

# LANmark-7 Cable

LANmark-7 S/FTP AWG23 Cat 7 LSZH Cca s1a d1 a1 Orange 1000m reel

**Aginode Ref.:** N100.365-OC

- S/FTP cable with individually shielded pairs and global braid
- Exceeds Category 7 ACR with >30dB
- Optimised for use with LANmark-7A GG45 connector
- Easy to install
- Enhanced reaction-to-fire performance according to CPR classification Cca-s1a,d1,a1 (h/EN50575:2014+A1:2016)

## DESCRIPTION

### Description

LANmark-7 cable has an S/FTP construction with individual pair foils and an overall braid offering superior performance in terms of ACR. It is fully compliant with the Category 7 standards and when installed together with the GG45 LANmark-7A connector, the system is guaranteed to exceed all channel requirements in all configuration scenarios (up to 4-connector channels).

### Application

LANmark-7 will support all current and planned data applications developed for cabling up to Class F.

- All Ethernet applications including
- 1000Base-T
- 1000Base-TX
- 10GBase-T
- CATV up to 862MHz
- Any future Class F application

### Installation

Ease of Installation is one of the unique features of LANmark-7 cable. Extra attention has been paid to ensure screen coverage is maintained both during and after installation. The cable has been designed specifically to offer both optimum performance and ease of termination when used in conjunction with the LANmark-7A GG45 connector.

To support the correct set-up of hand held analysers for installation testing, the actual cable NVP value is given in the cable's print legend.



You may see a combination of brands on documents or products during the transition.

## DECLARATION OF PERFORMANCE

Cca-s1a,d1,a1

## STANDARDS

**International** EN 50173;  
EN 50288-4-1; IEC 60332-3-24;  
IEEE 802.3bt (PoE++); ISO/  
IEC 11801; ISO/IEC 61156-5



Lead free  
Yes



Ambient installation T°  
C range  
-10 ... 60 °C



Operating temp.  
-20 ... 60 °C



Flame retardant  
IEC 60332-1



Fire retardant  
IEC 60332-3-24



Smoke density  
IEC 61034-2



Gases corrosivity  
IEC 60754-1; IEC  
60754-2

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

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## CHARACTERISTICS

### Construction characteristics

|               |   |
|---------------|---|
| Type of cable | S/FTP                                   |
| Screen        | Aluminium foil + tinned copper braiding |
| Drain wire    | No                                      |
| Lead free     | Yes                                     |
| Outer sheath  | LSZH                                    |
| Sheath colour | Orange                                  |

### Dimensional characteristics

|                                     |          |
|-------------------------------------|----------|
| Number of pairs                     | 4        |
| Diameter over insulation            | 1.42 mm  |
| Nominal outer diameter              | 7.6 mm   |
| Conductor cross-section (AWG/KCMIL) | 23       |
| Approximate weight                  | 50 kg/km |

### Electrical characteristics

|   |           |
|---|-----------|
| Characteristic impedance                    | 100 Ohm   |
| Max. transfer impedance at 30 MHz (Ohm/km)  | 50 Ohm/km |
| Max. DC resistance of the conductor at 20°C | 80 Ohm/km |
| Mutual capacitance                          | 45 nF/km  |

### Transmission characteristics

|                                       |             |
|---------------------------------------|-------------|
| Skew                                  | 25 ns/100m  |
| Nominal Velocity of Propagation (NVP) | 82 %        |
| Propagation delay, max. 100 MHz       | 536 ns/100m |
| Coupling attenuation at 30 MHz        | >85 dB      |

### Mechanical characteristics

|                                 |       |
|---------------------------------|-------|
| Maximum operating pulling force | 100 N |
|---------------------------------|-------|

