

# LANmark Industry Copper cables

LANmark Industry S/FTP AWG23 Cat 6A LSZH Dca Orange + PE Fca  
Black 500m reel

## Contact

Telecom and Data cables  
Phone: 040 70 78 444  
telecomcable-pc.se@nexans.com

Nexans ref.: N10i.005-ODKF

Country ref.: 0235735

- For installation in industrial premises
- High shielding performance for harsh environments
- Enhanced mechanical properties
- Designed to support industrial Ethernet based automation
- Optimised for use with LANmark connectors
- PE outer jacket
- LSZH inner jacket with reaction-to-fire performance according to CPR classification Dca-s2,d1,a1 (h/EN50575:2014+A1:2016)

## DESCRIPTION

### Specification

The high performing LANmark Industry S/FTP LSZH + PE cables meet or exceed all Category 6A parameters. They comply with the electrical and mechanical requirements of the ISO/IEC 11801-3:2017 standard for industrial premises and with the MICE rating for environmental conditions.

When terminating the cable with LANmark-6A connectors, the Class EA Permanent Link requirements of ISO/IEC 11801 are met.

When used with LANmark-6 connectivity, optimal headroom to 250MHz Class E performance is ensured.

The cables offer a protective PE sheath which is water, UV and moisture resistant. They can be installed outdoors in ducts and are suitable for use indoors when the PE sheath is removed.

This cable version is made with an inner LSZH jacket complying with reaction-to-fire performance Dca-s2,d1,a1 according to the European CPR classification. The cable with its outer PE jacket is classified Fca.

### Application

LANmark Industry S/FTP LSZH + PE cables will support Industrial Ethernet applications as well as high speed data applications.

- 10Base-T,
- 100 Base-T
- 1GBase-T
- 10GBase-T
- Industrial Ethernet



# LANmark

Industry

## STANDARDS

### International

EN 50173; EN 50288-4-1; IEC 61156-5; ISO/IEC 11801; ISO/IEC 24702



Halogen free  
Yes



Lead free  
Yes



Operating temp.  
-20 .. 70 °C



Ambient installation T°C  
range  
-5 .. 70 °C



Electro magnetic interference  
resistance  
Yes



RoHS compliant  
Yes

All drawings, designs, specifications, plans and particulars of weights, size and dimensions contained in the technical or commercial documentation of Nexans is indicative only and shall not be binding on Nexans or be treated as constituting a representation on the part of Nexans.

Generated 4/17/19 www.nexans-fi.com Page 1 / 4

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## Screening

LANmark Industry S/FTP LSZH + PE cables consist of individually screened pairs, bundled by an overall braid. They comply with the EMC requirements for screened cables and show excellent transfer impedance values. They are designed for electrically "noisy" environments.

### Transfer impedance (Grade 1)

- 10mOhm/m at 1 MHz
- 10mOhm/m at 10 MHz
- 30mOhm/m at 30 MHz
- 60mOhm/m at 100 MHz



Halogen free  
Yes



Lead free  
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## CHARACTERISTICS

### Construction characteristics

Type of cable	S/FTP
Individual screen	Aluminium / Polyester tape
Overall screen	Tinned copper braid
Inner sheath	Low smoke, zero halogen thermoplastic compound
Outer sheath	PE
Sheath colour	Orange / Black
Halogen free	Yes
Lead free	Yes

### Dimensional characteristics

Number of pairs	4
Conductor cross-section (AWG)	23
Diameter over insulation	1.2 mm
Outer Diameter	8.6 mm
Approximate weight	66 kg/km

### Electrical characteristics

Maximal operating frequency	600 MHz
Characteristic impedance	100 Ohm
Max. DC resistance of the conductor at 20°C	95 Ohm/km
Mutual capacitance	56 nF/km

### Transmission characteristics

Nominal Velocity of Propagation (NVP)	80 %
Skew	25 ns/100m
Propagation delay, max. 100 MHz	535 ns/100m
Coupling attenuation at 30 MHz	80 dB

### Mechanical characteristics

Maximum permanent tensile load	0.1 kN
Maximum pulling force by laying	0.12 kN

### Usage characteristics

Field of application	Fixed installations
Packaging	Reel
Length	500 m
Fire load	700 MJ/km
Operating temperature, range	-20 .. 70 °C
Ambient installation temperature, range	-5 .. 70 °C
Minimum Bend Radius - Installed	86 mm
Minimum Bend Radius - During Installation (under Tension)	130 mm
Silicone free	Yes
Category	Cat. 6A
Electro magnetic interference resistance	Yes
RoHS compliant	Yes

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Generated 4/17/19 www.nexans-fi.com Page 3 / 4



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## ELECTRICAL PERFORMANCE

Freq in MHz	Attn in dB		NEXT in dB		PSNEXT in dB		ACR-F in dB		PS ACR-F in dB		PS ANEXT in dB		PS AACR-F in dB		RL in dB	
	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
1	2.1	2.1	74.3	104.3	72.3	102.3	67.8	92.8	64.8	89.8	67.0	90.0	67.0	76.7	20.0	26.0
4	3.8	3.8	65.3	95.3	63.3	93.3	55.8	80.8	52.8	77.8	67.0	90.0	66.2	75.9	23.0	29.0
10	5.9	5.9	59.3	89.3	57.3	87.3	47.8	72.8	44.8	69.8	67.0	87.0	58.2	67.9	25.0	31.0
16	7.5	7.5	56.2	86.2	54.2	84.2	43.7	68.7	40.7	65.7	67.0	85.0	54.1	63.8	25.0	31.0
20	8.4	8.4	54.8	84.8	52.8	82.8	41.8	66.8	38.8	63.8	67.0	84.0	52.2	61.9	25.0	31.0
31.25	10.5	10.5	51.9	81.9	49.9	79.9	37.9	62.9	34.9	59.9	67.0	82.1	48.3	58.0	23.6	29.6
62.5	15.0	15.0	47.4	77.4	45.4	75.4	31.9	56.9	28.9	53.9	65.6	79.0	42.3	52.0	21.5	27.5
100	19.1	19.1	44.3	74.3	42.3	72.3	27.8	52.8	24.8	49.8	62.5	77.0	38.2	47.9	20.1	26.1
155	24.1	24.1	41.4	71.4	39.4	69.4	24.0	49.0	21.0	46.0	59.6	74.1	34.4	44.1	18.8	24.8
200	27.6	27.6	39.8	69.8	37.8	67.8	21.8	46.8	18.8	43.8	58.0	72.5	32.2	41.9	18.0	24.0
250	31.1	31.1	38.3	68.3	36.3	66.3	19.8	44.8	16.8	41.8	56.5	71.0	30.2	39.9	17.3	23.3
300	34.3	34.3	37.1	67.1	35.1	65.1	18.3	43.3	15.3	40.3	55.3	69.8	28.7	38.4	16.8	22.8
500	45.3	45.3	33.8	63.8	31.8	61.8	13.8	38.8	10.8	35.8	52.0	66.5	24.2	33.9	15.2	21.2

all values are specified at 20°C