

# Cat6 Ethernet



## Q2045-1 Cable Specifications

|                                                      |        | Part Number                                                                                                                                             | Wire/Cable Type | Flexibility                                                | Minimum Cut Length (ft)* | Approximate Weight (lb/ft)                                                                                                                                    | Price per foot |
|------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                                                      |        | Q2045-1                                                                                                                                                 | Cat6 Ethernet   | Semi-flexible                                              | 20                       | 0.02                                                                                                                                                          | \$1.10         |
| Physical Properties                                  |        |                                                                                                                                                         |                 |                                                            |                          |                                                                                                                                                               |                |
| Conductor Gauge                                      |        | 28 AWG                                                                                                                                                  |                 | Conductor Stranding                                        |                          | 7-Stranded Tinned Copper                                                                                                                                      |                |
| Conductor Material                                   |        | Tinned Copper                                                                                                                                           |                 | Conductor Insulation Wall Thickness                        |                          | 0.008 in, nominal                                                                                                                                             |                |
| Conductor Assembly                                   |        | 4 twisted pairs                                                                                                                                         |                 | Bare Conductor Diameter                                    |                          | 0.015 in, nominal                                                                                                                                             |                |
| Color Code                                           | Pair 1 | Natural, Orange                                                                                                                                         |                 | Insulated Conductor Diameter                               |                          | 0.031 in, nominal                                                                                                                                             |                |
|                                                      | Pair 2 | Gray, Brown                                                                                                                                             |                 | Twisted Conductor Diameter                                 |                          | 0.062 in, nominal                                                                                                                                             |                |
|                                                      | Pair 3 | Natural, Green                                                                                                                                          |                 | Overall Cable Diameter                                     |                          | 0.186 in, nominal                                                                                                                                             |                |
|                                                      | Pair 4 | Gray, Blue                                                                                                                                              |                 | Jacket Color                                               |                          | Black                                                                                                                                                         |                |
| Voltage Rating                                       |        | 300V                                                                                                                                                    |                 | Jacket Thickness                                           |                          | 0.021 in, nominal                                                                                                                                             |                |
| Temperature Rating                                   |        | -20 to 105 °C (-4 to 221 °F)                                                                                                                            |                 | Jacket Material                                            |                          | PVC                                                                                                                                                           |                |
| Plenum                                               |        | Yes                                                                                                                                                     |                 | Sunlight Resistant                                         |                          | No                                                                                                                                                            |                |
| Shield                                               |        | Shielded                                                                                                                                                |                 | Oil Resistance                                             |                          | Yes                                                                                                                                                           |                |
| Drain                                                |        | Yes                                                                                                                                                     |                 | Flame Retardant                                            |                          | No                                                                                                                                                            |                |
| Conductor Insulation Material                        |        | Foamed FEP                                                                                                                                              |                 | Sample Print Legend                                        |                          | QUABBIN DATAMAX MINI-6 F/UTP PATCH CORD<br>P/N xxxx -- PATENT PENDING -- C(ETL)US TYPE<br>CMP 28 AWG 105C -- RoHS -- (LOT DESIGNATOR)<br>(SEQUENTIAL FOOTAGE) |                |
| Minimum Bend Radius                                  |        | 1.86in                                                                                                                                                  |                 |                                                            |                          |                                                                                                                                                               |                |
| Cabled Core Diameter                                 |        | 0.145 in                                                                                                                                                |                 |                                                            |                          |                                                                                                                                                               |                |
| Electrical Characteristics (for 100 meters of cable) |        |                                                                                                                                                         |                 |                                                            |                          |                                                                                                                                                               |                |
| Impedance                                            |        | 100 ± 15 Ω (1 - 250 MHz)                                                                                                                                |                 | UL Classification                                          |                          | NEC (ETL) TYPE CMP CEC C(ETL) TYPE CMP                                                                                                                        |                |
| Capacitance                                          |        | 13.5 pF/ft @ 1MHz; Nominal                                                                                                                              |                 | Approvals**                                                |                          | cETLus, RoHS                                                                                                                                                  |                |
| Resistance, Max.                                     |        | 68.2 Ω DC per 1000ft                                                                                                                                    |                 | Attenuation Crosstalk Ratio, Far End (ACRF)                |                          | 1 ≤ f ≤ 250 MHz: 27.8 - 20 LOG(f/100) dB MIN                                                                                                                  |                |
| Dielectric Withstanding, Min.                        |        | 1500V RMS                                                                                                                                               |                 | Insertion Loss                                             |                          | 1 ≤ f ≤ 250 MHz: 1.95 [1.808 √f + 0.017(f) + 0.2/√f] dB MAX                                                                                                   |                |
| Return Loss                                          |        | 1 ≤ f < 2 MHz: 17 + 9.5 LOG(f) dB MIN<br>2 ≤ f < 10 MHz: 20 + 5 LOG(f) dB MIN<br>10 ≤ f < 20 MHz: 25 dB MIN<br>20 ≤ f < 250 MHz: 25 - 8.6 LOG(f) dB MIN |                 | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) |                          | 1 ≤ f ≤ 250 MHz: 24.8 - 20 LOG(f/100) dB MIN                                                                                                                  |                |
| Near End Crosstalk (NEXT)                            |        | 1 ≤ f ≤ 250 MHz: 44.3 - 15 LOG(f/100) dB MIN                                                                                                            |                 | Cross Section                                              |                          |                                                                                                                                                               |                |
| Power Sum Near End Crosstalk (PSNEXT)                |        | 1 ≤ f ≤ 250 MHz: 42.3 - 15 LOG(f/100) dB MIN                                                                                                            |                 |                                                            |                          |                                                                                                                                                               |                |
| TCL                                                  |        | 1 ≤ f ≤ 250 MHz: 30 - 10 LOG(f/100) dB MIN                                                                                                              |                 |                                                            |                          |                                                                                                                                                               |                |
| ELTCTL                                               |        | 1 ≤ f ≤ 30 MHz: 35 - 20 LOG(f) dB MIN                                                                                                                   |                 |                                                            |                          |                                                                                                                                                               |                |
| Velocity of Propagation                              |        | 0.68                                                                                                                                                    |                 |                                                            |                          |                                                                                                                                                               |                |
| Delay                                                |        | 1 ≤ f ≤ 250 MHz: 534 + 36/√f ns MAX                                                                                                                     |                 |                                                            |                          |                                                                                                                                                               |                |
| Delay Skew                                           |        | 1 ≤ f ≤ 250 MHz: <45ns MAX                                                                                                                              |                 |                                                            |                          |                                                                                                                                                               |                |

