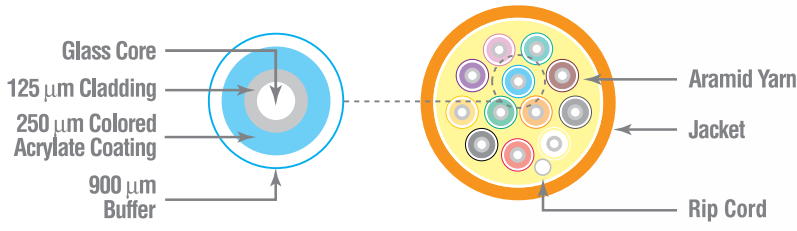


# Indoor Fiber Optic Risers

Single-Unit is RoHS and REACH compliant and all multimode and singlemode cables (except OM1) utilize bend-insensitive optical fibers. Each fiber is color coded for easy identification, flexible and easy to handle with lightweight aramid yarns to enhance strength. Single-Unit constructions are an ideal intra-building cable solution that will support applications including gigabit, 10 gigabit and 40 gigabit Ethernet.



- 900 micron buffered design recommended for easy termination
- All cables (except OM1) utilize bend-insensitive optical fibers
- Each fiber is color coded for easy identification
- Ideal intra-building cable solution
- Flexible and easy to handle
- Lightweight, flexible aramid yarns enhance strength
- REACH & RoHS compliant



| Fiber Count | Type Round/Zip | 62.5 µm OM1 | 50 µm OM2 | 50 µm OM3 | 50 µm OM4 | 50 µm OS2 |
|-------------|----------------|-------------|-----------|-----------|-----------|-----------|
| 1           | ROUND          | NBW-7101    | NBW-7201  | NBW-7301  | NBW-7401  | NBW-7501  |
| 2           | ROUND          | NBW-7102    | NBW-7202  | NBW-7302  | NBW-7402  | NBW-7502  |
| 2           | ZIP            | NBW-7102Z   | NBW-7202Z | NBW-7302Z | NBW-7402Z | NBW-7502Z |
| 4           | ROUND          | NBW-7104    | NBW-7204  | NBW-7304  | NBW-7404  | NBW-7504  |
| 6           | ROUND          | NBW-7106    | NBW-7206  | NBW-7306  | NBW-7406  | NBW-7506  |
| 8           | ROUND          | NBW-7108    | NBW-7208  | NBW-7308  | NBW-7408  | NBW-7508  |
| 10          | ROUND          | NBW-7110    | NBW-7210  | NBW-7310  | NBW-7410  | NBW-7510  |
| 12          | ROUND          | NBW-7112    | NBW-7212  | NBW-7312  | NBW-7412  | NBW-7512  |
| 24          | ROUND          | NBW-7124    | NBW-7224  | NBW-7324  | NBW-7424  | NBW-7524  |

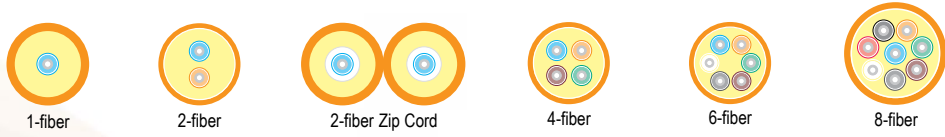


Diagram scale approx. 2:1

# Indoor Fiber Optic Risers Technical Specifications

## Physical Specifications

|                                 |                               |
|---------------------------------|-------------------------------|
| Core:                           | Glass                         |
| Dielectric Materials:           | Riser                         |
| Overall Jacket:                 | Flame-retardant thermoplastic |
| Bend radius, no load            | 10x cable overall diameter    |
| Bend radius, load               | 15x cable overall diameter    |
| Storage Temperature Range:      | -40° to 70°C (-40° to 158°F)  |
| Installation Temperature Range: | -10° to 60°C (14° to 140°F)   |
| Operating Temperature Range:    | -20° to 70°C (-4° to 158°F)   |

## Suitable Applications

Applications include 10, 40 & 100 gigabit Ethernet, Fiber Channel, Video, Security, Automation

## Specifications and Agency Compliance

|                      |                            |
|----------------------|----------------------------|
| Other Standards:     | ISO/IEC 11801, 2nd edition |
|                      | TIA/EIA-568 -C.3           |
|                      | Telcordia GR-409-CORE      |
| UL Flame Test:       | UL1666 Vertical Riser      |
| C(UL) Flame Test:    | FT4                        |
| CSA Flame Test:      | FT4                        |
| Indoor Use:          | Yes                        |
| Outdoor Use:         | No                         |
| Aerial:              | No                         |
| Burial:              | No                         |
| Sunlight Resistance: | No                         |

## Specifications by Fiber Count

| Fiber Count | Cable O.D.  |           | Install |      | Operation |     | Cable Weight |             |
|-------------|-------------|-----------|---------|------|-----------|-----|--------------|-------------|
|             | in.         | mm        | lbs-F   | N    | lbs-F     | N   | lbs/1000 ft. | kg/1000 ft. |
| 1           | .114        | 2.9       | 96      | 427  | 29        | 128 | 4.9          | 7.3         |
| 2           | .190        | 4.8       | 128     | 569  | 38        | 171 | 11.5         | 17.1        |
| 2-ZIP       | .113 x .240 | 2.9 x 6.1 | 128     | 569  | 38        | 171 | 10.2         | 15.2        |
| 4           | .190        | 4.8       | 128     | 569  | 38        | 171 | 13.0         | 19.4        |
| 6           | .190        | 4.8       | 128     | 569  | 38        | 171 | 14.5         | 21.6        |
| 8           | .230        | 5.8       | 160     | 712  | 48        | 214 | 18.5         | 27.6        |
| 10          | .230        | 5.8       | 160     | 712  | 48        | 214 | 20.0         | 29.8        |
| 12          | .230        | 5.8       | 160     | 712  | 48        | 214 | 21.5         | 32.0        |
| 24          | .350        | 8.8       | 288     | 1282 | 86        | 385 | 52.4         | 78.1        |

