

## Firetuf<sup>®</sup> FIBRE I/O ST D DA LSHF-FR 6 kN

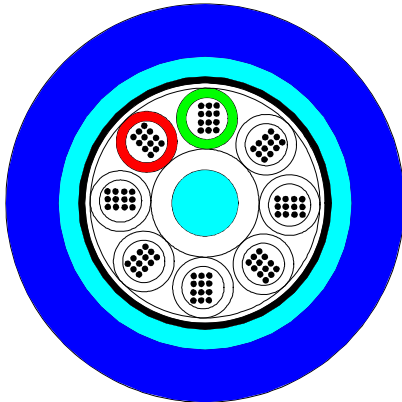
Non-metallic fire resistant cable, 6 – 216 fibres

DIN/VDE U-DQ (ZN) B H

NO

FR

DK LTnnnmm-70-xxx



### Application

Railway Tunnels  
Subways  
Metro lines  
Installation: Indoor and in ducts outdoor

### Standards

EN 187 000  
IEC 60794-2  
IEC 60794-2-20  
IEC 60794-2-21  
ISO 11801 2<sup>nd</sup> edition  
EN 50 173-1

### Construction

Central strength member	ø2.5 or ø3.0 mm FRP rod, depending on tube dimension		
Loose tube	ø2.3 mm jelly filled loose tubes, with 4 – 12 fibres each, up to 18 tubes in two layers, ø2.8 mm jelly filled loose tubes, with 24 fibres each, 6 or 8 tubes.		
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

Note: The Draka policy of continuous improvement may cause in changed specifications without prior notice

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Water blocking	The core is waterblocked using swellable tape and tread
Wrapping	Fire blocking tape
Reinforcement	Heavy layer of E-glass fibre yarns as reinforcement, added fire protection and rodent protection, effective in most cases.
Ripcord	Polyester ripcord for easy slitting of the sheath
Sheath	2 – 2.5 mm FireRes® depending on fibre count, standard colour: Blue, UV stabilized, EN 50290-2-27.

### Fire rating

IEC 60331-25 (90)	Fire resistance: 90 minutes at 750°C
IEC 60332-1-2	Single vertical wire test,
IEC 60332-3-24 = IEC 332-3C	Vertically-mounted bunched wires and cables
NF C 32-070 C1	Classification tests on cables and cords with respect to their behaviour to fire; test C1
IEC 60754-1	No halogens
IEC 60754-2	No acid matters
IEC 61034-2	No dense smoke
BS EN 50200:2000	Fire resistance: 120 minutes at 860°C, with mechanical shock (1 per 5 minutes)
BS EN 50268-2:2000 *)	Smoke emission
BS 4066-3:1994 *)	Flammability
LUL fire standard 2-011001-002 Issue A1	*) The two tests with acceptance criteria made twice constitute the requirements for Category ST/TU/CA

### Heat of combustion

Fibre count; 6 fibre/tube	Fibre count; 8 fibre/tube	Fibre count; 12 fibre/tube		
6-36	8-48	12-72	2500 MJ/km	0.69 kWh/m
42-48	56-64	84-96	3200 MJ/km	0.89 kWh/m
54 – 60	72 – 80	108 – 120	4400 MJ/km	1.22 kWh/m
66 – 72	88 – 96	132 – 144	5600 MJ/km	1.56 kWh/m
		156 - 216	5300 MJ/km	1.47 kWh/m
Fibre count: 24 fibre/tube				
96 -144			3000 MJ/km	0.83 kWh/m
168 - 192			4700 MJ/km	1.31 kWh/m

### Mechanical properties

Fibre count; 6 fibre/tube	Fibre count; 8 fibre/tube	Fibre count; 12 fibre/tube	Tube diameter	Sheath thickness	Nominal diameter	Nominal cable weight	Minimum bending radius
6-36	8-48	12-72	2.3 mm	2.0 mm	13.5 mm	210 kg/km	210 mm
42-48	56-64	84-96	2.3 mm	2.0 mm	15.0 mm	250 kg/km	250 mm
54 – 60	72 – 80	108 – 120	2.3 mm	2.3 mm	17.5 mm	330 kg/km	330 mm
66 – 72	88 – 96	132 – 144	2.3 mm	2.5 mm	19.0 mm	400 kg/km	400 mm
		156 - 216	2.3 mm	2.5 mm	19.5 mm	410 kg/km	410 mm
Fibre count: 24 fibre/tube							
96 -144			2.8 mm	2.0 mm	15.0 mm	250 kg/km	250 mm
168 - 192			2.8 mm	2.5 mm	18.0 mm	360 kg/km	360 mm

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### Physical properties

IEC 60974-1-2

Property	Test method	Value
Tensile strength (dynamic)	E1	>6000 N
Tensile strength (permanent)	E1	>4000 N
Compressive strength (crush)	E3	3000N
Impact	E4	25 Nm
Torsion	E7	5 cycles $\pm$ 1 turn
Kink	E10	The cables do not form a kink when a loop is drawn together to a diameter 12 times the cable nominal diameter
Temperature range	F1	The cables can bear temperature cycling between -40 °C to +70 °C. The cables will operate without any attenuation variation ( $\leq$ 0.05 dB) in the temperature interval -30°C to +60°C. The cables will operate with a maximum attenuation variation of 0.1 dB/km in the temperature interval -40°C to +70°C.
Water penetration	F5	No water on free end

### Product codes – ordering information

Item No.	Fibre count	Product code	Fibre type	Fibre data sheet
o. request				