

30.03.2023

Product Datasheet

Fiber Optic Cable: A-DQ(ZN)BH

Ducting MT 24 HFC LSZH 864 (36x24) G.657.A1 4kN Ø 21.7mm (DIN VDE)

Order information

Design	Part number
Ducting MT 24 HFC LSZH 864 (36x24) G.657.A1 4kN Ø 21.7mm (DIN VDE)	563268

Product Pros



All-dielectric design



Light rodent protection



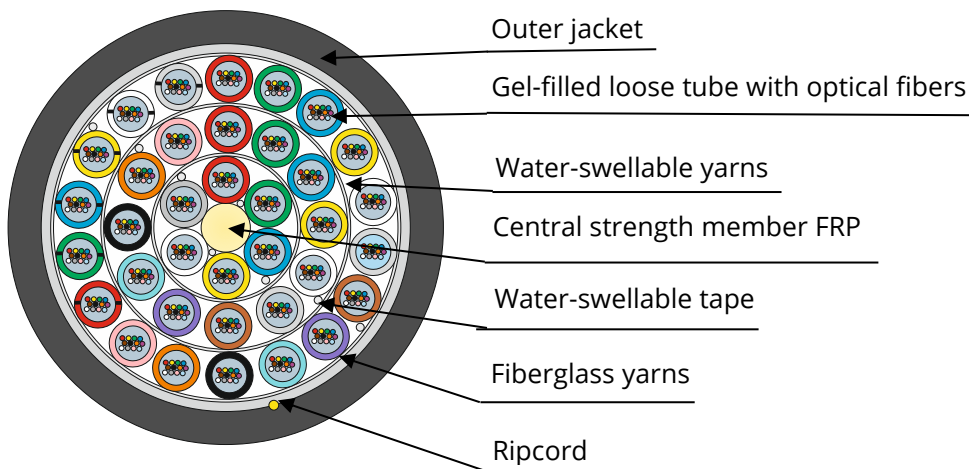
UV-resistant



Flame-retardant

Typical application and design

- Pulling into underground ducts and sewer pipes
- Installation along bridges, tunnels and other structures
- Installation into indoor/outdoor cable conduits and trays



Cable consists of stranded core with central strength member (FRP) and three layers of gel-filled loose tubes with optical fibers. Stranded core is fixed by water-swellable yarns. Water-swellable tapes are laid between the layers and over stranded core. Fiberglass yarns are laid over water-swellable tape. Outer jacket is made of LSZH material. Ripcord is laid under outer jacket.

Color identification of loose tubes and optical fibers is according to DIN VDE 0888-100-1

Loose tubes 1st layer: 1-6

Loose tubes 2nd layer: 1-12

Loose tubes 3rd layer: 1-18

Optical fibers: 1-24



Other colors upon request

Cable marking example

Marking is made on each meter of cable

Fiber optic cable = INCAB EUROPE = Ducting MT 24 HFC LSZH 864 36 x 24 G.657.A1 4kN Ø 21.7mm BATCH 2023 = 00001 m =															
	1		2		3	4	5		6	7	8	9	10	11	12
1	Manufacturer								7	Fiber type					
2	Cable trade name								8	Maximum rated design tension					
3	Jacket type								9	Cable diameter					
4	Fiber count								10	Batch number					
5	Number of loose tubes								11	Year of production					
6	Fibers per loose tube								12	Length marking unit					

Design details

Fiber count		864
Number of loose tubes		36
Fibers per loose tube		24
Cable diameter ±0.4	mm	21.7
Cable weight	kg/km	455

Other designs upon request

Optical fiber

Fiber type	«G.657.A1»
Product name	Corning® SMF 28®ULTRA
ITU-T Recommendation	G.657.A1

Dimensional Specifications

Core-Clad Concentricity	0.5 µm
Cladding Diameter	125 ±0.7 µm
Cladding Non-Circularity	0.7 %
Coating Diameter	242 ±5 µm

Transmission Specifications

Attenuation in the cable (dB/km)*:	
1310 nm wavelength (Typical** / Max.)	0.32 / 0.35
1550 nm wavelength (Typical** / Max.)	0.19 / 0.21

* Local attenuation discontinuities caused by cable winding on a reel are allowed.

** Typical attenuation is the real level of optical attenuation of at least 90% fibers after cabling

Additional information about optical fibers on www.incabeurope.com

Operating parameters

Operating temperature	-30°C...+70°C
Installation temperature	-15°C...+50°C
Transportation and storage temperature	-30°C...+50°C
Minimum bending radius	15 x cable diameter
Design life	25 years (per fiber supplier)

Cable parameters

Parameter	Nominal value	Evaluation criterion
Tensile strength (IEC 60794-1-21 method E1)	4 kN	- $\Delta\alpha^* \leq 0.10$ dB - no damage
Repeated bending (IEC 60794-1-21 method E6)	20 cycles, bending radius $\pm 90^\circ$	
Torsion (IEC 60794-1-21 method E7)	- 10 cycles - torsion angle $\pm 360^\circ$ length 4 m	- $\Delta\alpha^* \leq 0.10$ dB - no damage
Impact (IEC 60794-1-21 method E4)	Impact energy 5 J	
Crush (IEC 60794-1-21 method E3)	0.22 kN/cm	- $\Delta\alpha^* \leq 0.10$ dB after unloading - no damage
Water penetration (IEC 60794-1-22 method F5C)	Sample length: 3 m Testing time: 24 hours	No water at the cable end
Temperature cycling** (IEC 60794-1-22 method F1)	- temperature range from -30°C to 70°C - 2 cycles - cycle period ≥ 16 hours	$\Delta\alpha^* \leq 0.1$ dB/km
Compound flow (IEC 60794-1-21 method E14)	at 70°C	No dripped compound

* - attenuation increasing at standard wavelengths

** - other temperature range upon request

Safety standards compliance

IEC 60332-3-22	Tests on electric and optical fiber cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category A
IEC 60754-1	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content
IEC 60754-2	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity
IEC 61034-2	Measurement of smoke density of cables burning under defined conditions
RoHS: 2011/65/EU; 2015/863/EU	"Restriction on the use of certain Hazardous Substances"
REACH: 1907/2006/EU	"Registration, Evaluation, Authorisation and Restrictions of Chemicals"

Reel packing and marking

Cables are supplied on non-returnable wooden reels. Reel diameter is not less than 40 diameters of the cable. Not less than 2 m of inside end of the cable is fixed to the reel flange. The cable ends are sealed with waterproof covers. The label on the outer reel flange contains our trademark, cable type, customer's name and PO, reel number, production date, cable length, cable weight net/gross.

The following information is printed on the reel flange: manufacturer's name and website, rotation direction, cable end indication, shipping and handling summary, labels "Fragile" and "Handle with care".

Our cable passport shows: cable type, technical standard number, cable length, fiber type, fiber coloring, fibers per tube, tube identification coloring, final attenuation for all fibers, refractive index of the fiber, fiber manufacturer and production date.

Cable passport is affixed to the inner flange in a plastic bag. Additional information can be included on the passport upon request.

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