

NESMAK-HF C-Proof 2 - 12 x 2 x 0,5 mm²

Application

Instrumentation cable for fixed installation in automation and process control systems. Can be installed indoors and also outdoors on cable trays.

Maximum rated voltage 300 V AC and 500 V DC. according to EN 50288-7

These cables shall not be connected directly to mains electricity supply or other low impedance sources. Multi-element cables for use in analogue, digital and control circuits are not designed to be used for power supply.

Standards and Directives

Cable design and properties EN 50288-7, DIN EN 50288-7 VDE 0819-7:2006-03

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

Fire testing EN 50399, IEC/EN 60332-1-2, IEC/EN 60332-3-22, IEC/EN 61034-2, IEC/EN 60754-2

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



Class of reaction to fire performance

Cca -s1,d0,a1

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.

IEC/EN 60332-1-2

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

IEC/EN 60332-3-22

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

NESMAK-HF C-Proof 2 - 12 x 2 x 0,5 mm²

Construction

Conductor	Stranded annealed copper 7x0,29 mm
Insulation	Solid PE, LSZH outer layer
Pair	Two conductors twisted together. Each pair is identified by a number printed on the surface of an insulated conductor. In all pairs a-conductors are blue and b-conductors are white coloured
Unit	Two or four pairs are stranded together to form a unit.
Common screen	Plastic-aluminium tape with a tinned earth- conductor 7x0,29 mm
Sheath	Grey (RAL 7035) halogen-free flame retardant and UV-resistant material.

All values in this specification are nominal unless otherwise stated.

Dimensions

Nestor-code	SSTL-code	Cable type	Diameter mm	Weight kg/km	Min. sheath thickness mm	Length / Drum
L11271	0217551	NESMAK C-Proof 2x2x0,5+0,5	9,4	102	1,80	1000/K7
L11272	0217552	NESMAK C-Proof 2x2x0,5+0,5 500 m	9,4	102	1,80	500/P6
L11273	0217553	NESMAK C-Proof 4x2x0,5+0,5	9,9	115	1,20	1000/K7
L11274	0217554	NESMAK C-Proof 4x2x0,5+0,5 500 m	9,9	115	1,20	500/P6
L11275	0217555	NESMAK C-Proof 8x2x0,5+0,5	13,2	187	1,20	1000/K10
L11276	0217556	NESMAK C-Proof 8x2x0,5+0,5 500 m	13,2	187	1,20	500/P8
L11277	0217557	NESMAK C-Proof 12x2x0,5+0,5	14,1	235	1,20	1000/K10

NESMAK-HF C-Proof 2 - 12 x 2 x 0,5 mm²

LF - electrical characteristics

Loop resistance, at 20°C	Individual max., ohm/km	
	81	
	Typical value, ohm/km	
	76	
Mutual capacitance	nominal value, nF/km	
	65	
Insulation resistance, 500 V DC, minimum	2 Gohm x km	
Dielectric strength, 1 min.	Conductor/conductor, V DC	Conductor/Screen, V DC
	2000	2000
Velocity factor	0,66	
Characteristic impedance, 1 MHz, ohm	85 ± 5 %	
Nominal attenuation, dB/100 m	9,6 kHz	0,2
	19,2 kHz	0,3
	64 kHz	0,5
	150 kHz	0,7
	300 kHz	1,2
	1000 kHz	2,5

Mechanical characteristics

Bending in accordance with EN 50289-3-6 and Tensile performance in accordance with EN 50289-3-16		
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.)	10 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, mutual capacitance, Dielectric strength, Insulation resistance, short circuits, wire breaks
Mechanical characteristics IEC 60811-1-1	Thickness of sheath Diameter of cable
Visual inspection of cable	Cable design Sheath marking
The LF-electrical characteristics shall be measured as a routine test in accordance with our test program.	