

## Cat. 7 12x(4x2x23/1 AWG S/FTP) FR-LSZH

**Part Number:** 9928008129

**Applications:** Data-Centers/SANs, Data processing and information systems, Fixed or portable installations, Indoor use, fixed installations, Trunk Cable for Local Area Networks, High data rates

**General Construction:** The cable contains twelve non jacketed cores, each is made of; four individually foil-shielded twisted pairs, cabled together with a tinned copper drain conductor, and overall braid-shielded.  
The 12 cores are cabled and jacketed with FR-LSZH compound.  
The cable exceeds the transmission requirements of IEC 61156-5 Cat. 7, Cat. 6<sub>A</sub> Cat. 6, and Cat. 5e.

**Detailed Schematic:**

**Outer Jacket Material:** FR-LSZH  
**Outer Diameter:** 28.4 mm nom.  
**Weight:** 665 kg/km



### Design & Materials

|   |                              |
|---|------------------------------|
| <b>Conductor Material:</b>              | Annealed Bare Copper         |
| <b>Conductor Size:</b>                  | 23 AWG                       |
| <b>Conductor Construction:</b>          | Solid                        |
| <b>Insulation Material:</b>             | Cellular PO                  |
| <b>Insulation O.D.:</b>                 | 1.35 mm nom.                 |
| <b>Conductor unit identification:</b>   | Solid/stripe                 |
| <b>Color Code:</b>                      | Per TIA/EIA 568-B            |
| <b>Ind. Shield Material:</b>            | Aluminum/Polyester Foil      |
| <b>Ind. Shield Design:</b>              | 100% Coverage                |
| <b>Conductor unit lay-up:</b>           | Pairs                        |
| <b>Overall Braid Shield:</b>            | Yes                          |
| <b>Braid Coverage:</b>                  | 40 % nom.                    |
| <b>Overall Drain-wire Material:</b>     | Annealed Tinned Copper       |
| <b>Overall Drain-wire size:</b>         | 0.41 mm                      |
| <b>Overall Drain-wire Construction:</b> | Solid                        |
| <b>Total number of conductors:</b>      | 96                           |
| <b>Outer Jacket Color:</b>              | Light Gray                   |
| <b>Marking:</b>                         | Per request, Teldor Standard |

### Standards

|                              |  |
|------------------------------|--|
| <b>Applicable Standards:</b> | IEC 61156, ISO/IEC 11801-1, RoHS 3 2015/863/EU |
| <b>Flammability Rating:</b>  | IEC 60332-1                                    |

## Electrical Properties:

### Cat. 7 Horizontal Cables\*

| Freq. MHz | Attenuation dB/100m 20°C |        | PS NEXT Loss dB |        | NEXT Loss dB  |        | RL dB         |        | PS ANEXT dB   |        | PS ELFEXT dB  |        | ELFEXT dB     |        |
|-----------|--------------------------|--------|-----------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|--------|
|           | Typical Value            | Cat. 7 | Typical Value   | Cat. 7 | Typical Value | Cat. 7 | Typical Value | Cat. 7 | Typical Value | Cat. 7 | Typical Value | Cat. 7 | Typical Value | Cat. 7 |
| 1         | 2.0                      | 2.0    | 105.0           | 75.0   | 108.0         | 78.0   | 22.0          | 20.0   | 68.0          | N/A    | 95.0          | 75.0   | 98.0          | 78.0   |
| 4         | 3.6                      | 3.7    | 98.0            | 75.0   | 101.0         | 78.0   | 25.0          | 23.0   | 68.0          | N/A    | 90.0          | 75.0   | 93.0          | 78.0   |
| 10        | 5.6                      | 5.8    | 95.0            | 75.0   | 98.0          | 78.0   | 28.0          | 25.0   | 68.0          | N/A    | 86.0          | 71.0   | 89.0          | 74.0   |
| 20        | 7.9                      | 8.3    | 90.0            | 75.0   | 93.0          | 78.0   | 28.0          | 25.0   | 68.0          | N/A    | 80.0          | 65.0   | 83.0          | 68.0   |
| 30        | 9.7                      | 10.2   | 85.0            | 75.0   | 88.0          | 78.0   | 27.0          | 23.8   | 68.0          | N/A    | 76.0          | 61.5   | 79.0          | 64.5   |
| 100       | 18.0                     | 19.0   | 80.0            | 69.4   | 83.0          | 72.4   | 24.0          | 21.1   | 68.0          | N/A    | 66.0          | 51.0   | 69.0          | 54.0   |
| 150       | 22.4                     | 23.6   | 78.0            | 66.7   | 81.0          | 69.7   | 22.0          | 18.8   | 65.0          | N/A    | 63.0          | 47.5   | 66.0          | 50.5   |
| 200       | 26.0                     | 27.5   | 78.0            | 65.0   | 81.0          | 68.0   | 21.0          | 18.0   | 65.0          | N/A    | 60.0          | 45.0   | 63.0          | 48.0   |
| 250       | 29.4                     | 31.0   | 75.0            | 63.4   | 78.0          | 66.4   | 20.0          | 17.3   | 62.0          | N/A    | 58.0          | 43.0   | 61.0          | 46.0   |
| 300       | 32.5                     | 34.2   | 75.0            | 62.2   | 78.0          | 65.2   | 19.0          | 17.3   | 62.0          | N/A    | 52.0          | 41.5   | 55.0          | 44.5   |
| 400       | 38.0                     | 40.0   | 70.0            | 60.4   | 73.0          | 63.4   | 19.0          | 17.3   | 62.0          | N/A    | 49.0          | 38.9   | 52.0          | 41.9   |
| 500       | 43.0                     | 45.2   | 70.0            | 58.9   | 73.0          | 61.9   | 19.0          | 17.3   | 62.0          | N/A    | 47.0          | 37.0   | 50.0          | 40.0   |
| 600       | 47.6                     | 50.1   | 70.0            | 57.7   | 73.0          | 60.7   | 19.0          | 17.3   | 62.0          | N/A    | 45.0          | 35.4   | 48.0          | 38.4   |

\*Supplied cables meet the minimum Cat. 7 transmission requirements as per **IEC 61156-5 Ed. 2**

## Performance

|                                       |                 |
|---------------------------------------|-----------------|
| <b>Frequency Range:</b>               | 1 - 600 MHz     |
| <b>Impedance:</b>                     | 100 Ω           |
| <b>Coupling Attenuation:</b>          | Type I          |
| <b>Max. DC Resistance :</b>           | 73 Ω/km@20°C    |
| <b>Max. Resistance Unbalance:</b>     | 2 %             |
| <b>Capacitance Unbalance:</b>         | 1.2 pF/m max.   |
| <b>Velocity of Propagation:</b>       | 78 % nom.       |
| <b>Propagation Delay Skew:</b>        | 25 ns/100m max. |
| <b>Dielectric Strength:</b>           | 700 V/minute    |
| <b>Dielectric Strength to Shield:</b> | 700 V/minute    |
| <b>Min. Insulation Resistance :</b>   | 5 GΩ•km         |
| <b>Min. Bend Radius:</b>              | 280 mm          |
| <b>Max. Operating Temperature:</b>    | +65 °C          |
| <b>Min. Operating Temperature:</b>    | -40 °C          |

| Prepared By  | Revised By    | Version Num | Modified on |
|--------------|---------------|-------------|-------------|
| Asher Bohbut | Jacob Ben Ary | 2.3         | 30-07-2013  |

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