## Optical Specifications

| Fiber Type | Max. Attenuation<br>*(dB/km)    |                                  | Min OFL Bandwidth<br>*(MHz-km)  |                                  | Min EMBc Bandwidth<br>*(MHz-km) |                                  | Gb Ethernet<br>distance *(m)    |                                  | 10 Gb Ethernet<br>distance *(m) |                                  |
|------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|
|            | 850nm (MM)<br>or<br>1310nm (SM) | 1300nm (MM)<br>or<br>1550nm (SM) | 850nm (MM)<br>or<br>1310nm (SM) | 1300nm (MM)<br>or<br>1550nm (SM) | 850nm (MM)<br>or<br>1310nm (SM) | 1300nm (MM)<br>or<br>1550nm (SM) | 850nm (MM)<br>or<br>1310nm (SM) | 1300nm (MM)<br>or<br>1550nm (SM) | 850nm (MM)<br>or<br>1310nm (SM) | 1300nm (MM)<br>or<br>1550nm (SM) |
| OM1        | 3.5                             | 1.0                              | 200                             | 500                              | 220                             | N/A                              | 300                             | 550                              | 33                              | N/A                              |
| OM2        | 3.0                             | 1.0                              | 700                             | 500                              | 950                             | N/A                              | 750                             | 550                              | 150                             | N/A                              |
| OM3        | 3.0                             | 1.0                              | 1500                            | 500                              | 2000                            | N/A                              | 1000                            | 550                              | 300                             | N/A                              |
| OM4        | 3.0                             | 1.0                              | 3500                            | 500                              | 4700                            | N/A                              | 1100                            | 550                              | 550                             | N/A                              |
| OS2        | 0.5                             | 0.5                              | N/A                             | N/A                              | N/A                             | N/A                              | >25,000                         | >40,000                          | 10,000-25,000                   | 40,000                           |

## CAT5E UTP 350MHz CMR & CMP Networking Cables

Quest Category 5E U/UTP cable is designed for indoor high speed data and voice applications. It is constructed of 4-pairs of 24AWG unshielded twisted pair copper wires. In conjunction with this cable, Quest also offers a complete line of UL listed Category 5E structured cabling products which includes Patch Panels, Keystone Jacks, In-line Couplers, Patch Cables, Wall Plates and more... (Pages 3-6)

- Ideal for unshielded high-speed UTP networks up to Cat5E
- Constructed of 4 twisted pairs of 24 AWG bare copper wire
- Cable Outer Diameter: 5.3mm ± 0.2mm
- Backward compatible to Cat5 networks
- Designed for indoor use
- Packaged in an EZ-Pull Box
- Flexible jacket with foot markers every 2 ft. for length of cable
- Nylon rip cord for slitting of PVC jacket



### PVC Riser/CMR

| Item #   | Color  | Description                                                            |
|----------|--------|------------------------------------------------------------------------|
| NBW-1051 | BLACK  | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1052 | BLUE   | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1053 | RED    | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1054 | ORANGE | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1055 | YELLOW | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1056 | GREEN  | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1058 | WHITE  | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1059 | GRAY   | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PVC CMR CABLE |

### Plenum/CMP

| Item #   | Color | Description                                                               |
|----------|-------|---------------------------------------------------------------------------|
| NBW-2052 | BLUE  | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PLENUM CMP CABLE |
| NBW-2058 | WHITE | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PLENUM CMP CABLE |
| NBW-2059 | GRAY  | 1000 FT. CAT5E 4-PAIR U/UTP 350MHZ 24AWG SOLID CONDUCTOR PLENUM CMP CABLE |

### Electrical Performance

| Frequency (MHZ) | Attenuation Max*(dB) | NEXT Min*(dB) | ACR Min*(dB) | PS NEXT Min*(dB) | PS ARC Min*(dB) | PS ELFEXT Min*(dB/100m) | PS ELFEXT Min*(dB) | RL Min*(dB) |
|-----------------|----------------------|---------------|--------------|------------------|-----------------|-------------------------|--------------------|-------------|
| 1               | 2                    | 77.3          | 73.3         | 73.3             | 71.3            | 67.8                    | 64.8               | 20          |
| 4               | 3.8                  | 66.3          | 62.5         | 64.3             | 60.5            | 55.7                    | 52.7               | 23          |
| 8               | 5.4                  | 61.8          | 56.4         | 59.8             | 54.4            | 49.7                    | 46.7               | 24.5        |
| 10              | 6                    | 60.3          | 54.3         | 58.3             | 52.3            | 47.8                    | 44.8               | 25          |
| 16              | 7.6                  | 57.3          | 49.7         | 55.3             | 47.7            | 43.7                    | 40.7               | 25          |
| 20              | 8.5                  | 55.8          | 47.3         | 53.8             | 45.3            | 41.7                    | 38.7               | 25          |
| 25              | 9.6                  | 54.3          | 44.8         | 52.3             | 42.7            | 39.8                    | 36.8               | 24.3        |
| 31.25           | 10.7                 | 52.9          | 42.2         | 50.9             | 40.2            | 37.9                    | 34.9               | 23.6        |
| 62.5            | 15.5                 | 48.4          | 32.9         | 46.4             | 30.9            | 31.8                    | 28.8               | 21.5        |
| 100             | 19.9                 | 45.3          | 25.4         | 43.3             | 23.4            | 27.8                    | 24.8               | 20.1        |
| 155             | 25.3                 | 42.5          | 17.2         | 40.5             | 15.2            | 23.9                    | 20.9               | 18.8        |
| 200             | 29.2                 | 40.8          | 11.6         | 38.8             | 9.6             | 21.7                    | 18.7               | 18.8        |
| 350             | 42.6                 | 32.2          | N/A          | 32.2             | N/A             | 12.9                    | 9.9                | 17          |

## Physical Characteristics

### Conductors

|                       |                           |
|-----------------------|---------------------------|
| # of Pairs:           | 4                         |
| AWG:                  | 24                        |
| PVC AWG Stranding:    | 1 Cond./0.48 mm ± .005 mm |
| Plenum AWG Stranding: | 1 Cond./0.50 mm ± .005 mm |
| Material:             | Solid Bare Copper         |
| # of Conductors:      | 8                         |
| Conductor Resistance: | 93.8 Ohm/km at 20°C Max   |
| Spark Test:           | 1750 VAC                  |
| Dielectric Strength:  | 1500 VAC.2S               |
| Center Degree:        | ≥ 93%                     |

### Pair Color Code Chart

|        |                             |
|--------|-----------------------------|
| Pair 1 | Blue* Blue/White Stripe     |
| Pair 2 | Orange* Orange/White Stripe |
| Pair 3 | Green* Green/White Stripe   |
| Pair 4 | Brown* Brown/White Stripe   |

### Insulation

|                      |                           |
|----------------------|---------------------------|
| Material:            | High-Density Polyethylene |
| Average Thickness:   | 0.21 mm                   |
| Nominal Diameter:    | 0.9 mm ± 0.05 mm          |
| Tensile Strength:    | 2400 psi                  |
| Elongation (Unaged): | 300%                      |
| Divider:             | None                      |

### Outer Shield

|           |            |
|-----------|------------|
| Material: | Unshielded |
|-----------|------------|

### Outer Jacket

|                           |                   |
|---------------------------|-------------------|
| Material:                 | PVC (or Plenum)   |
| PVC Average Thickness:    | 0.5 mm ± 0.05 mm  |
| Plenum Average Thickness: | 0.55 mm ± 0.05 mm |
| PVC Nominal Diameter:     | 5.3 mm ± 0.2 mm   |
| Plenum Nominal Diameter:  | 5.2 mm ± 0.2 mm   |
| Tensile Strength:         | 2000 psi          |
| Elongation (Unaged):      | 100%              |
| Ripcord:                  | Nylon Rope        |

