# 24AWG 4 Pair Shielded Industrial Ethernet Cable

Cat 5e. CM. CMX. AWM Style 2463. 75°C. Sunlight Resistance. Outdoor Rated. RoHS-2

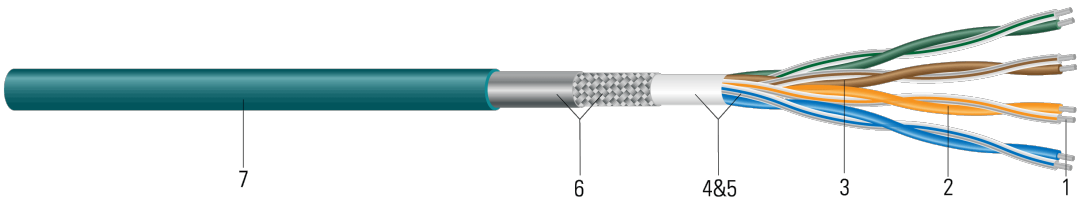


Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** 24AWG, stranded, tinned copper per ASTM B33 and B174
2. **Insulation:** High Density Polyethylene (HDPE)
3. **Pairs:** Color coded singles twisted into pairs
4. **Color Code:** 1PR - White/Blue, Blue; 2PR - White/Orange, Orange; 3PR - White/Green, Green; 4PR - White/Brown, Brown
5. **Assembly:** Twisted pairs cabled together with filler and wrapped with clear polyester tape to form a round cable
6. **Shielding:** An overall shield of 38 AWG tinned copper braid (75% coverage) is applied over the cable core and under a second aluminized polyester foil shield (100% coverage).
7. **Jacket:** Teal, Thermoplastic Elastomer (TPE)

## APPLICATIONS AND FEATURES:

Shielded Ethernet Cat 5e cable designed for the harsh industrial environment and provides excellent protection against EMI interference. It is suitable for continuous flexing cable track and torsion applications. For use for wiring network interconnections. Industrial strength jacket provides excellent resistance to low temperatures (-40°C), common oils and chemicals, flame, UV and weather exposure.

## SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B174 Standard Specification for Bunch-Stranded Copper
- UL 444 Communications Cables (90ºC, 300V)
- UL 758 Standard for Appliance Wiring Material Style 2463 (80C, 600V)
- CSA C22.2 No.214 Communications cables
- RoHS-2 (European Directive 2011/65/EU)
- **CE/RoHS-2 – The CE Marking has been applied solely to express the conformance to the material restrictions identified in the RoHS-2 (2011/65/EU) Directive**

## SAMPLE PRINT LEGEND:

Southwire Industrial Ethernet Cat 5e Flexing 4 PR 24AWG SF/UTP EXXXXXX C(UL)US TYPE CMX OUTDOOR - CM SUN RES 75C OR AWM 2463 80C 600V -- CE RoHS-2 -- (Lot Designator) (Sequential Footage) Made in USA

## Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Number of Pairs | Cond. Strands | Insul. Thickness | Jacket Thickness | Approx. OD | Approx. Weight | DC Resistance @ 25°C | Max Plug to Plug Transmission Distance + POE |
|---|---|---|---|---|---|---|---|---|---|
| | AWG/ Kcmil | pair | strand | mil | mil | inch | lb/1000ft | Ω/1000ft | meter |
| 648558 | 24 | 4 | 7 | 11 | 37 | 0.290 | 43 | 14 | 90 |

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

## ELECTRICAL CHARACTERISTICS (For 100m of Cable)

| | | |
|---|---|---|
| Mutual Capacitance: | 13.5 PF/FT at 1 MHz | |
| Dielectric Withstanding: | 2000V RMS | |
| Impedance: | 100 ± 15 Ω 1-100 MHz | |
| Impedance, Smoothed: | 100 ± 20 Ω Typical 5 -100 MHz | |
| Return Loss: | $1 \le f < 10$ MHz<br>$10 \le f < 20$MHz<br>$20 \le f \le 100$MHz | 20 + 6 LOG($f$) dB MIN*<br>26 dB MIN*<br>26 - 5LOG($f$/20) dB MIN* |
| NEXT: | $1 \le f \le 100$MHz | 35.3 -15 LOG($f$/100) dB MIN |
| PSNEXT: | $1 \le f \le 100$MHz | 32.3 -15 LOG($f$/100) dB MIN |
| ACRF: | $1 \le f \le 100$MHz | 23.8 - 20 LOG($f$/100) dB MIN |
| PSACRF: | $1 \le f \le 100$MHz | 20.8 - 20 LOG($f$/100) dB MIN |
| Insertion Loss: | $1 \le f \le 100$MHz | 1.2[1.967 SQRT($f$) + 0.023($f$) + 0.050/SQRT($f$)] dB MAX |
| Delay: | $1 \le f \le 100$MHz | 534 + 36/SQRT(F) ns MAX |
| Delay Skew: | $1 \le f \le 100$MHz | <25ns |
| Coupling Attenuation: | $30 \le f \le 100$MHz | ≥ 60 dB E3* Segregation class d acc. EN 50174-2 |
| Velocity of Propagation | 68% | |

* Per ODVA Volume 2 Ethernet/IP
Note: All testing is conducted off the reel

## PERFORMANCE CHARACTERISTICS

| | | |
|---|---|---|
| Flex Life: | (126 cycles/minute @ 20°C) | 1 million cycle test (10x Cable OD, minimum radius)<br>10 million cycle test (20x Cable OD, minimum radius) |
| Torsion Test: | (1lb load, 360°, 71 Cycles/min @ 20°C) | 4.8 million cycle test |