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# CAT 6 CABLE

High reliability Cat 6 Ethernet cable & cordsets



## General construction

A 4 pairs, 26 AWG, 100 Ohm SFTP round patch cable, designed to the ISO / IEC 11801 Category 6 requirements. The cable contains 4 twisted pairs individually shielded, cabled, double shielded with kevlar reinforcement strands, jacketed in black UV resistant Polyurethane HFFR. Designed for fixed or portable applications in harsh environments.

## HFFR: Halogen Free Flame Retardant

Jacket compound specification:

- Halogen free flame retardant polyether-based polyurethane
- Excellent hydrolysis resistance
- High microbial resistance
- Glossy finish
- UV resistant
- High flexibility

## Applications

- Robotics
- Motion control
- Railways
- CNC machines
- Battlefield communication
- Industrial process control

## Electrical characteristics (at 20°C - 68°F)

**DC Resistance** 290 Ohm/Km

**Impedance (100 MHz)** 100 +/- 5 Ohm

| Frequency | Attenuation (dB/100m) | N.E.X.T. (Near-End Crosstalk Loss) |
|-----------|-----------------------|------------------------------------|
| 1 MHz     | 3.1 dB                | 75.3 dB min.                       |
| 4 MHz     | 5.8 dB                | 66.3 dB min.                       |
| 8 MHz     | 8.0 dB                | 61.8 dB min.                       |
| 10 MHz    | 9.0 dB                | 60.3 dB min.                       |
| 16 MHz    | 11.4 dB               | 57.2 dB min.                       |
| 20 MHz    | 12.8 dB               | 55.8 dB min.                       |
| 25 MHz    | 14.1 dB               | 54.3 dB min.                       |
| 31.25 MHz | 16.1 dB               | 52.8 dB min.                       |
| 62.5 MHz  | 23.2 dB               | 48.4 dB min.                       |
| 100 MHz   | 29.9 dB               | 45.3 dB min.                       |
| 200 MHz   | 43.7 dB               | 40.8 dB min.                       |
| 250 MHz   | 49.7 dB               | 39.3 dB min.                       |

|                                |                       |
|--------------------------------|-----------------------|
| <b>Capacitance (1 kHz)</b>     | 50nF/km nom.          |
| <b>Capacitance unbalance</b>   | 1600 pF/km max.       |
| <b>Insulation resistance</b>   | 5 GOhm/km             |
| <b>Voltage rating (peak)</b>   | 230 V                 |
| <b>Dielectric strength</b>     | VAC/1 min - 700 V/Min |
| <b>Propagation delay</b>       | 4.6 ns/m              |
| <b>Skew</b>                    | 45 ns/100m            |
| <b>Resistance unbalance</b>    | 2%                    |
| <b>Return loss (250 MHz)</b>   | 15.6dB                |
| <b>Velocity of propagation</b> | 72% nom.              |

## Reel of cable (without RJ45 plug on ends)

| Length (m / ft) | Part number   |
|-----------------|---------------|
| 100 m / ~328 ft | 191-031179-00 |
| 300 m / ~984 ft | 191-031179-01 |

## Physical characteristics

*Datas for the cable alone only (without RJ45 plug)*

|  |   |
|--|---|
| <b>Conductors</b>                            | 26 AWG (0,14 mm <sup>2</sup> ) tinned copper                                    |
| <b>Insulation</b>                            | Polyethylene<br>Nom. Dia. 0,039" (1mm)  |
| <b>Assembly</b>                              | Pairs cabled with Kevlar strength members and separation tape wrapped           |
| <b>Shields</b>                               | Inner: aluminium mylar 100% coverage<br>Outer: tinned copper braid 80% coverage |
| <b>Jacket</b>                                | Black, special PUR compound   |
| <b>Weight</b>                                | 36.9 lbs / mft (55 kg/km)   |
| <b>Outside diam.</b>                         | 0.272" (6.9 mm) nom.  |
| <b>Min bend radius (During installation)</b> | 72mm (10x O. D.)  |
| <b>Min bend radius (During operation)</b>    | 36mm (5 x O.D.)   |
| <b>Min flexes to failure</b>                 | Passes IEC 61156-6 requirements   |
| <b>Temperature</b>                           | -40°C (-40°F) / + 85°C (185°F)  |

## Cordsets with a RJ45 plug overmolded on each end

| Length (m/ft)       | Part number     |
|---------------------|-----------------|
| 0,75 m / 2,46 ft    | RJF SFTP 6 0075 |
| 1,00 m / 3,28 ft    | RJF SFTP 6 0100 |
| 1,50 m / 4,92 ft    | RJF SFTP 6 0150 |
| 2,00 m / 6,56 ft    | RJF SFTP 6 0200 |
| 2,50 m / 8,20 ft    | RJF SFTP 6 0250 |
| 3,00 m / 9,84 ft    | RJF SFTP 6 0300 |
| 3,50 m / 11,48 ft   | RJF SFTP 6 0350 |
| 4,00 m / 13,12 ft   | RJF SFTP 6 0400 |
| 4,50 m / 14,76 ft   | RJF SFTP 6 0450 |
| 5,00 m / 16,40 ft   | RJF SFTP 6 0500 |
| 6,00 m / 19,68 ft   | RJF SFTP 6 0600 |
| 7,00 m / 22,96 ft   | RJF SFTP 6 0700 |
| 8,00 m / 26,24 ft   | RJF SFTP 6 0800 |
| 9,00 m / 29,52 ft   | RJF SFTP 6 0900 |
| 10,00 m / 32,80 ft  | RJF SFTP 6 1000 |
| 15,00 m / 49,20 ft  | RJF SFTP 6 1500 |
| 20,00 m / 65,60 ft  | RJF SFTP 6 2000 |
| 25,00 m / 82,00 ft  | RJF SFTP 6 2500 |
| 30,00 m / 98,40 ft  | RJF SFTP 6 3000 |
| 35,00 m / 114,80 ft | RJF SFTP 6 3500 |
| 40,00 m / 131,20 ft | RJF SFTP 6 4000 |
| 45,00 m / 147,60 ft | RJF SFTP 6 4500 |
| 50,00 m / 164,00 ft | RJF SFTP 6 5000 |
| 60,00 m / 196,80 ft | RJF SFTP 6 6000 |