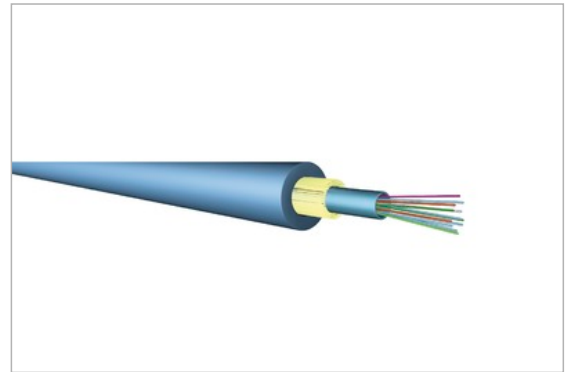


# FO Universal Cable 4G50/125µm OM3 1.5kN with non-metallic rodent protection

## Description

This cable can be used for LAN and WAN backbones, telecom access lines, fiber to business and fiber to the building drop connections as well as fiber to the home drop and access connections. With its FireBur<sup>®</sup> LSHF sheathing this cable is ideal for mixed indoor and outdoor installation. This cable features a high tensile strength and a degree of rodent protection, effective in many cases. It is equally suited for installation in ducts and on trays. The cable is suited for installation in tubes by blowing and flooding. The cable may be used for direct burial with proper sand back filling.



## Technical Data

### Standards

ISO 11801 2<sup>nd</sup> edition

EN 50173-1:2002

IEC 60794-1

### Construction

Cabletype	Universal U-DQ(ZN)BH for indoor and outdoor use
Loose tube	ø2.8 mm jelly filled loose tube
Strength Member	Waterblocked E-Glass fiber elements
Sheath	1.5 mm blue FireBur <sup>®</sup> sheath, UV stabilised, IEC 50290-2-27

### Fire rating

IEC 60332-1-2	Single vertical wire test
IEC 60754-1	No halogens
IEC 60754-2	No acid matters
IEC 61034-2	No dense smoke

### Heat of combustion

Fiber count	MJ/km	KWh/m
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2-16	1100	0.31
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## Mechanical properties

Maximum installation tensile strength	E1	1500 N (fiber strain less than 1/2 of proof test level)
Short term tensile strength	E1	1000 N (fiber strain less than 1/3 of proof test level)
Permanent tensile strength	E1	700 N (no attenuation change, fiber strain less than 1/4 of proof test level)
Compressive strength (crush)	E3	2000N
Impact	E4	20 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 200 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 (short term up to 70 °C) Installation: -15°C to +40°C Operation: -30°C to +70°C
Water penetration	F5B	No water on free end
Nominal outer diameter	-	2 - 16 fibers: 7.5 mm
Nominal weight	-	2 - 16 fibers: 55 kg/km

## FO Fiber

Type	Draka OM3 50/125µm bend-insensitive multimode fiber (C31)
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Standards and Norms	IEC 60793-2-10: type A1a.2	ITU G.651.1	TIA/EIA-492 AAAC
	ISO/IEC 11801 category OM3	EN 60793-2-10: type A1a.2	ANSI/TIA/EIA-568.C
	ISO/IEC 24764	EN 50173-1 category OM3	IEEE 802.3

## Cable attenuation according to IEC 60793-1

Maximum value of cable at 850 nm	≤ 3.0 dB/km
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Maximum value of cable at 1300 nm	≤ 1.0 dB/km
Attenuation limit according to IEC 60793-2-10, 850 nm	≤ 2.5 dB/km
Attenuation limit according to IEC 60793-2-10, 1300 nm	≤ 0.8 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fiber lengths	Max. 0.1 dB/km
Fiber bending loss R=7.5 mm 850/1300 nm	≤ 0.2 dB / ≤ 0.5 dB
Fiber bending loss R=15 mm 850/1300 nm	≤ 0.1 dB / ≤ 0.3 dB

## Bandwidth according to IEC 60793-1

Overfilled (OFL) modal bandwidth at 850 nm	≥ 1500 MHz*km
Overfilled (OFL) modal bandwidth at 1300 nm	≥ 500 MHz*km
Effective Modal Bandwidth (EMB) at 850 nm (Assured by means of differential mode delay (DMD) measurement as specified in IEC 60793-1-49)	≥ 2000 MHz*km

## Other properties according to IEC 60793-1

Attribute	Measurement method	Limits
Core diameter	IEC/EN 60793-1-20	50 ± 2 µm
Cladding diameter	IEC/EN 60793-1-20	125.0 ± 1.0 µm
Cladding non-circularity	IEC/EN 60793-1-20	≤ 0.7%
Core non-circularity	IEC/EN 60793-1-20	≤ 5%
Core-cladding concentricity error	IEC/EN 60793-1-20	≤ 1 µm
Primary coating diameter - uncoloured	IEC/EN 60793-1-21	242 ± 5 µm
Primary coating diameter - coloured	IEC/EN 60793-1-21	250 ± 15 µm
Primary coating non-circularity	IEC/EN 60793-1-21	≤ 5%
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	≤ 6 µm
Group index of refraction at 850 nm	IEC/EN 60793-1-22	1.482
Group index of refraction at 1300 nm	IEC/EN 60793-1-22	1.477
Proof stress level	IEC/EN 60793-1-30	≥ 0.7 (≈ 1 %)

# FO Universal Cable 4G50/125µm OM3 1.5kN with non-metallic rodent protection

Typical average strip force	IEC/EN 60793-1-32	1.7 N
Strip force (peak)	IEC/EN 60793-1-32	$1.3 \text{ N} \leq F_{\text{peak.strip}} \leq 8.9 \text{ N}$
Numerical aperture	IEC/EN 60793-1-43	$0.200 \pm 0.015$

Art.-No.	Description
L-U-DQ(ZN)BH004G50-3	FO Universal Cable 4G50/125µm OM3 1.5kN with non-metallic rodent protection