## Electrical Characteristics

|                                        |                          |
|----------------------------------------|--------------------------|
| Nominal. Mutual Capacitance:           | 15.5pF/ft                |
| Maximum Capacitance (Unbalanced):      | 330                      |
| Nominal Velocity of Propagation (VP%): | 69                       |
| Maximum Delay (ns/100m):               | 536@100MHz               |
| Maximum Delay Skew (ns/100m):          | 45                       |
| Maximum Operating Voltage (UL):        | 300V RMS                 |
| Maximum Cond. DC Resistance:           | DCR@20°C (Ohm/100m) 9.38 |
| Maximum DCR Unbalanced                 | DCR@20°C (%) 5           |

## Suitable Applications

HDBaseT, 10GBaseT, 1000BaseTX, Gigabit Ethernet, 100BaseTX, Fast Ethernet, 100BaseVG ANYLAN, ISDN, 155ATM, 622ATM, VoIP, NTSC/PAL Component or Composite Video, Digital Video, RS-422, Video Security and HDMI over Cat5e.

## Mechanical Characteristics

|                                   |                 |
|-----------------------------------|-----------------|
| Storage Temperature Range:        | -20°C To 75°C   |
| Installation Temperature Range:   | 0°C To 60°C     |
| Operating Temperature Range:      | -20°C To 60°C   |
| Max. Recommended Pulling Tension: | 30 lbs.         |
| Min. Bend Radius/Minor Axis:      | 1.0 in          |
| Min. Bend/Installation:           | 2.1 in          |
| Bulk Cable Weight:                | 18 lbs/1000 ft. |

## Specifications and Agency Compliance

### Applicable Standards & Environmental Programs

|                                    |            |
|------------------------------------|------------|
| NEC/(UL) Specification:            | CMR or CMP |
| NEC Articles:                      | 800        |
| CEC/C(UL) Specification:           | CMR or CMP |
| ETL Specification                  | CMR or CMP |
| EU Directive 2011/65/EU (ROHS II): | Yes        |

### Other Standards: ISO/IEC 11801 & EN50288

|                                   |                          |
|-----------------------------------|--------------------------|
| EU CE Mark:                       | Yes                      |
| EU Directive 2002/95/EC (RoHS):   | Yes                      |
| EU RoHS Compliance Date:          | 01/01/2008               |
| EU Directive 2002/96/EC (WEEE):   | Yes                      |
| CA Prop 65 (CJ for Wire & Cable): | Yes                      |
| MII Order #39 (China RoHS):       | Yes                      |
| Telecommunications Standards:     | Category 5E - TIA 568C.2 |

### Flame Test

|                   |                         |
|-------------------|-------------------------|
| UL Flame Test:    | UL1666 Vertical Riser   |
| C(UL) Flame Test: | PVC FT4 (or Plenum CMP) |
| CSA Flame Test:   | PVC FT4 (or Plenum CMP) |

### Suitability

|                      |          |
|----------------------|----------|
| Indoor Use:          | Yes      |
| Outdoor Use:         | No       |
| Aerial:              | No       |
| Burial:              | No       |
| Sunlight Resistance: | No       |
| Oil Resistance:      | No       |
| Non-halogenated:     | No       |
| Plenum (Y/N):        | CMP Only |

## Cable Marking

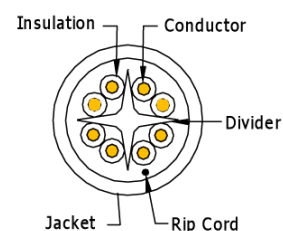
**PVC:** QUEST CABLING SOLUTIONS NBW-105X E466009 (UL) CMR 60°C UTP 4PR 24AWG - ETL CMR FT4 VERIFIED TO ANSI/TIA-568C.2 & ISO/IEC 11801 & EN50288 ENHANCED CAT.5E 350MHZ 001FT---999FT ROHS

**PLENUM:** QUEST CABLING SOLUTIONS NBW-205X E466009 (UL) CMP 60°C UTP 4PR 24AWG - ETL CMP VERIFIED TO ANSI/TIA-568C.2 & ISO/IEC 11801 & EN50288 ENHANCED CAT.5E 350MHZ 001FT---999FT ROHS

# CAT6 UTP 550MHz CMR & CMP Networking Cables

Quest Category 6 U/UTP cable is designed for indoor high speed Gigabit data and voice applications. It is constructed of 4-pairs of 23AWG unshielded twisted pair copper wires with a flexible High-Density Polyethylene divider which isolates the pairs for minimal cross-talk. In conjunction with this cable, Quest also offers a complete line of UL listed Category 6 structured cabling products which includes Patch Panels, Keystone Jacks, In-line Couplers, Patch Cables Wall Plates and more... (Pages 7-13)

- Ideal for unshielded UTP high-speed Gigabit networks up to Cat6
- Constructed of 4 twisted pairs of 23 AWG bare copper wire
- Cable Outer Diameter: 6.0mm  $\pm$  0.2mm
- Flexible high-density polyethylene divider isolates pairs for minimal cross-talk
- Backward compatible to Cat5 & Cat5E
- Designed for indoor use
- Packaged in an EZ-Pull Box
- Flexible jacket with foot markers every 2 ft. for length of cable



## PVC Riser/CMR

| Item #   | Color | Description                                                           |
|----------|-------|-----------------------------------------------------------------------|
| NBW-1062 | BLUE  | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1068 | WHITE | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-1069 | GRAY  | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |

## Plenum/CMP

| Item #   | Color | Description                                                              |
|----------|-------|--------------------------------------------------------------------------|
| NBW-2062 | BLUE  | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PLENUM CMP CABLE |
| NBW-2068 | WHITE | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PLENUM CMP CABLE |
| NBW-2069 | GRAY  | 1000 FT. CAT6 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PLENUM CMP CABLE |



