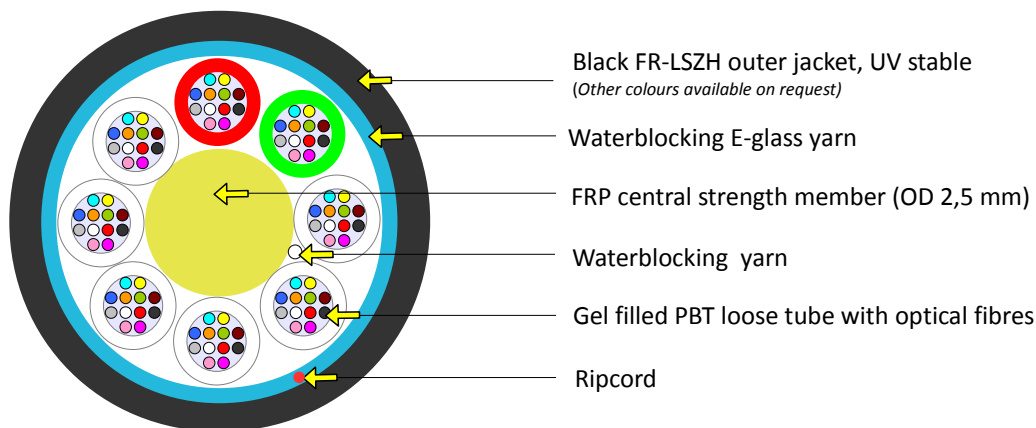


## Loose Tube Cable- Indoor/Outdoor

**ID: HBBX96F**

**J/A-DQ(BN)H 8×1,5 max. 96F**

This cable is certified for blowing into tube 14/10mm Ducts



### Mechanical and Environmental properties

Test	Value	Unit	Method
Cable outer diameter	8,3 ± 0,4	mm	EN 60811-203
Cable weight	76	kg/km	
Outer jacket thickness	1,1	mm	
Loose tube diameter	1,5	mm	
Max. tensile strength	2700	N	EN 60794-1-21-E1
Crush resistance test	1500	N	EN 60794-1-21-E3
Impact resistance test	15	Nm	EN 60794-1-21-E4
Min. bend radius (no load)	15	× OD	EN 60794-1-21-E11a
Min. bend radius (load)	20	× OD	EN 60794-1-21-E11b
Temperature range	Installation	-15 to + 50	°C
	Operation	-40 to + 70	°C
	Storage	-40 to + 70	°C
Fire properties – Flammability	pass		EN 60332-3-22 (cat.A)
Fire properties – Acid gases	pass		EN 60754-1 EN 60754-2
Fire properties – Smoke density	pass		EN 61034-1 EN 61034-2
CPR Classification	Cca		

Cable life time - minimum 30 years

### Sheat Marking

Print colour	White
Print method	INK-Jet
Print legend	Naficon, job number, type of cable, length marking @ 1 m intervals

### Fibre colour coding

According to IEC 60304

1 Red	7 Brown
2 Green	8 Violet
3 Blue	9 Turquoise
4 Yellow	10 Black
5 White	11 Orange
6 Grey	12 Pink

Other fibre colour sequences available on request

### Tube colour coding

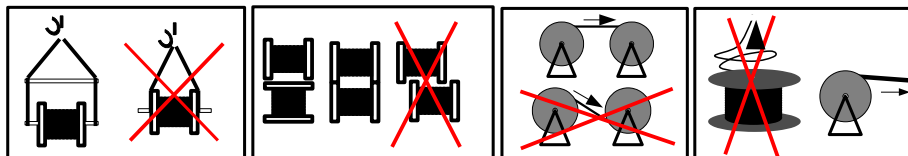
1 Blue	4 Green	7 Brown
2 White	5 Grey	8 Aqua
3 Yellow	6 Orange	

In the case of lower number of fibres some tubes are replaced by uncoloured fillers

Other tubes colour sequences available on request

### Packing

Depending on ordered put-up lengths



### Naficon Liitin Oy

Lahdentie 7 D, 21660 NAUVO

Finland

Tel: +358 208 351 662

[www.naficon.fi](http://www.naficon.fi)

