

27560104	DATA SHEET	
Valid from: 19.12.2019	HITRONIC® FIRE	

1. Product Description

Cable designation: A/J-DQ(ZN)H(SR)H

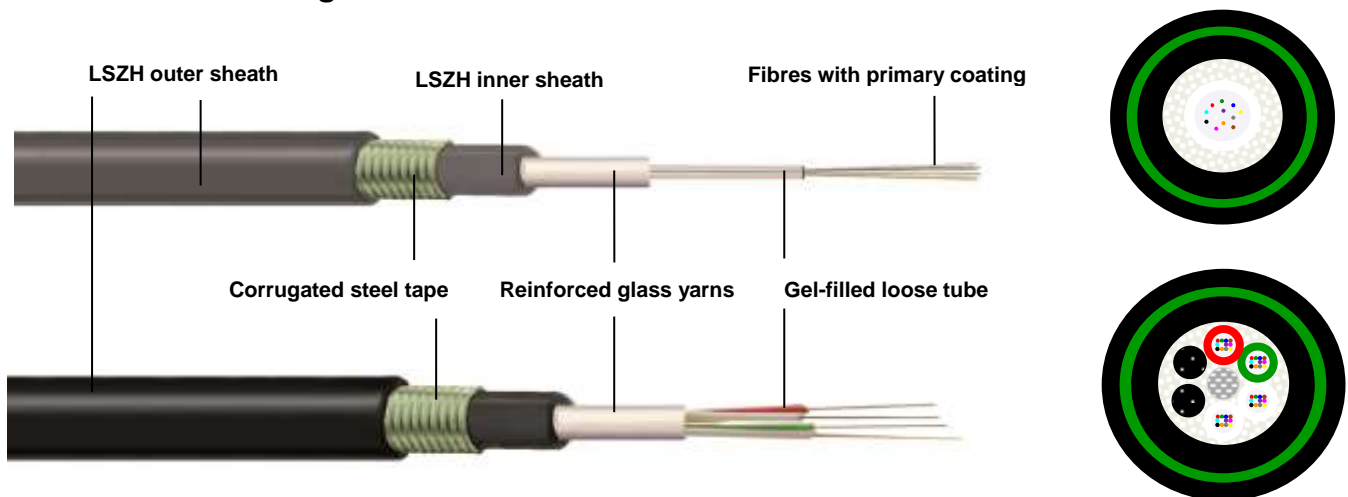
HITRONIC® FIRE cables are reinforced glass optical fibres with improved properties in case of fire, for use in indoor and outdoor applications of industrial environment. The cable is applicable in highly combustible or fire-prone areas and harsh environments. They are equipped with insulation integrity in case of fire exposure.

2. Application

For use in indoor and outdoor environments, can be installed in highly combustible or fire-prone areas, and harsh environments

Methods of deployment: empty plastic pipes, ducts and trays

3. Product Design



Cable core	<ul style="list-style-type: none"> • Single-tube design: central gel-filled loose tube with up to 24 glass fibres, with water-blocking reinforced glass yarns, and an inner sheath • Multi-tubes design: up to 12 stranded gel-filled loose tubes with up to 72 fibers (standard allocation per bundle 12 fibers), reinforced glass yarns
Cable inner sheath	LSZH thermoplastic inner sheath, flame-retardant, halogen-free, UV-resistant
Cable outer sheath	LSZH thermoplastic outer sheath, flame-retardant, halogen-free, UV-resistant
Colour of outer sheath	Dark grey
Colour of loose tube	<ul style="list-style-type: none"> • Single-tube design: natural • Multi-tubes design: red, green, natural; subsequent tubes are natural, fillers are black
Fiber Color code	(1-12) Red - Green - Blue - Yellow - Grey - Violet - Brown - Orange - White - Pink - Black - Turquoise. (13-24) With Black stripe: Red - Green - Blue - Yellow - Grey - Violet - Brown - Orange - White - Pink - Natural - Turquoise.
Type of armouring	Corrugated steel tape

Creator: SACH/PAM Released: ALTE/PDC	Document: DB27560107EN Version: 07	Page 1 of 4
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27560104	DATA SHEET	
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4. Optical and Physical Properties of Cable (bare fibre data)

Multimode fibre		50/125 µm	50/125 µm	50/125 µm	62.5/125 µm
(ITU-T G651)		OM4	OM3	OM2	OM1
Attenuation	@ 850 nm dB/km	≤ 3.5 (2.5)	≤ 3.5 (2.5)	≤ 3.5 (2.5)	≤ 3.5 (3.0)
	@ 1300 nm dB/km	≤ 1.5 (0.7)	≤ 1.5 (0.7)	≤ 1.5 (0.7)	≤ 1.5 (0.7)
Bandwidth	@ 850 nm MHz-km	≥ 3500	≥ 1500	≥ 500	≥ 200
	@ 1300 nm MHz-km	≥ 500	≥ 500	≥ 500	≥ 500
Numerical aperture		0.2 ± 0.015	0.2 ± 0.015	0.2 ± 0.015	0.275 ± 0.015
Core diameter	µm	50 ± 2.0	50 ± 2.0	50 ± 2.0	62.5 ± 2.5
Cladding diameter	µm	125 ± 1.0	125 ± 1.0	125 ± 1.0	125 ± 2
Primary coating diameter	µm	242 ± 5	242 ± 5	242 ± 5	245 ± 10
Singlemode fibre		9/125 µm			
		(ITU-T G.652.D)			
Attenuation	@ 1310 nm dB/km				≤ 0.4 (0.35)
	@ 1550 nm dB/km				≤ 0.4 (0.21)
Chromatic dispersion	@ 1310 nm ps/(nm·km)				≤ 3.0
	@ 1550 nm ps/(nm·km)				≤ 18
Zero dispersion wavelength	nm				1300 – 1322
Cut-off wavelength	nm				≤ 1260
PMD	ps/√km				≤ 0.1
Mode field diameter	µm				9.0 ± 0.4
Cladding diameter	µm				125 ± 1
Primary coating diameter	µm				242 ± 7