## Electrical Performance

| Frequency (MHZ) | Attenuation Max*(dB) | NEXT Min*(dB) | ACR Min*(dB) | PS NEXT Min*(dB) | PS ARC Min*(dB) | PS ELFEXT Min*(dB/100m) | PS ELFEXT Min*(dB) | RL Min*(dB) |
|-----------------|----------------------|---------------|--------------|------------------|-----------------|-------------------------|--------------------|-------------|
| 1               | 2                    | 75.5          | 73.3         | 73.3             | 71.3            | 67.8                    | 64.8               | 20          |
| 4               | 3.8                  | 66.3          | 62.5         | 64.3             | 60.5            | 55.7                    | 52.7               | 23          |
| 8               | 5.4                  | 61.8          | 56.4         | 59.8             | 54.4            | 49.7                    | 46.7               | 24.5        |
| 10              | 6                    | 60.3          | 54.3         | 58.3             | 52.3            | 47.8                    | 44.8               | 25          |
| 16              | 7.6                  | 57.3          | 49.7         | 55.3             | 47.7            | 43.7                    | 40.7               | 25          |
| 20              | 8.5                  | 55.8          | 47.3         | 53.8             | 45.3            | 41.7                    | 38.7               | 25          |
| 25              | 9.6                  | 54.3          | 44.8         | 52.3             | 42.7            | 39.8                    | 36.8               | 24.3        |
| 31.25           | 10.7                 | 52.9          | 42.2         | 50.9             | 40.2            | 37.9                    | 34.9               | 23.6        |
| 62.5            | 15.5                 | 48.4          | 32.9         | 46.4             | 30.9            | 31.8                    | 28.8               | 21.5        |
| 100             | 19.9                 | 45.3          | 25.4         | 43.3             | 23.4            | 27.8                    | 24.8               | 20.1        |
| 155             | 25.3                 | 42.5          | 17.2         | 40.5             | 15.2            | 23.9                    | 20.9               | 18.8        |
| 200             | 29.2                 | 40.8          | 11.6         | 38.8             | 9.6             | 21.7                    | 18.7               | 18.8        |
| 350             | 42.6                 | 32.2          | N/A          | 32.2             | N/A             | 12.9                    | 9.9                | 17          |
| 550             | 48.8                 | 39.2          | N/A          | 37.2             | N/A             | 19                      | 16                 | 18          |



**Physical Characteristics**

|                       |                           |
|-----------------------|---------------------------|
| <b>Conductors</b>     |                           |
| # of Pairs:           | 4                         |
| AWG:                  | 23                        |
| AWG Stranding:        | 1 Cond./0.58 mm ± .005 mm |
| Material:             | Solid Bare Copper         |
| # of Conductors:      | 8                         |
| Conductor Resistance: | 73.2 Ohm/km at 20°C Max   |
| Spark Test:           | 1750 VAC                  |
| Dielectric Strength:  | 1500 VAC.2S               |
| Center Degree:        | ≥ 93%                     |

**Pair Color Code Chart**

|        |                             |
|--------|-----------------------------|
| Pair 1 | Blue* Blue/White Stripe     |
| Pair 2 | Orange* Orange/White Stripe |
| Pair 3 | Green* Green/White Stripe   |
| Pair 4 | Brown* Brown/White Stripe   |

**Insulation**

|                     |                           |
|---------------------|---------------------------|
| Material:           | High-Density Polyethylene |
| Average Thickness:  | 0.22 mm                   |
| Nominal Diameter:   | 1.02 mm ± 0.05 mm         |
| Tensile Strength:   | 3000 psi                  |
| Elongation (Unaged) | 400%                      |
| Divider             | HDPE (4.7 mm)             |

**Outer Shield**

|           |            |
|-----------|------------|
| Material: | Unshielded |
|-----------|------------|

**Outer Jacket**

|                           |                          |
|---------------------------|--------------------------|
| Material:                 | PVC (Polyvinyl Chloride) |
| PVC Average Thickness:    | 0.6 mm ± 0.05 mm         |
| Plenum Average Thickness: | 0.45 mm ± 0.05 mm        |
| Nominal Diameter:         | 6.0 mm ± 0.2 mm          |
| Tensile Strength:         | 2100 psi                 |
| Elongation (Unaged):      | 200%                     |
| Ripcord:                  | Nylon Rope               |

**Electrical Characteristics**

|                                        |                         |
|----------------------------------------|-------------------------|
| Nominal. Mutual Capacitance:           | 15.5pF/ft               |
| Maximum Capacitance (Unbalanced):      | 330                     |
| Nominal Velocity of Propagation (VP%): | 69                      |
| Maximum Delay (ns/100m):               | 536@100MHz              |
| Maximum Delay Skew (ns/100m):          | 45                      |
| Maximum Operating Voltage (UL):        | 300V RMS                |
| Maximum Cond. DC Resistance:           | DCR@20°C (Ohm/100m) 8.2 |
| Maximum DCR Unbalanced                 | DCR@20°C (%) 5          |

**Suitable Applications**

HDBaseT, 10GBaseT, 1000BaseTX, Gigabit Ethernet, 100BaseTX, Fast Ethernet, 100BaseVG ANYLAN, ISDN, 155ATM, 622ATM, VoIP, NTSC/PAL Component or Composite Video, Digital Video, RS-422, as well as for Video Security and HDMI over Cat6.

**Mechanical Characteristics**

|                                   |                 |
|-----------------------------------|-----------------|
| Storage Temperature Range:        | -20°C To 75°C   |
| Installation Temperature Range:   | 0°C To 60°C     |
| Operating Temperature Range:      | -20°C To 60°C   |
| Max. Recommended Pulling Tension: | 30 lbs.         |
| Min. Bend Radius/Minor Axis:      | 1.0 in          |
| Min. Bend/Installation:           | 2.1 in          |
| Bulk Cable Weight:                | 28 lbs/1000 ft. |

**Specifications and Agency Compliance****Applicable Standards & Environmental Programs**

|                                    |            |
|------------------------------------|------------|
| NEC/(UL) Specification:            | CMR or CMP |
| NEC Articles:                      | 800        |
| CEC/C(UL) Specification:           | CMR or CMP |
| ETL Specification                  | CMR or CMP |
| EU Directive 2011/65/EU (ROHS II): | Yes        |

**Other Standards:** ISO/IEC 11801 & EN50288

|                                   |                         |
|-----------------------------------|-------------------------|
| EU CE Mark:                       | Yes                     |
| EU Directive 2002/95/EC (RoHS):   | Yes                     |
| EU RoHS Compliance Date:          | 01/01/2008              |
| EU Directive 2002/96/EC (WEEE):   | Yes                     |
| CA Prop 65 (CJ for Wire & Cable): | Yes                     |
| MII Order #39 (China RoHS):       | Yes                     |
| Telecommunications Standards:     | Category 6 - TIA 568C.2 |

**Flame Test**

|                   |                         |
|-------------------|-------------------------|
| UL Flame Test:    | UL1666 Vertical Riser   |
| C(UL) Flame Test: | PVC FT4 (or Plenum CMP) |
| CSA Flame Test:   | PVC FT4 (or Plenum CMP) |

**Suitability**

|                      |          |
|----------------------|----------|
| Indoor Use:          | Yes      |
| Outdoor Use:         | No       |
| Aerial:              | No       |
| Burial:              | No       |
| Sunlight Resistance: | No       |
| Oil Resistance:      | No       |
| Non-halogenated:     | No       |
| Plenum (Y/N):        | CMP Only |