### Naficon Fiber Optic Manufacturing LLC

Shed-2, Nad Al Hammar

Dubai, UAE

Tel: +971 4 2514550

[sales@naficon.ae](mailto:sales@naficon.ae)

[www.naficon.ae](http://www.naficon.ae)

## SINGLE-MODE FIBER ITU-T G.652.D

Cladding Diameter	125,0 ± 0,7 μm
Cladding Non-Circularity	≤ 0,7%
Core/Cladding Concentricity	≤ 0,5 μm
Coating Diameter	242 ± 5 μm
Coating –Cladding Concentricity	≤ 12 μm
Attenuation – Loose Tube Cables	
@ 1310 nm (typical / maximum)	0,31 / 0,35 dB/km
@ 1550 nm (typical / maximum)	0,20 / 0,24 dB/km
@ 1625 nm (typical / maximum)	0,21 / 0,26 dB/km
Attenuation – Tight Buffer Cables	
@ 1310 nm (typical / maximum)	0,30 / 0,35 dB/km
@ 1550 nm (typical / maximum)	0,25 / 0,30 dB/km
@ 1625 nm (typical / maximum)	0,35 / 0,40 dB/km
Dispersion	
@ 1550 nm	≤ 18 ps/nm.km
@ 1625 nm	≤ 22 ps/nm.km
Chromatic Dispersion	
Zero Dispersion Wavelength (λ <sub>0</sub> )	1304 – 1324 nm
Zero Dispersion Slope (S <sub>0</sub> )	≤ 0,092 ps/nm <sup>2</sup> km
Group Refractive Index	
@ 1310 nm	1,4676
@ 1550 nm	1,4682
Mode Field Diameter	
@ 1310 nm	9,2 ± 0,4 μm
@ 1550 nm	10,4 ± 0,5 μm
Cut-Off Wavelength (λ <sub>cc</sub> )	≤ 1260 nm
PMD Individual Fiber	< 0,1 ps/√km
Tensile Proof Test	≥ 100 kpsi (0,7 GPa)
Fiber Curl	≥ 4,0 m radius
Coating Strip Force	
Dry	3N
Wet, 14-day room temperature	3N
Macrobanding 100 turns, 60 mm, @ 1625 nm	< 0,03 dB
Macrobanding 100 turns, 50 mm, @ 1310 nm	< 0,03 dB
Macrobanding 100 turns, 50 mm, @ 1550 nm	< 0,03 dB
Macrobanding 1 turn, 32 mm, @ 1550 nm	< 0,03 dB

Values are valid for cabled fiber, local attenuation discontinuity ≤ 0,1 dB

Note: due to OTDR measurement uncertainty Naficon cannot guarantee attenuation values at fibers shorter than 1000m.

## CHEMICAL RESISTANCE TABLE (@ 20°C)

	LDPE	HDPE	PA	FR-LSZH	PUR
Acids, Dilute or Weak	E	E	F	N	G
Acids*, Strong or Concentrated	E	E	N	N	F
Alcohols, Aliphatic	E	E	N	N	F
Aldehydes	G	G	F	F	G
Bases	E	E	F	G	N
Esters	G	G	E	N	N
Hydrocarbons, Aliphatic	F	G	E	F	E
Hydrocarbons, Aromatic	F	G	E	N	N
Hydrocarbons, Halogenated	N	F	G	N	N
Ketones	G	G	E	N	N
Oxidizing Agents, Strong	F	F	N	N	N
Salts	E	E	E	G	E
Crude Oil	N	N	G	F	F
Kerosene	F	F	E	N	F
Mineral Oil	G	G	E	N	F

- E** 30 days of constant exposure causes no damage. Plastic may tolerate for years.  
**G** Little or no damage after 30 days of constant exposure to the reagent.  
**F** Some effect after 7 days of constant exposure to the reagent. The effect may be crazing, cracking, loss of strength or discoloration, depending on the plastic.  
**N** Not recommended. Immediate damage may occur. Depending on the plastic, the effect may be severe crazing, cracking, loss of strength, discoloration deformation, dissolution or permeation loss.

