport networks). The BendBright® offers reduced bending radii for many cables types. The fibre fulfils the latest ITU G.657 A1 specification, as well as G.652.D. The low macro bending sensitivity further guarantees that the 1625 nm window (L-band) will be available for future use in this bandwidth hungry environment

Standards and Norms

IEC 60793-2-50 Category B.1.3 and B6_a1	ANSI/ICEA S-87-640
ITU Recommendation G.657.A1	EN 50 173-1: cat. OS2 and OS1
ITU Recommendation G.652 A, B, C and D	ISO/IEC 11801: cat. OS1
Telcordia GR-20-CORE	ISO/IEC 24702: cat. OS2 and OS1
	IEEE 802.3

Optical properties

Attribute	Measurement method	Units	Limits
Mode field diameter at 1310 nm	IEC/EN 60793-1-45	µm	9.0 ± 0.4
Mode field diameter at 1550 nm		µm	10.1 ± 0.5
Chromatic dispersion coefficient:	IEC/EN 60793-1-42		
In the interval 1285 nm – 1330 nm		ps/km • nm	≤ |3|
At 1550 nm		ps/km • nm	≤ 18.0
At 1625 nm		ps/km • nm	≤ 22.0
Zero dispersion wavelength, λ_0		nm	1300 - 1322
Zero dispersion slope		ps/(nm^2 • km)	≤ 0.092
Cut-off wavelength	IEC/EN 60793-1-44	λ_{cc} nm	≤ 1260 *
Polarisation mode dispersion (PMD) coefficient	IEC/EN 60793-1-48	ps/√km	≤ 0.1
PMD_Q Link Design Value (computed with Q=0.01%, N=20)	IEC/EN 60794-3	ps/√km	≤ 0.06

** guaranteed value according to the ITU-T (ATM G650) method*

Attenuation

Attribute	Measurement method	Units	Limits
Maximum attenuation value of cable in the interval 1310 nm – 1625 nm*	IEC/EN 60793-1-40	dB/km	≤ 0.39
Maximum attenuation value of cable at 1550 nm	IEC/EN 60793-1-40	dB/km	≤ 0.22
Local discontinuity at 1310 and 1550 nm	IEC/EN 60793-1-40	dB	max. 0.1

** Including H2-ageing according to IEC 60793-2-50, type B.1.3, @1383nm*

Attenuation variation vs Bending

Attribute	Measurement method	Units	Limits
100 turns on a mandrel R = 25 mm, @1310 & 1550nm	IEC/EN 60793-1-47	dB	≤ 0.02
100 turns on a mandrel R = 30 mm, @1625nm	IEC/EN 60793-1-47	dB	≤ 0.05
10 turns on a mandrel R = 15 mm, @1550nm	IEC/EN 60793-1-47	dB	≤ 0.25
10 turns on a mandrel R = 15 mm, @1625nm	IEC/EN 60793-1-47	dB	≤ 1.0
1 turn on a mandrel R = 10 mm, @1550nm	IEC/EN 60793-1-47	dB	≤ 0.75
1 turn on a mandrel R = 10 mm, @1625nm	IEC/EN 60793-1-47	dB	≤ 1.5

Group index of refraction

Attribute	Measurement method	Units	Values
1310 nm	IEC/EN 60793-1-22	-	1.467
1550 nm	IEC/EN 60793-1-22	-	1.467
1625 nm	IEC/EN 60793-1-22	-	1.468

Rayleigh Backscatter coefficient (1ns pulse width)

Attribute	Measurement method	Units	Values
1310 nm	-	dB	-79.4
1550 nm	-	dB	-81.7
1625 nm	-	dB	-82.5

Geometrical properties

Attribute	Measurement method	Units	Limits
Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 0.7
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 0.7
Core (MDF) -cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 0.5
Primary coating diameter – ColorLock®^{XS} and natural	IEC/EN 60793-1-21	µm	242 ± 7
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12

Mechanical properties

Attribute	Measurement method	Units	Limits
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Strip force (peak)	IEC/EN 60793-1-32	N	$1.2 \leq F_{peak.strip} \leq 8.9$
Dynamic fatigue resistance aged and unaged	IEC / EN 60793-1-33	(N_d)	≥ 20
Static fatigue, aged	IEC / EN 60793-1-33	(N_s)	≥ 23

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