Industrial Single Pair Ethernet (SPE) Shielded Copper Cable

PANDUIT®

SPECIFICATION SHEET

specifications

Single Pair Ethernet Shielded S/FTP Copper Cable shall meet or exceed the ANSI/TIA-568.5 (draft) and IEC 61156-13 and -14 (draft) standards up to 1000 meters. The stranded tinned copper conductors shall be 18/7 AWG with foamed polyethylene (PE) insulation. The copper conductors shall be twisted in a pair and include two fillers. The pair shall then be surrounded by an aluminum/polyester foil, an overall tinned copper braid (80% coverage) and 24/7 AWG stranded tinned copper ground wire and PVC jacket. The jacket shall be oil, UV, and abrasion resistant for enhanced chemical resistance and mechanical performance and flame retardant for Industrial applications.

Industrial Single Pair Ethernet (SPE) Shielded Copper Cable	
S/FTP Stranded (18 AWG):	SP-SFCS1**-CEG
Related Products	
Shielded Plug Connector (18 AWG):	SP-1LSA22BL
IEC 63171-1 Single Pair Ethernet Connector:	SP-18SA42BL

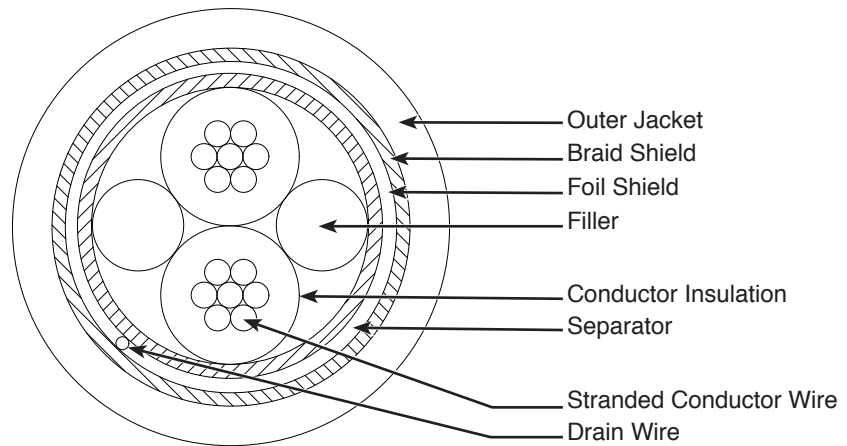**For standard colors, replace ** in part number with IG (International Gray) or BL (Black).

Contact Customer Service for additional color options.

technical information

Electrical performance:	Certified component performance up to 1000 meters and exceeds the requirements ANSI/TIA-568.5 (draft) and IEC 61156-13 and -14 (draft) at swept frequencies up to 20 MHz
Standard compliances:	SUN RES OIL RES
Conductors/insulators:	One pair of 18/7 AWG stranded tinnned copper insulated with foamed polyethylene (PE) insulation
Insulation diameter:	0.098 in. (2.48mm) nominal
Flame rating:	CM (UL1685) pending
Installation tension:	25 lbf (110N) maximum
Temperature rating:	-4°F to 167°F (-20°C to 75°C) during operation
Cable jacket:	Flame retardant PVC, oil, UV, and abrasion resistant
Cable diameter:	0.267 in. (6.8mm) nominal
Cable weight:	45 lbs./1000 ft. (2 kg/305m) nominal
Packaging:	Packaged 1000 feet (305m) on a reel; Package tested to ISTA Procedure 1A

key features and benefits

Standards compliant	Cable complies with the requirements of ANSI/TIA-568.5 (draft) and IEC 61156-13 and -14 (draft) standards
Reliability	Stranded conductors for standard flex applications and ease of installation; cable jacket shall be oil, UV, and abrasion resistant for enhanced chemical resistance and mechanical performance
Fully shielded design	Braid and foil construction mitigates both low and high frequency external interference to ensure performance in high EMI/RFI applications
Packaged on a reel	Ensures proper performance, provides quick installation and reduces scrap

applications

Single Pair Ethernet Copper Cable provides reliability and high performance as an integral component of the end-to-end solution for industrial SP1-1000 communication systems. This communications system includes copper cabling and connectivity for IP20 and harsh IP67 applications, and enables edge devices to be efficiently added to the ethernet network which was formerly limited to 2- and 4-pair cabling systems.

This system allows for Power over Data Line (PoDL) power delivery and up to 10 Mb/s bandwidth for up to 1 km, and will drive ethernet convergence in the following applications:

• Process Automation Sensors and Valves
• Logistics Automation VFDs and Conveyors
• Upgrades from analog to intelligent Sensors
• Building Automation upgrades to BACnet/IP

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additional specifications

Mechanical Test	
Ultimate Breaking Strength	>90 lbf (400N)
Minimum Bend Radius	10 x cable diameter
Electrical Test	
Nominal Velocity of Propagation (NVP)	74% nominal
Operating Voltage, Maximum	80V

cable construction

Outer Jacket
Braid Shield
Foil Shield
Filler
Conductor Insulation
Separator
Stranded Conductor Wire
Drain Wire

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