*Note: This table must be considered as an orientation*

## PROPERTIES OF THE CABLE SHEATH

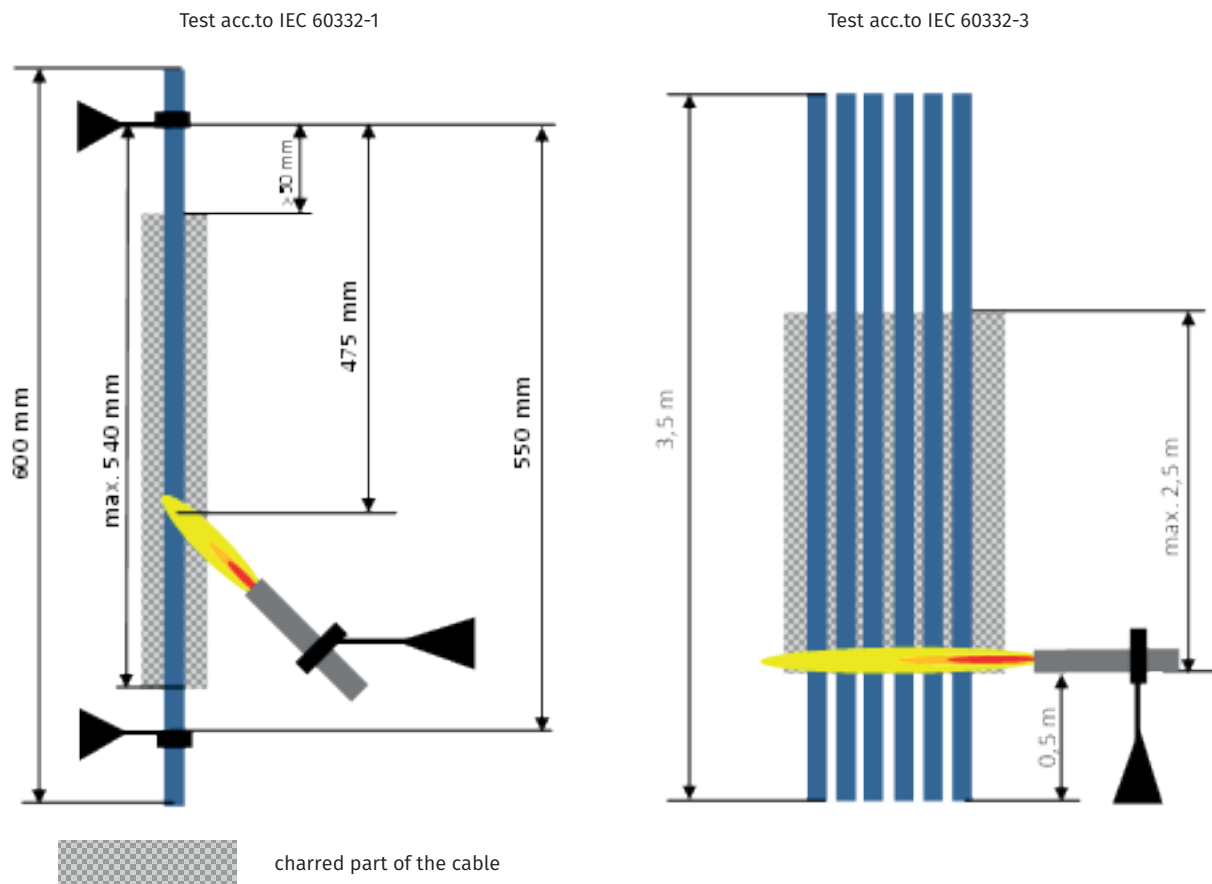
				FR-LSZH	
Flexibility				High	
Water Resistance				Medium	
Abrasion Resistance				Low	
UV Radiation Resistance				High	
Brittleness in Low Temperature				Medium	

## FIRE PROPERTIES

### Flame-Retardant

The cable must meet the requirements of the test specified in IEC standard 60332-3 or IEC 60332-1. The cable does not propagate fire and is self-extinguishing.

Notice: You can not assume that if the cable passes the test according 60332-1, a bundle of such cables passing a test 60332-3



CABLE DIAMETER	BURNING TIME
≤ 25 mm	60 sec.
≥ 25 mm; ≤ 50 mm	120 sec.

CATEGORY	AMOUNT OF BURNING MATERIAL	BURNING TIME
A*	7,0 lt/m	40 min.
B	3,5 lt/m	40 min.
C	1,5 lt/m	20 min.
D	0,5 lt/m	20 min.

\*Naficon cables