

# PUR Industrial Ethernet Cat7 Multipair Cable

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RoHS  
Compliant

## Application

This multipair industrial ethernet Cat7 cable is suitable for Profinet Type B applications. Can be used in dry or damp rooms for plant engineering and machinery manufacturing. The rugged polyurethane sheath provides protection even in extreme industrial environments.

## Characteristics

|                        |  |
|------------------------|--|
| Voltage Rating         | : 125V   |
| Temperature Rating     | : Fixed: -40°C to +80°C<br>Flexed: -20°C to +70°C              |
| Minimum Bending Radius | : Fixed: 8 × overall diameter<br>Flexed: 12 × overall diameter |

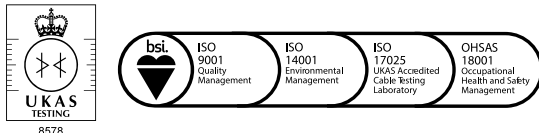
## Cable Standards

IEC 61156-6, IEC 60811-2-1



## UK Laboratory Tested

This product is subject to the Quality Assurance protocols of The Cable Lab®, a UKAS accredited ISO 17025 cable testing laboratory. Testing includes vertical flame, conductor resistance, tensile & elongation, and dimensional consistency, verified to published standards and approved product drawings.



## Regulatory Compliance

This cable meets the requirements of the Low Voltage Directive 2014/35/EU and the RoHS Directive 2011/65/EU. RoHS compliance has been tested and confirmed by The Cable Lab® as meeting the requirements of the BSI RoHS Trusted Kitemark™.



## Construction

### Conductor

Stranded bare copper wires (AWG24/7)

### Insulation

FPE (Polyethylene)

### Separator Tape

PET (Polyester)

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## Pair Shield

AL/PET (Aluminium Polyester Tape)

## Braid

TCWB (Tinned Copper Wire Braid) 90% coverage

## Sheath

PUR compound (Thermoplastic Polyurethane)

## Pairs Identification

White and Green

White and Orange

White and Blue

White and Brown

## Sheath Colour

Green

## Dimensions

| No. of Pairs | Nominal Conductor Diameter mm <sup>2</sup> (AWG / strands) | Nominal Diameter Insulation mm | Nominal Overall Diameter mm | Nominal Weight kg/km |
|--------------|--|--------------------------------|-----------------------------|----------------------|
| 4            | 0.22 (7 / 24)  | 1.43                           | 8.5                         | 94                   |

## Electrical Characteristics at 20°C

| Max. DC Conductor Resistance $\Omega$ /km | Capacitance pF/km |            | Min. Insulation Resistance $G\Omega \times km$ | Impedance $\Omega$ | Nominal Propagation Velocity | Delay Skew ns/100m | Dielectric Strength kV AC / 1 min |             |
|---|-------------------|------------|--|--------------------|------------------------------|--------------------|-----------------------------------|-------------|
|   | Core/Core         | Unbalanced |  |                    |                              |                    | Core/Core                         | Core/Shield |
| 84  | 42                | 1600       | 5  | 100                | 75%                          | 25                 | 1.5                               | 1           |

| Fre-<br>quency<br>MHz | Attenua-<br>tion<br>STD<br>dB/100m | Attenua-<br>tion<br>Typical<br>dB/100m | Next<br>STD<br>dB | Next<br>Typical<br>dB | PS<br>Next<br>STD<br>dB | PS Next<br>Typical<br>dB | EI-FEXT<br>STD<br>dB/100m | EI-FEXT<br>Typical<br>dB/100m | PS EI-<br>FEXT<br>STD<br>dB/100m | PS EI-<br>FEXT<br>Typical<br>dB/100m | Min.<br>PS ACR<br>dB/100m | PS ACR<br>Typical<br>dB/100m | Return<br>Loss<br>STD<br>dB | Return<br>Loss<br>Typical<br>dB |
|-----------------------|------------------------------------|--|-------------------|-----------------------|-------------------------|--------------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|---------------------------|------------------------------|-----------------------------|---------------------------------|
| 1                     | 3                                  | 2.1                                    | 80                | >95                   | 77                      | >95                      | 78                        | >95                           | 75                               | >95                                  | 74                        | 92.9                         | -                           | 28                              |
| 4                     | 5.6                                | 3.8                                    | 80                | >95                   | 77                      | >95                      | 78                        | >95                           | 75                               | 95                                   | 71.4                      | 91.2                         | 23.1                        | 30                              |
| 10                    | 8.8                                | 5.9                                    | 80                | >95                   | 77                      | >95                      | 74                        | 95                            | 71                               | 92                                   | 68.2                      | 89.1                         | 25                          | 33                              |
| 16                    | 11.1                               | 7.6                                    | 80                | >95                   | 77                      | >95                      | 69.9                      | 92                            | 66.9                             | 89                                   | 65.9                      | 87.4                         | 25                          | 33                              |
| 20                    | 12.4                               | 8.6                                    | 80                | >95                   | 77                      | 95                       | 68                        | 88                            | 65                               | 85                                   | 64.6                      | 86.4                         | 25                          | 33                              |
| 31.25                 | 15.6                               | 10.8                                   | 80                | 95                    | 77                      | 92                       | 64.1                      | 82                            | 61.1                             | 79                                   | 61.4                      | 81.2                         | 23.3                        | 33                              |
| 62.5                  | 22.3                               | 15.3                                   | 75.5              | 93                    | 72.5                    | 90                       | 58.1                      | 77                            | 55.1                             | 75                                   | 50.2                      | 74.7                         | 20.7                        | 30                              |
| 100                   | 28.5                               | 19.8                                   | 72.4              | 91                    | 69.4                    | 88                       | 54                        | 70                            | 51                               | 67                                   | 40.9                      | 68.2                         | 19                          | 28                              |
| 125                   | 32.1                               | 22.5                                   | 70.9              | 90                    | -67.9                   | 87                       | 52.1                      | 68                            | 49.1                             | 65                                   | 35.8                      | 64.5                         | 18.2                        | 27                              |
| 155.52                | 36                                 | 25.3                                   | 69.5              | 89                    | -66.5                   | 86                       | 50.2                      | 64                            | 47.2                             | 61                                   | 30.5                      | 60.7                         | 17.3                        | 25                              |
| 200                   | 41.2                               | 28.8                                   | 67.9              | 88                    | 64.9                    | 85                       | 48                        | 58                            | 45                               | 55                                   | 23.7                      | 56.2                         | 16.4                        | 25                              |
| 250                   | 46.5                               | 32.2                                   | 66.4              | 86                    | 63.4                    | 83                       | 47                        | 55                            | 43                               | 52                                   | 16.9                      | 50.8                         | 15.6                        | 23                              |
| 350                   | 55.8                               | 38.3                                   | 64.2              | 84                    | 61.2                    | 81                       | 43.1                      | 49                            | 40.1                             | 46                                   | 5.4                       | 42.7                         | 15.6                        | 22                              |
| 500                   | 67.9                               | 46.8                                   | 61.9              | 83                    | 58.9                    | 80                       | 40                        | 47                            | 37                               | 44                                   | -                         | 33.2                         | 15.6                        | 21                              |
| 600                   | 75.1                               | 51.7                                   | 60.7              | 81                    | 57.7                    | 78                       | 38.4                      | 44                            | 35.4                             | 41                                   | -                         | 26.3                         | 15.6                        | 20                              |

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## Part Number Table

| Description                                     | Reel Length | Part Number |
|---|-------------|-------------|
| PUR Industrial Ethernet<br>Cat7 Multipair Cable | 100m        | PP001546    |

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