

**ETHERNET LAN** 



# F/UTP Cat.5e 4PR 24AWG LSZH, Conductor Material: Copper, Outersheath Color: Green 6018





# Description

LAN Copper Cables, also known as Ethernet cables or twisted pair cables, are a fundamental component of local area networks (LANs). They provide the physical medium for transmitting data signals between devices within a network infrastructure and they can be:

- Unshielded Twisted Pair (UTP): UTP cables are the most common type of LAN cables. They consist of pairs of insulated copper wires twisted together, providing reliable data transmission for short to medium distances.
- Shielded Twisted Pair (STP): STP cables feature an additional metallic shield around the twisted pairs, providing better protection against electromagnetic interference (EMI) and crosstalk. They are ideal for environments with high levels of interference.
- Foiled Twisted Pair (FTP): FTP cables have an overall foil shield that encases all twisted pairs, offering effective EMI protection.

LAN Copper Cables are categorized based on their performance specifications, as defined by the Electronic Industries Association/Telecommunications Industry Association (EIA/TIA):

- Category 5e (Cat5e): Suitable for speeds up to 1 Gbps (Gigabit per second) over distances of up to 100 meters.
- Category 6 (Cat6): Capable of supporting speeds up to 10 Gbps over distances of up to 55 meters.
- Category 6a (Cat6a): Designed for higher-speed applications, supporting speeds up to 10 Gbps over distances of up to 100 meters.
- Category 7 (Cat7): Designed for future-proofing, supporting speeds up to 10 Gbps over distances of up to 100 meters, with improved shielding and reduced crosstalk.

#### **Standards**

EN 50288-3-1 IEC/EN 61034-2 EN 50173 IEC 60332-1 ISO/IEC 11801 IEC 61156-6 IEC/EN 60754-1/2 EIA/TIA 568A

#### Construction

Conductor core: 24 AWG copper soft wire

Insulation: HDPE polyethylene, colored marking of

insulation

**Outersheath: PVC** 

The above design is only a sample of the options available, for reference purposes only. Our policy of continuous improvement may result in a change of specifications without notice. If any discrepancies might be between the data sheet values and standards, we reserve the rights to make technical changes. Our company will not be held responsible, as all or any of pictures, drawings, weights and dimensions details or other elements in this document are only indicative and must not be considered contractual. Contact our sales team for other specifications or custom made products.