**Cable Marking**

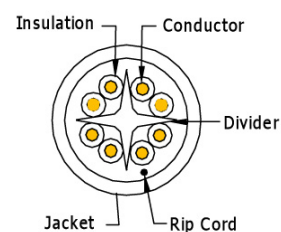
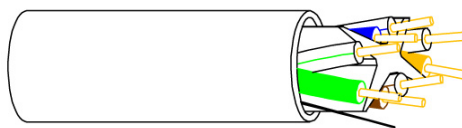
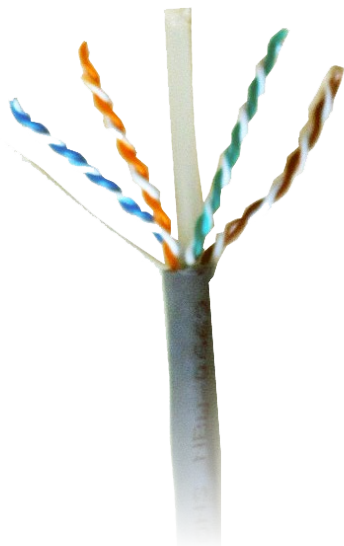
**PVC:** QUEST CABLING SOLUTIONS NBW-106X E466009 (UL) CMR 60oC PVC UTP 4PR 23AWG - ETL CMR FT4 VERIFIED TO ANSI/TIA-568C.2 & ISO/IEC 11801 & EN50288 CAT.6 550MHZ 001FT--999FT ROHS

**PLENUM:** QUEST CABLING SOLUTIONS NBW-206X E466009 (UL) CMP 60°C UTP 4PR 23AWG - ETL CMP VERIFIED TO ANSI/TIA-568C.2 & ISO/IEC 11801 & EN50288 CAT.6 550MHZ 001FT--999FT ROHS

## CAT6A UTP 550MHz CMR Networking Cables

Quest CMR rated Category 6A U/UTP cable is designed for indoor high speed 10 Gigabit data and voice applications. It is constructed of 4-pairs of 23AWG unshielded twisted pair copper wires. In conjunction with this cable, Quest also offers a complete line of UL listed Category 6A structured cabling products which includes Patch Panels, Keystone Jacks, In-line Couplers, Patch Cables, Wall Plates and more... (Pages 15-16)

- Ideal for unshielded high-speed UTP 10 Gigabit Cat6A networks
- Constructed of 4-pairs of 23 AWG bare copper wire
- Cable Outer Diameter: 6.5mm ± 0.2mm
- Backward compatible to Cat5E & Cat6 network systems
- Individually boxed 1000 ft. wooden reel
- Flexible PVC CMR rated jacket with foot markers every 2 ft. for length of cable



| Item #   | Color | Description                                                            |
|----------|-------|------------------------------------------------------------------------|
| NBW-0662 | BLUE  | 1000 FT. CAT6A 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |
| NBW-0669 | GRAY  | 1000 FT. CAT6A 4-PAIR U/UTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |

| Electrical Performance |                     |                |                       |                 |                        |            |             |               |                |             |                  |                  |
|------------------------|---------------------|----------------|-----------------------|-----------------|------------------------|------------|-------------|---------------|----------------|-------------|------------------|------------------|
| Frequency (MHZ)        | Insertion Loss*(dB) | PS ANEXT *(dB) | Average PS ANEXT*(dB) | PS AACR-F *(dB) | Average PS AACR-F*(dB) | NEXT *(dB) | ACR-N *(dB) | PS NEXT *(dB) | PS ACR-N *(dB) | ACR-F *(dB) | ACR-F *(dB/100m) | Return Loss*(dB) |
| 1                      | 2.2                 | 95             | 97.25                 | 92              | 96                     | 73.7       | 71.5        | 72.3          | 70.1           | 69.3        | 68.3             | 19               |
| 4                      | 4                   | 89             | 91.23                 | 80              | 84                     | 64         | 60          | 62.5          | 58.5           | 57.2        | 56.2             | 19               |
| 8                      | 5.6                 | 86             | 88.22                 | 73.9            | 77.9                   | 59.2       | 53.5        | 57.6          | 52             | 51.2        | 50.2             | 19               |
| 10                     | 6.3                 | 85             | 87.25                 | 72              | 76                     | 57.6       | 51.3        | 56            | 49.7           | 49.3        | 48.3             | 19               |
| 16                     | 7.9                 | 83             | 85.21                 | 67.9            | 71.9                   | 54.2       | 46.3        | 52.6          | 44.7           | 45.2        | 44.2             | 18               |
| 20                     | 8.9                 | 82             | 84.24                 | 66              | 70                     | 52.6       | 43.8        | 51            | 42.1           | 43.2        | 42.2             | 17.5             |
| 25                     | 9.9                 | 81             | 83.27                 | 64              | 68                     | 51         | 41.1        | 49.3          | 39.4           | 41.3        | 40.3             | 17               |
| 31.3                   | 11.1                | 80             | 82.29                 | 62.1            | 66.1                   | 49.4       | 38.3        | 47.7          | 36.6           | 39.3        | 38.3             | 16.5             |
| 62.5                   | 15.9                | 77             | 79.29                 | 56.1            | 60.1                   | 44.4       | 28.5        | 42.6          | 26.7           | 33.3        | 32.3             | 14               |
| 100                    | 20.3                | 75             | 77.25                 | 52              | 56                     | 40.9       | 20.7        | 39.1          | 18.8           | 29.3        | 28.3             | 12               |
| 200                    | 29.2                | 70.5           | 72.73                 | 46              | 50                     | 35.8       | 6.6         | 33.9          | 4.7            | 23.2        | 22.2             | 9                |
| 250                    | 32.9                | 69             | 71.28                 | 44              | 48                     | 34.1       | 1.2         | 32.2          | -0.7           | 21.3        | 20.3             | 8                |
| 300                    | 36.2                | 67.8           | 70.09                 | 42.5            | 46.5                   | 32.7       | -3.5        | 30.8          | -5.5           | 19.7        | 18.7             | 7.2              |
| 400                    | 42.3                | 66             | 68.22                 | 40              | 44                     | 30.6       | -11.8       | 28.6          | -13.8          | 17.2        | 16.2             | 6                |
| 550                    | 47.8                | 64.5           | 66.77                 | 38              | 42                     | 28.9       | -18.9       | 26.8          | -21            | 15.3        | 14.3             | 6                |

**Physical Characteristics****Conductors**

|                       |                           |
|-----------------------|---------------------------|
| # of Pairs:           | 4                         |
| AWG:                  | 23                        |
| AWG Stranding:        | 1 Cond./0.58 mm ± .005 mm |
| Material:             | Solid Bare Copper         |
| # of Conductors:      | 8                         |
| Conductor Resistance: | 73.2 Ohm/km at 20°C Max   |
| Spark Test:           | 1750 VAC                  |
| Dielectric Strength:  | 1500 VAC.2S               |
| Center Degree:        | ≥ 93%                     |

