

MHS – HF n x 2 x 0,5

Application

Indoor cable for access network. Max operating voltage 75 DC.

Standards

Cable characteristics SFS 5739

Testing EN 50289-x-x, EN 50290-x-x

Fire testing EN 50399, EN 60332-1-2, EN 60332-3-22, EN 61034-2, EN 50267-2-2

ROHS directive EU 2011/65/EC

LVD Directive 2014/35/EU

EN 50575 Cables for general applications in construction works subject to reaction to fire requirements



Construction

Conductor	Annealed copper wire, nominal diameter 0.5 mm.
Insulation	Solid PE
Pair-twisting	Two insulated conductors are twisted together to form a pair. Different insulation colours are used for pair identification, see colour code
Basic unit	Ten pairs are stranded together to form a unit and coloured plastic ribbons are used for unit identification, see colour code
Main unit	Five or ten basic units are stranded to a main unit. Numbered plastic ribbons are used for main unit identification
Stranding	The units and main units are stranded together to form a compact cable core
Wrapping	The cable core is wrapped with a plastic insulating tape bound with two polyester yarns
Shield	Plastic-aluminium foil and a ground wire, tinned copper 0,5 mm
Outer sheath	Grey HFFR-compound, RAL 7035

All values in this specification are nominal unless otherwise stated.

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Dimensions

Nestor-code	SSTL-code	Cable type	Diameter mm	Weight kg/km	Min. sheath thickness, mm	Length / Drum
L10789	0217395	MHS-HF 1x4x0,5	5,0	31	0,9	500/P4
L10790	0217396	MHS-HF 3x2x0,5	5,8	38	0,9	500/P4
L10791	0217397	MHS-HF 5x2x0,5	6,5	43	0,9	500/P5
L10792	0217398	MHS-HF 10x2x0,5	8,1	81	0,9	500/P5
L10793	0217399	MHS-HF 20x2x0,5	10,6	137	0,9	1000/K7
L10794	0217412	MHS-HF 30x2x0,5	12,0	191	0,9	1000/K9
L10795	0217413	MHS-HF 50x2x0,5	14,8	293	0,9	1000/K10
L10796	0217414	MHS-HF 100x2x0,5	19,3	539	1,0	1000/K14

Fire properties

The cables are tested according to following tests:

EN 50399

Test method for bunch of cables under fire conditions – Heat release and smoke production are measured on cables during flame spread test.

EN 60332-1-2

Test for vertical flame propagation for a single insulated wire or cable

EN 60332-3-22

Test for vertical flame spread of vertically-mounted bunched wires or cables-Category A

Colour code

1. Insulation colours for pair construction

Pair	a-conductor	b-conductor
1	Blue	White
2	Orange	White
3	Green	White
4	Brown	White
5	Grey	White
6	Blue	Black
7	Orange	Black
8	Green	Black
9	Brown	Black
10	Grey	Black

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On the b-conductor there are a longitudinal stripe of the same colour as is the a-conductor insulation colour.

2. Insulation colours for 1 x 4 x 0,5 design

Pair	a-conductor	b-conductor
1	Blue	White
2	Yellow	Red

3. Colours for the unit identification ribbons

Pair	a-conductor
1	Blue
2	Orange
3	Green
4	Brown
5	Grey
6	Blue/white
7	Orange/white
8	Green/white
9	Brown/white
10	Grey/white

LF - electrical characteristics

Loop resistance, at 20°C	Individual max., ohm/km	Average max. Ohm/km
	192	184
Mutual capacitance	Average max. nF/km	Ind. max. nF/km
	60	65
Dielectric strength, 1 min.	Conductor/screen, V DC	Conductor/screen, V DC
	1500	1500
Insulation resistance, 500 V DC, 1 min	Conductor/conductor Gohm*km	
	≥ 10	
Capacitance unbalance Pair/pair	95 % max.	100 %
	150 pF/500 m	250 pF/500 m

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HF - electrical characteristics

Attenuation Test method: EN 50289-1-8	Nominal value @ 1 MHz, dB/km 26
Near End Crosstalk Test method: EN 50289-1-10	Minimum PS-NEXT (dB), @ 1 MHz, grade 2 44
Characteristic impedance Test method: EN 50289-1-11	Nominal value @ 1 MHz (ohm) 100 ± 15

Mechanical characteristics

Temperature range	- Transport, storage, operation	-45 to +70 °C
	- Installation	-5 to +60 °C
Bending radius	- During installation (min)	15 x Diameter
	- Final installation (min)	7 x Diameter

Testing and inspection

Testing and inspection will be carried in accordance with following characteristics and standards	
Electrical LF-characteristics IEC 60189-1	Loop resistance, resistance unb., mutual capacitance, capacitance unb. Capacitance unb. to earth, Dielectric strength, Insulation resistance, short circuits, wire breaks
Electrical HF-characteristics EN 50407-1	Attenuation, Crosstalk, Characteristic impedance
Mechanical characteristics IEC 60811-1-1	Thickness of sheath Diameter of cable
Visual inspection of cable	Cable design Sheath marking
<p>The LF-electrical characteristics shall be measured as a routine test in accordance with our test program. The HF-electrical characteristics shall be measured randomly as a type test. The mechanical characteristics and visual inspection shall be carried out with every drums</p>	