www.polytrade.global 1 / 2

# **TELECOMMUNICATION CABLES**



### **ETHERNET LAN**



# **Technical Characteristics**

Number of Conductors         8           Cable Overall Diameter         6 mm           Cable Weight         40 kg/km           Conductor Material         Copper           Conductor Cross-Section         0.25 mm²           Conductor Class         CL-1           Conductor Type         RE           Insulation Material         HDPE           Outersheath Material         LSZH           Outersheath Color         Green 6018           Max. Permissible Installation Temperature         -20 >< +50 °C           Operating Temperature         -40 >< +60 °C           Rate Tensile Strength (RTS)         90 N           Crush         1000 N/10cm           Conductor Resistance         Max. 95 Ω/km           Resistance unbalance         Max. 2 %           Insulation Resistance         ≥ 5000 MΩ/km           Nominal Velocity of Propagation         ≥ 66 %           Signal Propagation Delay         Max. 537 ns/100m           Test Voltage         1000 V           Minimum Bending Radius (Installing)         8xD           Minimum Bending Radius (Operating)         4xD           Packing         Wooden Drum, Plywood Drum, Coil, Rolls, Box           Delivery Lengths         To be confirmed by offer <th>N</th> <th></th>	N	
Cable Weight       40 kg/km         Conductor Material       Copper         Conductor Cross-Section       0.25 mm²         Conductor Type       RE         Insulation Material       HDPE         Outersheath Material       LSZH         Outersheath Color       Green 6018         Max. Permissible Installation Temperature       -20 >< +50 °C	Number of Conductors	8
Conductor Material       Copper         Conductor Cross-Section       0.25 mm²         Conductor Class       CL-1         Conductor Type       RE         Insulation Material       HDPE         Outersheath Material       LSZH         Outersheath Color       Green 6018         Max. Permissible Installation Temperature       -20 >< +50 °C	Cable Overall Diameter	6 mm
Conductor Cross-Section  Conductor Class  CL-1  RE  Insulation Material  Outersheath Material  Outersheath Color  Green 6018  Max. Permissible Installation Temperature  -20 >< +50 °C  Operating Temperature  -40 >< +60 °C  Rate Tensile Strength (RTS)  90 N  Crush  Conductor Resistance  Max. 95 Ω/km  Resistance unbalance  Insulation Resistance  Nominal Velocity of Propagation  Signal Propagation Delay  Max. 537 ns/100m  Test Voltage  Minimum Bending Radius (Operating)  AvD  Mount CL-1  RE  RE  RE  RE  RE  RE  RE  RE  RE  R	Cable Weight	40 kg/km
Conductor Class       CL-1         Conductor Type       RE         Insulation Material       HDPE         Outersheath Material       LSZH         Outersheath Color       Green 6018         Max. Permissible Installation Temperature       -20 >< +50 °C	Conductor Material	Copper
Conductor Type       RE         Insulation Material       HDPE         Outersheath Material       LSZH         Outersheath Color       Green 6018         Max. Permissible Installation Temperature       -20 >< +50 °C	Conductor Cross-Section	0.25 mm <sup>2</sup>
Insulation Material  Outersheath Material  LSZH  Outersheath Color  Green 6018  Max. Permissible Installation Temperature  -20 >< +50 °C  Operating Temperature  -40 >< +60 °C  Rate Tensile Strength (RTS)  90 N  Crush  1000 N/10cm  Conductor Resistance  Max. 95 Ω/km  Resistance unbalance  Max. 2 %  Insulation Resistance  Nominal Velocity of Propagation  Signal Propagation Delay  Test Voltage  Minimum Bending Radius (Installing)  Minimum Bending Radius (Operating)  Packing  Moden Drum, Plywood Drum, Coil, Rolls, Box	Conductor Class	CL-1
Outersheath Material       LSZH         Outersheath Color       Green 6018         Max. Permissible Installation Temperature       -20 >< +50 °C	Conductor Type	RE
Outersheath ColorGreen 6018Max. Permissible Installation Temperature-20 >< +50 °C	Insulation Material	HDPE
Max. Permissible Installation Temperature $-20 \times < +50 ^{\circ}\text{C}$ Operating Temperature $-40 \times < +60 ^{\circ}\text{C}$ Rate Tensile Strength (RTS) $90 \text{N}$ Crush $1000 \text{N}/10 \text{cm}$ Conductor Resistance $\text{Max. } 95 \Omega/\text{km}$ Resistance unbalance $\text{Max. } 2 \%$ Insulation Resistance $\geq 5000 \text{M}\Omega/\text{km}$ Nominal Velocity of Propagation $\geq 66 \%$ Signal Propagation Delay $\text{Max. } 537 \text{ns}/100 \text{m}$ Test Voltage $1000 \text{V}$ Minimum Bending Radius (Installing) $8 \text{xD}$ Minimum Bending Radius (Operating) $4 \text{xD}$ PackingWooden Drum, Plywood Drum, Coil, Rolls, Box	Outersheath Material	LSZH