**Pair Color Code Chart**

|        |                             |
|--------|-----------------------------|
| Pair 1 | Blue* Blue/White Stripe     |
| Pair 2 | Orange* Orange/White Stripe |
| Pair 3 | Green* Green/White Stripe   |
| Pair 4 | Brown* Brown/White Stripe   |

**Insulation**

|                     |                           |
|---------------------|---------------------------|
| Material:           | High-Density Polyethylene |
| Average Thickness:  | 0.285 mm                  |
| Nominal Diameter:   | 1.15 mm ± 0.05 mm         |
| Tensile Strength:   | 3000 psi                  |
| Elongation (Unaged) | 400%                      |
| Divider             | HDPE (4.7 mm)             |

**Outer Shield**

|           |            |
|-----------|------------|
| Material: | Unshielded |
|-----------|------------|

**Outer Jacket**

|                      |                          |
|----------------------|--------------------------|
| Material:            | PVC (Polyvinyl Chloride) |
| Average Thickness:   | 0.5 mm ± 0.05 mm         |
| Nominal Diameter:    | 6.5 mm ± 0.2 mm          |
| Tensile Strength:    | 2100 psi                 |
| Elongation (Unaged): | 200%                     |
| Ripcord:             | Nylon Rope               |

**Electrical Characteristics**

|                                        |                         |
|----------------------------------------|-------------------------|
| Nominal. Mutual Capacitance:           | 15.5pF/ft               |
| Maximum Capacitance (Unbalanced):      | 330                     |
| Nominal Velocity of Propagation (VP%): | 72                      |
| Maximum Delay (ns/100m):               | 536@100MHz              |
| Maximum Delay Skew (ns/100m):          | 45                      |
| Maximum Operating Voltage (UL):        | 300V RMS                |
| Maximum Cond. DC Resistance:           | DCR@20°C (Ohm/100m) 8.2 |
| Maximum DCR Unbalanced                 | DCR@20°C (%) 5          |

**Mechanical Characteristics**

|                                   |                 |
|-----------------------------------|-----------------|
| Storage Temperature Range:        | -20°C To 75°C   |
| Installation Temperature Range:   | 0°C To 60°C     |
| Operating Temperature Range:      | -20°C To 60°C   |
| Max. Recommended Pulling Tension: | 30 lbs.         |
| Min. Bend Radius/Minor Axis:      | 1.5 in          |
| Min. Bend/Installation:           | 2.5 in          |
| Bulk Cable Weight:                | 33 lbs/1000 ft. |

**Specifications and Agency Compliance****Applicable Standards & Environmental Programs**

|                                    |     |
|------------------------------------|-----|
| NEC Articles:                      | 800 |
| ETL Specification                  | CMR |
| EU Directive 2011/65/EU (ROHS II): | Yes |

**Other Standards:** ISO/IEC 11801 & EN50288

|                                   |                               |
|-----------------------------------|-------------------------------|
| EU CE Mark:                       | Yes                           |
| EU Directive 2002/95/EC (RoHS):   | Yes                           |
| EU RoHS Compliance Date:          | 01/01/2008                    |
| EU Directive 2002/96/EC (WEEE):   | Yes                           |
| CA Prop 65 (CJ for Wire & Cable): | Yes                           |
| MII Order #39 (China RoHS):       | Yes                           |
| Telecommunications Standards:     | Category 6A - ANSI/TIA 568C.2 |

**Flame Test**

|                   |                       |
|-------------------|-----------------------|
| UL Flame Test:    | UL1666 Vertical Riser |
| C(UL) Flame Test: | FT4                   |
| CSA Flame Test:   | FT4                   |

**Suitability**

|                      |     |
|----------------------|-----|
| Indoor Use:          | Yes |
| Outdoor Use:         | No  |
| Aerial:              | No  |
| Burial:              | No  |
| Sunlight Resistance: | No  |
| Oil Resistance:      | No  |
| Non-halogenated:     | No  |
| Plenum (Y/N):        | No  |

**Cable Marking**

QUEST CABLING SOLUTIONS NBW-066X E466009 (UL) CMR 60oC PVC UTP 4PR 23AWG - ETL CMR FT4 VERIFIED TO ANSI/TIA-568C.2 & ISO/IEC 11801 & EN50288 CAT.6A 550MHZ 001FT--999FT ROHS

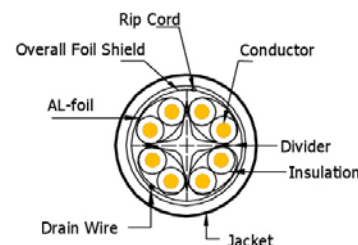
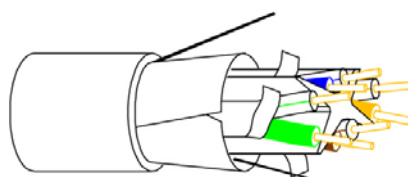
**Suitable Applications**

HDBaseT, 10GBaseT, 1000BaseTX, Gigabit Ethernet, 100BaseTX, Fast Ethernet, 100BaseVG ANYLAN, ISDN, 155ATM, 622ATM, VoIP, NTSC/PAL Component or Composite Video, Digital Video, RS-422, as well as for Video Security and HDMI over Cat6.



## CAT6A Shielded PIMF 550MHz CMR Networking Cables

Quest CMR rated Category 6A F/FTP cable is designed for indoor high speed 10 Gigabit data and voice applications. It is constructed of 4-pairs of 23AWG shielded Pairs-in-Metal-Foil (PIMF) twisted pair copper wires with an overall foil shield. In conjunction with this cable, Quest also offers a complete line of ETL listed Category 6A shielded structured cabling products which includes Patch Panels, Keystone Jacks, Patch Cables, Wall Plates and more...