5. Thermal Properties

Operating temperature	-30°C to +70°C
Installation temperature	-5°C to +50°C
Storage temperature	-30°C to +70°C

6. Mechanical Properties

		Central, 24	Multi-tube, 144
Max. number of fibres		Central, 24	Multi-tube, 144
Cable-outer diameter (mm)		See Product range list	
Cable weight (kg/km)		See Product range list	
Min. bending radius (mm)	static	15 x D	15 x D
	dynamic	20 x D	20 x D
Max. tensile strength (N)	long-term	1500	1000(12-72), 1500(96-144)
	short-term	2700	1800(12-72), 2700(96-144)
Max. crush resistance (N/dm)		2000	3000

Creator: SACH/PAM Released: ALTE/PDC	Document: DB27560107EN Version: 07	Page 2 of 4
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27560104	DATA SHEET	
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7. Chemical Properties

Thermoplastic LSZH inner sheath	Flame-retardant, low smoke and halogen-free
Thermoplastic LSZH outer sheath	Flame-retardant, low smoke and halogen-free

- Fulfills requirements regarding substances acc. to 2011/65/EU (RoHS)
- Environmental and mechanical tests comply to EN 187000 and IEC 60794
- Halogen free according to IEC 60754-1, and low smoke emission complies with IEC 61034-1/2

8. EU Directives

Not applicable for fibre optic cables

9. Approvals

- Improved properties in the event of fire in accordance with IEC 60331-25 (FE90) (insulation retention 90 min, tested for 180 min), IEC 60332-1 (flame resistance), IEC 60332-3 (fire propagation)

10. Product range overview

Article number	Article designation	Fibre type	No. of Fibres	Weight (kg/km)	Outer Ø (mm) *
Multimode					
27560404	HITRONIC® FIRE 4G 50/125 OM4	50/125 OM4	4	123	9,6
27560408	HITRONIC® FIRE 8G 50/125 OM4	50/125 OM4	8	123	9,6
27560412	HITRONIC® FIRE 12G 50/125 OM4	50/125 OM4	12	123	9,6
27560424	HITRONIC® FIRE 24G 50/125 OM4	50/125 OM4	24	174	12,3
27560304	HITRONIC® FIRE 4G 50/125 OM3	50/125 OM3	4	123	9,6
27560308	HITRONIC® FIRE 8G 50/125 OM3	50/125 OM3	8	123	9,6
27560312	HITRONIC® FIRE 12G 50/125 OM3	50/125 OM3	12	123	9,6
27560324	HITRONIC® FIRE 24G 50/125 OM3	50/125 OM3	24	174	12,3
27560204	HITRONIC® FIRE 4G 50/125 OM2	50/125 OM2	4	123	9,6
27560208	HITRONIC® FIRE 8G 50/125 OM2	50/125 OM2	8	123	9,6
27560212	HITRONIC® FIRE 12G 50/125 OM2	50/125 OM2	12	123	9,6
27560224	HITRONIC® FIRE 24G 50/125 OM2	50/125 OM2	24	174	12,3
27560104	HITRONIC® FIRE 4G 62.5/125	62,5/125 OM1	4	123	9,6
27560108	HITRONIC® FIRE 8G 62.5/125	62,5/125 OM1	8	123	9,6
27560112	HITRONIC® FIRE 12G 62.5/125	62,5/125 OM1	12	123	9,6
27560124	HITRONIC® FIRE 24G 62.5/125	62,5/125 OM1	24	174	12,3

Creator: SACH/PAM Released: ALTE/PDC	Document: DB27560107EN Version: 07	Page 3 of 4
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27560104	DATA SHEET	
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Article number	Article designation	Fibre type	No. of Fibres	Weight (kg/km)	Outer Ø (mm) *
Singlemode					
27560904	HITRONIC® FIRE 4E 9/125 OS2	9/125 OS2	4	123	9,6
27560908	HITRONIC® FIRE 8E 9/125 OS2	9/125 OS2	8	123	9,6
27560912	HITRONIC® FIRE 12E 9/125 OS2	9/125 OS2	12	123	9,6
27560924	HITRONIC® FIRE 24E 9/125 OS2	9/125 OS2	24	174	12,3
26560924	HITRONIC® FIRE 2x12E 9/125 OS2	9/125 OS2	24	219	14,0
26560936	HITRONIC® FIRE 3x12E 9/125 OS2	9/125 OS2	36	219	14,0
26560948	HITRONIC® FIRE 4x12E 9/125 OS2	9/125 OS2	48	220	14,0
26560972	HITRONIC® FIRE 6x12E 9/125 OS2	9/125 OS2	72	222	14,0
26560996	HITRONIC® FIRE 8x12E 9/125 OS2	9/125 OS2	96	258	15,5
26560944	HITRONIC® FIRE 6x24E 9/125 OS2	9/125 OS2	144	359	18,0

*: Tolerance of +/- 0.3 mm for Fiber count up to 12 and +/- 0.5 mm for Fiber count from 12-144.

Creator: SACH/PAM Released: ALTE/PDC	Document: DB27560107EN Version: 07	Page 4 of 4
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