Operating Temperature       -40 >< +60 °C	Outersheath Color	Green 6018
Rate Tensile Strength (RTS)  Crush $1000 \text{ N}/10 \text{cm}$ Conductor Resistance $1000 \text{ N}/10 \text{cm}$ Resistance unbalance $1000 \text{ N}/10 \text{cm}$ Resistance unbalance $1000 \text{ N}/10 \text{cm}$ Max. $95 \Omega/\text{km}$ Resistance unbalance $1000 \text{ M} \Omega/\text{km}$ Nominal Velocity of Propagation $1000 \text{ M} \Omega/\text{km}$ Signal Propagation Delay $1000 \text{ V}$ Minimum Bending Radius (Installing)  Minimum Bending Radius (Operating) $1000 \text{ V}$ Minimum Bending Radius (Operating)  Mooden Drum, Plywood Drum, Coil, Rolls, Box	Max. Permissible Installation Temperature	-20 >< +50 °C
Crush1000 N/10cmConductor ResistanceMax. 95 $\Omega$ /kmResistance unbalanceMax. 2 %Insulation Resistance $\geq 5000  \text{M}\Omega$ /kmNominal Velocity of Propagation $\geq 66  \%$ Signal Propagation DelayMax. 537 ns/100mTest Voltage1000 VMinimum Bending Radius (Installing)8xDMinimum Bending Radius (Operating)4xDPackingWooden Drum, Plywood Drum, Coil, Rolls, Box	Operating Temperature	-40 >< +60 °C
Conductor ResistanceMax. 95 $\Omega$ /kmResistance unbalanceMax. 2 %Insulation Resistance≥ 5000 MΩ/kmNominal Velocity of Propagation≥ 66 %Signal Propagation DelayMax. 537 ns/100mTest Voltage1000 VMinimum Bending Radius (Installing)8xDMinimum Bending Radius (Operating)4xDPackingWooden Drum, Plywood Drum, Coil, Rolls, Box	Rate Tensile Strength (RTS)	90 N
Resistance unbalance       Max. 2 %         Insulation Resistance       ≥ 5000 MΩ/km         Nominal Velocity of Propagation       ≥ 66 %         Signal Propagation Delay       Max. 537 ns/100m         Test Voltage       1000 V         Minimum Bending Radius (Installing)       8xD         Minimum Bending Radius (Operating)       4xD         Packing       Wooden Drum, Plywood Drum, Coil, Rolls, Box	Crush	1000 N/10cm
Insulation Resistance       ≥ 5000 MΩ/km         Nominal Velocity of Propagation       ≥ 66 %         Signal Propagation Delay       Max. 537 ns/100m         Test Voltage       1000 V         Minimum Bending Radius (Installing)       8xD         Minimum Bending Radius (Operating) $4xD$ Packing       Wooden Drum, Plywood Drum, Coil, Rolls, Box	Conductor Resistance	Max. 95 Ω/km
Nominal Velocity of Propagation≥ 66 %Signal Propagation DelayMax. 537 ns/100mTest Voltage1000 VMinimum Bending Radius (Installing)8xDMinimum Bending Radius (Operating)4xDPackingWooden Drum, Plywood Drum, Coil, Rolls, Box	Resistance unbalance	Max. 2 %
Signal Propagation Delay  Max. 537 ns/100m  Test Voltage  1000 V  Minimum Bending Radius (Installing)  8xD  Minimum Bending Radius (Operating)  4xD  Packing  Wooden Drum, Plywood Drum, Coil, Rolls, Box	Insulation Resistance	≥ 5000 MΩ/km
Test Voltage 1000 V  Minimum Bending Radius (Installing) 8xD  Minimum Bending Radius (Operating) 4xD  Packing Wooden Drum, Plywood Drum, Coil, Rolls, Box	Nominal Velocity of Propagation	≥ 66 %
Minimum Bending Radius (Installing)  8xD  Minimum Bending Radius (Operating)  4xD  Packing  Wooden Drum, Plywood Drum, Coil, Rolls, Box	Signal Propagation Delay	Max. 537 ns/100m
Minimum Bending Radius (Operating)  4xD  Packing  Wooden Drum, Plywood Drum, Coil, Rolls, Box	Test Voltage	1000 V
Packing Wooden Drum, Plywood Drum, Coil, Rolls, Box	Minimum Bending Radius (Installing)	8xD
	Minimum Bending Radius (Operating)	4xD
Delivery Lengths To be confirmed by offer	Packing	Wooden Drum, Plywood Drum, Coil, Rolls, Box
	Delivery Lengths	To be confirmed by offer
Delivery Length Tolerance ±5 %	Delivery Length Tolerance	±5 %

The above design is only a sample of the options available, for reference purposes only. Our policy of continuous improvement may result in a change of specifications without notice. If any discrepancies might be between the data sheet values and standards, we reserve the rights to make technical changes. Our company will not be held responsible, as all or any of pictures, drawings, weights and dimensions details or other elements in this document are only indicative and must not be considered contractual. Contact our sales team for other specifications or custom made products.