- Ideal for shielded high-speed FTP 10 Gigabit Cat6A networks
- Constructed of 4-pairs of 23 AWG bare copper wire
- Cable Outer Diameter: 6.5mm  $\pm$  0.2mm
- Backward compatible to Cat5e & Cat6 network systems
- Individually boxed 1000 ft. wooden reel
- Low smoke flame retardant PVC CMR rated jacket with markers every 2 ft.



| Item #   | Color | Description                                                                 |
|----------|-------|-----------------------------------------------------------------------------|
| NBW-2669 | GRAY  | 1000 FT. CAT6A 4-PAIR PIMF F/FTP 550MHZ 23AWG SOLID CONDUCTOR PVC CMR CABLE |

| Electrical Performance |                     |                |                       |                 |                        |            |             |               |                |             |                  |                  |
|------------------------|---------------------|----------------|-----------------------|-----------------|------------------------|------------|-------------|---------------|----------------|-------------|------------------|------------------|
| Frequency (MHZ)        | Insertion Loss*(dB) | PS ANEXT *(dB) | Average PS ANEXT*(dB) | PS AACR-F *(dB) | Average PS AACR-F*(dB) | NEXT *(dB) | ACR-N *(dB) | PS NEXT *(dB) | PS ACR-N *(dB) | ACR-F *(dB) | ACR-F *(dB/100m) | Return Loss*(dB) |
| 1                      | 2.2                 | 95             | 97.25                 | 92              | 96                     | 73.7       | 71.5        | 72.3          | 70.1           | 69.3        | 68.3             | 19               |
| 4                      | 4                   | 89             | 91.23                 | 80              | 84                     | 64         | 60          | 62.5          | 58.5           | 57.2        | 56.2             | 19               |
| 8                      | 5.6                 | 86             | 88.22                 | 73.9            | 77.9                   | 59.2       | 53.5        | 57.6          | 52             | 51.2        | 50.2             | 19               |
| 10                     | 6.3                 | 85             | 87.25                 | 72              | 76                     | 57.6       | 51.3        | 56            | 49.7           | 49.3        | 48.3             | 19               |
| 16                     | 7.9                 | 83             | 85.21                 | 67.9            | 71.9                   | 54.2       | 46.3        | 52.6          | 44.7           | 45.2        | 44.2             | 18               |
| 20                     | 8.9                 | 82             | 84.24                 | 66              | 70                     | 52.6       | 43.8        | 51            | 42.1           | 43.2        | 42.2             | 17.5             |
| 25                     | 9.9                 | 81             | 83.27                 | 64              | 68                     | 51         | 41.1        | 49.3          | 39.4           | 41.3        | 40.3             | 17               |
| 31.3                   | 11.1                | 80             | 82.29                 | 62.1            | 66.1                   | 49.4       | 38.3        | 47.7          | 36.6           | 39.3        | 38.3             | 16.5             |
| 62.5                   | 15.9                | 77             | 79.29                 | 56.1            | 60.1                   | 44.4       | 28.5        | 42.6          | 26.7           | 33.3        | 32.3             | 14               |
| 100                    | 20.3                | 75             | 77.25                 | 52              | 56                     | 40.9       | 20.7        | 39.1          | 18.8           | 29.3        | 28.3             | 12               |
| 200                    | 29.2                | 70.5           | 72.73                 | 46              | 50                     | 35.8       | 6.6         | 33.9          | 4.7            | 23.2        | 22.2             | 9                |
| 250                    | 32.9                | 69             | 71.28                 | 44              | 48                     | 34.1       | 1.2         | 32.2          | -0.7           | 21.3        | 20.3             | 8                |
| 300                    | 36.2                | 67.8           | 70.09                 | 42.5            | 46.5                   | 32.7       | -3.5        | 30.8          | -5.5           | 19.7        | 18.7             | 7.2              |
| 400                    | 42.3                | 66             | 68.22                 | 40              | 44                     | 30.6       | -11.8       | 28.6          | -13.8          | 17.2        | 16.2             | 6                |
| 550                    | 47.8                | 64.5           | 66.77                 | 38              | 42                     | 28.9       | -18.9       | 26.8          | -21            | 15.3        | 14.3             | 6                |

## Physical Characteristics

|                       |                           |
|-----------------------|---------------------------|
| Conductors            |                           |
| # of Pairs:           | 4                         |
| AWG:                  | 23                        |
| AWG Stranding:        | 1 Cond./0.58 mm ± .005 mm |
| Material:             | Solid Bare Copper         |
| # of Conductors:      | 8                         |
| Conductor Resistance: | 82.0 Ohm/km at 20°C Max   |
| Spark Test:           | 1750 VAC                  |
| Dielectric Strength:  | 1500 VAC.2S               |
| Center Degree:        | ≥ 93%                     |
| Drain Wire            | 0.16 mm ± 0.002 mm/7C TC  |

## Pair Color Code Chart

|        |                             |
|--------|-----------------------------|
| Pair 1 | Blue* Blue/White Stripe     |
| Pair 2 | Orange* Orange/White Stripe |
| Pair 3 | Green* Green/White Stripe   |
| Pair 4 | Brown* Brown/White Stripe   |

## Insulation

|                     |                           |
|---------------------|---------------------------|
| Material:           | High-Density Polyethylene |
| Average Thickness:  | 0.26 mm                   |
| Nominal Diameter:   | 1.15 mm ± 0.05 mm         |
| Tensile Strength:   | 3000 psi                  |
| Elongation (Unaged) | 400%                      |
| Divider             | HDPE (4.7 mm)             |

## Outer Shield

|                          |                                          |
|--------------------------|------------------------------------------|
| Overall Shield Material: | 20 mm ± 0.03 mm                          |
| PIMF Shield Material:    | 10 mm ± 0.03 mm<br>(Pairs in Metal Foil) |

## Outer Jacket

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Material:            | Low-Smoke Flame Retardent<br>PVC (Polyvinyl Chloride) |
| Average Thickness:   | 0.5 mm ± 0.05 mm                                      |
| Nominal Diameter:    | 6.5 mm ± 0.2 mm                                       |
| Tensile Strength:    | 2100 psi                                              |
| Elongation (Unaged): | 200%                                                  |
| Ripcord:             | Nylon Rope                                            |

## Electrical Characteristics

|                                        |                         |
|----------------------------------------|-------------------------|
| Nominal. Mutual Capacitance:           | 15.5pF/ft               |
| Maximum Capacitance (Unbalanced):      | 330                     |
| Nominal Velocity of Propagation (VP%): | 72                      |
| Maximum Delay (ns/100m):               | 536@100MHz              |
| Maximum Delay Skew (ns/100m):          | 45                      |
| Maximum Operating Voltage (UL):        | 300V RMS                |
| Maximum Cond. DC Resistance:           | DCR@20°C (Ohm/100m) 8.2 |
| Maximum DCR Unbalanced                 | DCR@20°C (%) 5          |

## Suitable Applications

HDBaseT, 10GBaseT, 1000BaseTX, Gigabit Ethernet, 100BaseTX, Fast Ethernet, 100BaseVG ANYLAN, ISDN, 155ATM, 622ATM, VoIP, NTSC/PAL Component or Composite Video, Digital Video, RS-422, as well as for Video Security and HDMI over Cat6.

