

HITRONIC® HRH Breakout Cable

DB_HRH_EN (version 2.0)
valid from: 01.03.2013

1. Product Description

Cable designation: J-V(ZN)HH

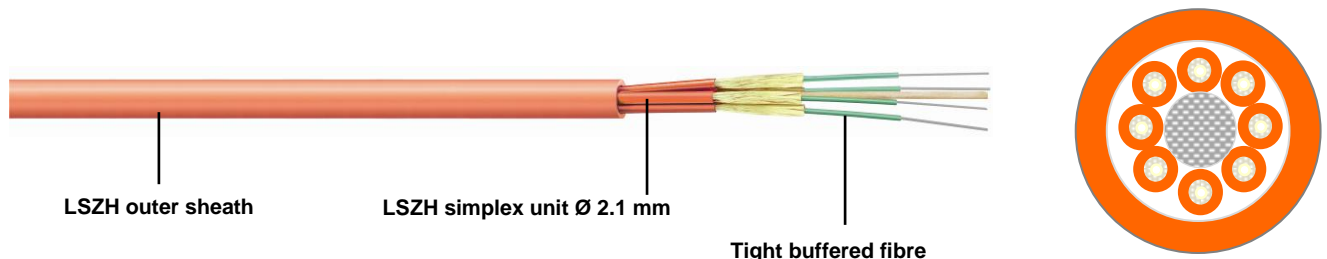
Indoor breakout cable for direct connector assembly, with up to 12 tight-buffered simplex units, flame-retardant and halogen-free sheaths, high flexibility

2. Application

For use in indoor, universal cable for tertiary and premise cabling

Methods of deployment: laying in trunking, ducts, trays, building riser, empty plastic pipes, raised floors and plenums for short distances

3. Product Design



Cable core	Up to 12 tight-buffered simplex units enclosed by individual aramid fibres and LSZH sheaths (Ø 2.1 mm), a central element and an overall LSZH outer sheath
Cable inner sheath	LSZH, halogen-free, flame-retardant, low smoke
Cable outer sheath	LSZH, halogen-free, flame-retardant, low smoke
Colour of inner sheath	Violet for OM4, Aqua (RAL 6027) for OM3 Orange (RAL 2003) for OM2 and OM1 Yellow (RAL 1021) for single-mode OS2
Colour of outer sheath	Violet for OM4, Aqua (RAL 6027) for OM3 Orange (RAL 2003) for OM2 and OM1 Yellow (RAL 1021) for single-mode OS2
Identification of simplex units	Numbers on inner sheath
Strain relief	Aramid yarns
Type of armouring	-



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4. Optical and Physical Properties of Cabled Fibre (and Bare Fibre)

Multimode fibre		50/125 µm	50/125 µm	50/125 µm	62.5/125 µm	
		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
Single-mode 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	-20°C to +70°C
Installation temperature	0°C to +50°C
Storage temperature	-20°C to +70°C

6. Mechanical Properties

Max. number of fibres	12	
Simplex cable diameter (mm)	2.1	
Outer cable diameter (mm)	refer to range overview	
Cable weight	refer to range overview	
Min. bending radius (mm)	without tensile load	15 x D
	with tensile load	20 x D
Max. tensile strength (N)	long-term	refer to range overview
	short-term	
Max. crush resistance (N)	1500	

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7. Chemical Properties

LSZH sheath	Flame-retardant (IEC 60332-3), halogen-free, low smoke
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8. EC Directives

Not applicable for fibre optic cables

9. Approvals

- RoHS
- Environmental and mechanical tests comply to EN 187000 and IEC 60794
- Fire resistance tested according to IEC 60332-1, IEC 60332-3
- Halogen free according to IEC 60754-1, and low smoke emission complies with IEC 61034-1/2

10. Product Range Overview

Article number	Article designation	No. of Fibres	Outer \varnothing (mm)	Weight (kg/km)	Tensile Strength long/short (N)
Multimode 50/125 μm OM4					
26000402	HITRONIC® HRH400 2G 50/125 OM4	2	7.0 \pm 0.3	35	400/700
26000404	HITRONIC® HRH600 4G 50/125 OM4	4	7.0 \pm 0.3	44	600/1000
26000408	HITRONIC® HRH1200 8G 50/125 OM4	8	9.7 \pm 0.3	77	1200/2050
26000412	HITRONIC® HRH1700 12G 50/125 OM4	12	10.3 \pm 0.5	100	1700/2900
Multimode 50/125 μm OM3					
26000302	HITRONIC® HRH400 2G 50/125 OM3	2	7.0 \pm 0.3	35	400/700
26000304	HITRONIC® HRH600 4G 50/125 OM3	4	7.0 \pm 0.3	44	600/1000
26000308	HITRONIC® HRH1200 8G 50/125 OM3	8	9.7 \pm 0.3	77	1200/2050
26000312	HITRONIC® HRH1700 12G 50/125 OM3	12	10.3 \pm 0.5	100	1700/2900
Multimode 50/125 μm OM2					
26000202	HITRONIC® HRH400 2G 50/125 OM2	2	7.0 \pm 0.3	35	400/700
26000204	HITRONIC® HRH600 4G 50/125 OM2	4	7.0 \pm 0.3	44	600/1000
26000208	HITRONIC® HRH1200 8G 50/125 OM2	8	9.7 \pm 0.3	77	1200/2050
26000212	HITRONIC® HRH1700 12G 50/125 OM2	12	10.3 \pm 0.5	100	1700/2900
Multimode 62.5/125 μm OM1					
26000102	HITRONIC® HRH400 2G 62.5/125 OM1	2	7.0 \pm 0.3	35	400/700
26000104	HITRONIC® HRH600 4G 62.5/125 OM1	4	7.0 \pm 0.3	44	600/1000
26000108	HITRONIC® HRH1200 8G 62.5/125 OM1	8	9.7 \pm 0.3	77	1200/2050
26000112	HITRONIC® HRH1700 12G 62.5/125 OM1	12	10.3 \pm 0.5	100	1700/2900
Single-mode 9/125 μm OS2					
26000902	HITRONIC® HRH400 2E 9/125 OS2	2	7.0 \pm 0.3	35	400/700
26000904	HITRONIC® HRH600 4E 9/125 OS2	4	7.0 \pm 0.3	44	600/1000
26000908	HITRONIC® HRH1200 8E 9/125 OS2	8	9.7 \pm 0.3	77	1200/2050
26000912	HITRONIC® HRH1700 12E 9/125 OS2	12	10.3 \pm 0.5	100	1700/2900