### Usage characteristics

|   |                          |
|---|--------------------------|
| Category  | Cat. 7                   |
| Range   | LANmark-7                |
| Ambient installation temperature, range                   | -10 ... 60 °C            |
| Operating temperature, range                              | -20 ... 60 °C            |
| Minimum Bend Radius - During Installation (under Tension) | 61 mm                    |
| Minimum Bend Radius - Installed                           | 31 mm                    |
| Flame retardant   | IEC 60332-1              |
| Fire retardant  | IEC 60332-3-24           |
| Smoke density   | IEC 61034-2              |
| Gases corrosivity   | IEC 60754-1; IEC 60754-2 |
| Length  | 1000 m                   |
| Packaging   | Reel                     |

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## ELECTRICAL PERFORMANCE LANMARK-7 CABLE

| Frequency<br>(MHz) | Attenuation<br>(dB/100m) |      | NEXT<br>(in dB) |       | ACR<br>(in dB) |      | PS-NEXT<br>(in dB) |      | ACR-F<br>(in dB) |      | PS-ACR-F<br>(in dB) |      | Return Loss<br>(in dB) |      |
|--------------------|--------------------------|------|-----------------|-------|----------------|------|--------------------|------|------------------|------|---------------------|------|------------------------|------|
|                    | Max                      | Typ  | Min             | Typ   | Min            | Typ  | Min                | Typ  | Min              | Typ  | Min                 | Typ  | Min                    | Typ  |
| 1,00               | 4,0                      | 1,8  | 75,0            | 100,0 | 71,0           | 98,2 | 72,0               | 98,0 | 75,0             | 98,0 | 75,0                | 96,0 | 20,0                   |      |
| 4,00               | 4,0                      | 3,5  | 75,0            | 100,0 | 71,0           | 96,5 | 72,0               | 98,0 | 75,0             | 98,0 | 75,0                | 96,0 | 23,0                   | 26,0 |
| 10,00              | 5,9                      | 5,5  | 75,0            | 100,0 | 69,1           | 94,5 | 72,0               | 98,0 | 75,0             | 98,0 | 72,3                | 96,0 | 25,0                   | 28,0 |
| 16,00              | 7,4                      | 6,8  | 75,0            | 100,0 | 67,6           | 93,2 | 72,0               | 98,0 | 71,2             | 96,0 | 68,2                | 94,0 | 25,0                   | 28,0 |
| 20,00              | 8,3                      | 7,7  | 75,0            | 100,0 | 66,7           | 92,3 | 72,0               | 98,0 | 69,3             | 94,0 | 66,3                | 92,0 | 25,0                   | 28,0 |
| 31,25              | 10,4                     | 9,6  | 75,0            | 100,0 | 64,6           | 90,4 | 72,0               | 98,0 | 65,4             | 90,0 | 62,4                | 88,0 | 23,6                   | 26,0 |
| 62,50              | 14,9                     | 14,0 | 75,0            | 100,0 | 60,1           | 86,0 | 72,0               | 98,0 | 59,4             | 84,0 | 56,4                | 82,0 | 21,5                   | 25,0 |
| 100,00             | 19,0                     | 17,7 | 72,4            | 100,0 | 53,4           | 82,3 | 69,4               | 98,0 | 55,3             | 75,0 | 52,3                | 73,0 | 20,1                   | 24,0 |
| 155,00             | 24,0                     | 22,8 | 69,5            | 96,0  | 45,6           | 73,2 | 66,5               | 93,0 | 51,5             | 70,0 | 48,5                | 68,0 | 18,8                   | 23,0 |
| 250,00             | 31,0                     | 29,0 | 66,4            | 94,0  | 35,5           | 65,0 | 63,4               | 91,0 | 47,3             | 66,0 | 44,3                | 64,0 | 17,3                   | 22,0 |
| 300,00             | 34,2                     | 32,1 | 65,2            | 92,0  | 31,1           | 59,9 | 62,2               | 88,0 | 45,8             | 54,0 | 42,8                | 52,0 | 17,3                   | 20,0 |
| 600,00             | 50,1                     | 45,5 | 60,7            | 90,0  | 10,6           | 44,5 | 57,7               | 86,0 | 39,7             | 54,0 | 36,7                | 52,0 | 17,3                   | 20,0 |

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