\* See web store [www.AutomationDirect.com](http://www.AutomationDirect.com) for maximum cut lengths

\*\* To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at [www.AutomationDirect.com](http://www.AutomationDirect.com)



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



# DataMax® Ethernet Cables

## Quabbin DataMax Ethernet Cable

The Quabbin DataMax® Category network cables are proudly made in the USA and are available in Cat5e, 6, 6a or 6e. These cables are offered in 26AWG or 24AWG stranded tinned copper or bare solid copper in shielded or unshielded constructions. Designed to be round and smooth, Quabbin DataMax® Category network cables are compatible with most popular plugs for quick termination and easy installation.

When it comes to network cable, flexibility can mean many different things. The first and most obvious is the ease with which it bends. The importance behind having a pliable cable has to do with installation and cabinet routing. Flexibility allows easy manipulation between devices while increasing the durability, which is important when considering a lifetime of "moves & changes" that can occur in a dynamic network environment. Durability is paramount in allowing these changes to take place without compromising the cable.

The Quabbin DataMax® Category network cables exceed the requirements of ANSI/TIA-568-C.2, are compatible with Cat 5e and 6 hardware, and are suitable for applications from 10 Base-T to 1000 Base-T (Gigabit Ethernet).

Also available are Quabbin DataMax® MIL-spec Cat6 cables with black low smoke PVC jacket and special conductor insulations colors.

\* DataMax is a registered trademark of Quabbin Wire and Cable Corporation.

\*\* EtherNet/IP is a trademark of ODVA, Inc.

### Features

- Available in Category 5e, 6, 6e, and 6a
- In compliance with TIA 568-C.2 and TIA 1005
- Designed for use in EtherNet/IP systems \*\*
- 4 twisted pairs
- Unshielded or overall foil shields
- UL Type CM and UL AWM Style 2463 (80°C, 600V)
- Some cables available with conductor color code for MIL spec applications
- Cut to length in 1 foot increments
- Low 20 foot minimum length
- Made in the USA



Click on the thumbnail or go to  
<https://www.automationdirect.com/VID-WD-0016>  
 for a short introduction on our cut to length cable