## Mechanical Characteristics

|                                   |                 |
|-----------------------------------|-----------------|
| Storage Temperature Range:        | -20°C To 75°C   |
| Installation Temperature Range:   | 0°C To 60°C     |
| Operating Temperature Range:      | -20°C To 60°C   |
| Max. Recommended Pulling Tension: | 30 lbs.         |
| Min. Bend Radius/Minor Axis:      | 1.5 in          |
| Min. Bend/Installation:           | 2.5 in          |
| Bulk Cable Weight:                | 34 lbs/1000 ft. |

## Specifications and Agency Compliance

### Applicable Standards & Environmental Programs

|                                    |     |
|------------------------------------|-----|
| NEC Articles:                      | 800 |
| ETL Specification                  | CMR |
| EU Directive 2011/65/EU (ROHS II): | Yes |

### Other Standards: ISO/IEC 11801 & EN50288

|                                   |                               |
|-----------------------------------|-------------------------------|
| EU CE Mark:                       | Yes                           |
| EU Directive 2002/95/EC (RoHS):   | Yes                           |
| EU RoHS Compliance Date:          | 01/01/2008                    |
| EU Directive 2002/96/EC (WEEE):   | Yes                           |
| CA Prop 65 (CJ for Wire & Cable): | Yes                           |
| MII Order #39 (China RoHS):       | Yes                           |
| Telecommunications Standards:     | Category 6A - ANSI/TIA 568C.2 |

## Flame Test

|                   |                       |
|-------------------|-----------------------|
| UL Flame Test:    | UL1666 Vertical Riser |
| C(UL) Flame Test: | FT4                   |
| CSA Flame Test:   | FT4                   |

## Suitability

|                      |     |
|----------------------|-----|
| Indoor Use:          | Yes |
| Outdoor Use:         | No  |
| Aerial:              | No  |
| Burial:              | No  |
| Sunlight Resistance: | No  |
| Oil Resistance:      | No  |
| Non-halogenated:     | No  |
| Plenum (Y/N):        | No  |

## Cable Marking

QUEST CABLING SOLUTIONS NBW-266X 60°C F/FTP 4PR 23AWG - ETL CMR PIMF LOW-SMOKE FR PVC FT4 VERIFIED TO ANSI/TIA 568C.2 & ISO/IEC 11801 & EN50288 CAT.6A 550MHZ 001FT-999FT ROHS

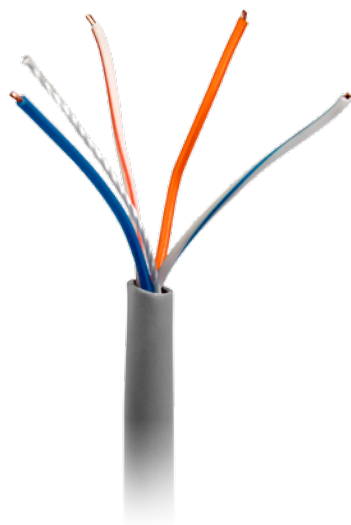


## UTP Security Alarm Cables

- Ideal for security, intercom, sound/audio and power-limited control systems
- Constructed of 7 strand, 18 AWG bare copper wire conductors
- Low smoke CMP rated PVC jacket with rip cord



| Item #       | Color | Description                                       |
|--------------|-------|---------------------------------------------------|
| NBW-1802     | WHITE | 1000 FT. 2 COND, UTP SECURITY ALARM CABLE, 18 AWG |
| NBW-1802-500 | WHITE | 500 FT. 2 COND, UTP SECURITY ALARM CABLE, 18 AWG  |
| NBW-1804     | WHITE | 1000 FT. 4 COND, UTP SECURITY ALARM CABLE, 18 AWG |
| NBW-1804-500 | WHITE | 500 FT. 4 COND, UTP SECURITY ALARM CABLE, 18 AWG  |



## Unshielded Telephone Cables

- Constructed of 24 AWG Riser Rated Wire
- .50 mm bare copper wire conductors
- Available in 1,2,4 and 6 pair round cable
- PVC jacket with rip cord



| Item #   | Color | Description                                       |
|----------|-------|---------------------------------------------------|
| NBW-1129 | GRAY  | 1000 FT. 1 PAIR, UTP TELEPHONE CABLE, 24 AWG, CMR |
| NBW-1229 | GRAY  | 1000 FT. 2 PAIR, UTP TELEPHONE CABLE, 24 AWG, CMR |
| NBW-1429 | GRAY  | 1000 FT. 4 PAIR, UTP TELEPHONE CABLE, 24 AWG, CMR |
| NBW-1629 | GRAY  | 1000 FT. 6 PAIR, UTP TELEPHONE CABLE, 24 AWG, CMR |



## Silver Satin Modular Cables

- Silver Satin 1000 feet bulk cable
- Constructed of 28 AWG stranded conductors
- UTP cable with a PVC outer jacket
- Ideal for constructing shorter modular voice/data cables



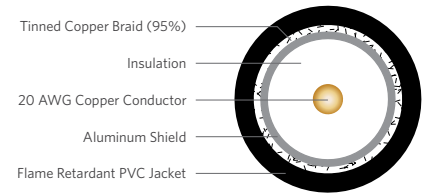
| Item #     | Color  | Description                                     |
|------------|--------|-------------------------------------------------|
| NBW-2428UL | SILVER | 1000 FT. 4 COND, UTP SILVER SATIN CABLE, 28 AWG |

## Coax RG-59, 95% Shielded Cables

- Ideal for lower frequency signals
- 20 AWG copper center conductor
- Foamed polyethylene dielectric (CMR) or fluoropolymer (CMP)
- Helps differentiate incoming service versus internal cabling infrastructure
- Bonded aluminum shield tape
- 95% tinned copper braid blocks RFI



| Item #   | Color | Description                             |
|----------|-------|-----------------------------------------|
| NBW-4502 | BLACK | 1000 FT. COAX RG-59, 95% SHIELDED CABLE |

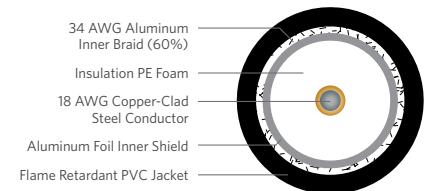


## Coax RG-6, 60% Shielded Cables

- RG-6, 60% Shielded Coaxial cable with bandwidth that exceeds 2.2 GHz
- 18 AWG copper-clad steel center conductor
- Supports extended bandwidth satellite service and high-definition TV signals
- Tight foamed polyethylene insulating skin bonds around center conductor



| Item #   | Color | Description                            |
|----------|-------|----------------------------------------|
| NBW-4612 | BLACK | 1000 FT. COAX RG-6, 60% SHIELDED CABLE |



## Coax RG-6, Quad Shielded Cables

- RG-6, Quad Shield Coaxial cable with bandwidth that exceeds 3 GHz
- 18 AWG copper-clad steel center conductor
- Supports extended bandwidth satellite service and high-definition TV signals
- Tight foamed polyethylene insulating skin bonds around center conductor
- Provides additional mechanical and fire safety protection



| Item #   | Color | Description                             |
|----------|-------|-----------------------------------------|
| NBW-4622 | BLACK | 1000 FT. COAX RG-6, QUAD SHIELDED CABLE |

