

# GenSPEED® 6500 Premium Category 6 Cable

Signal Strength and Power



## PART NUMBERS

Standard packaging: 1000' Lengths

| Jacket Color |        | Spool-Pac®          |                 | Spool               |                 |
|--------------|--------|---------------------|-----------------|---------------------|-----------------|
|              |        | CMR<br>(Non-Plenum) | CMP<br>(Plenum) | CMR<br>(Non-Plenum) | CMP<br>(Plenum) |
|              | Blue   | 7133930             | 7131930         | 7133970             | 7131970         |
|              | White  | 7133931             | 7131931         | 7133971             | 7131971         |
|              | Yellow | 7133932             | 7131932         | 7133972             | 7131972         |
|              | Gray   | 7133933             | 7131933         | 7133973             | 7131973         |
|              | Red    | 7133934             | 7131934         | 7133974             | 7131974         |
|              | Orange | 7133935             | 7131935         | 7133975             | 7131975         |
|              | Green  | 7133936             | 7131936         | 7133976             | 7131976         |
|              | Black  | 7133937             | 7131937         | 7133977             | 7131977         |
|              | Pink   | 7133938             | 7131938         | 7133978             | 7131978         |
|              | Purple | 7133939             | 7131939         | 7133979             | 7131979         |

Note: Bulk reels are available as a special request with a maximum allowable length of 3000 feet per reel.

Minimum run and lead time may apply.

Non-stock items may be subject to minimum order quantities.

## PHYSICAL DATA

|                                    | CMR<br>(Non-Plenum) | CMP<br>(Plenum) |
|------------------------------------|---------------------|-----------------|
| Nominal Cable Diameter (in)        | 0.260               | 0.255           |
| Nominal Cable Weight (lbs/1000 ft) | 32                  | 31              |
| Minimum Bend Radius (in)           | 1.0                 | 1.0             |
| Maximum Pulling Force (lbs)        | 50                  | 50              |
| Temperature Rating (°C)            |                     |                 |
| Installation:                      | 0 to +60            | 0 to +60        |
| Operation:                         | -20 to +75          | -20 to +105     |

## CONSTRUCTION:

### Conductors

- 23 AWG solid bare annealed copper

### Insulation

- Non-Plenum: Polyolefin
- Plenum: Fluoropolymer

### Color Code

- Pair 1: Blue-White/Blue
- Pair 2: Orange-White/Orange
- Pair 3: Green-White/Green
- Pair 4: Brown-White/Brown

### Separator

- Cross-Web

### Rip Cord

- Applied longitudinally under jacket

### Jacket

- Non-Plenum: Flame-Retardant PVC
- Plenum: Low-Smoke, Flame-Retardant PVC

## Features and Benefits

- Designed and engineered with precision balance to offer ultimate headroom
- High-end optimized performance to support the most bandwidth-intense applications
- New and improved separator construction allowing for more pair separation
- Performance guaranteed to 350 MHz
- Improved cable temperature rating (75°C Riser, 105°C Plenum) for greater protection against increased operating temperatures and for high-wattage applications
- TRU-Mark® print legend contains footage markings from 1000' to 0'
- Third-party verified for guaranteed performance

## Applications

- IEEE 802.3: 1000 BASE-T, 100 BASE-TX, 10 BASE-T, PoE, PoE+, PoE++
- ANSI/TIA 854: 1000 BASE-TX
- CDDI, Token Ring, ATM
- Digital Video
- Broadband and Baseband Analog Video

## Standard Compliances

- ANSI/TIA 568.2-E
- NEC/CEC Type CMR (UL 1666) for Non-Plenum
- NEC/CEC Type CMP (NFPA 262) for Plenum
- UL Listed CMR-LP (0.5A) for Non-Plenum\*
- UL Listed CMP-LP (0.7A) for Plenum\*\*
- UL 444
- RoHS Compliant Directive 2011/65/EU
- ANSI/TIA 862 (Building Automation)
- ICEA S-116-732
- ICEA S-102-700
- ISO/IEC 11801 Ed. 2.0 (Class E)

\* 0.7A is the ampacity rating of the cable, which equates to 100 watts using 50 volts over four pairs.

\*\* 0.6A is the ampacity rating of the cable, which equates to 140 watts using 50 volts over four pairs.

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## ELECTRICAL PERFORMANCE

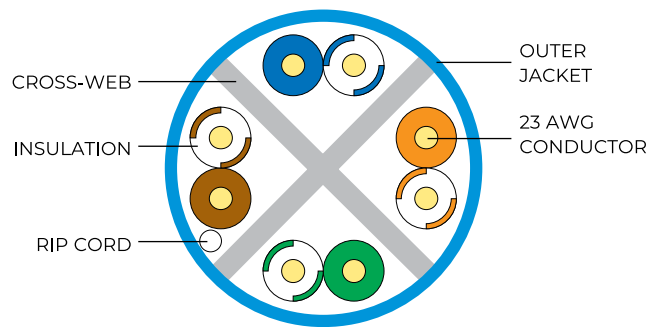
| Frequency MHz | PSACR* (min)  | ACR* (min)    | Insertion Loss (max) |               | PSNEXT (min)   |               | NEXT (min)     |               |
|---------------|---------------|---------------|----------------------|---------------|----------------|---------------|----------------|---------------|
|               | PG Guaranteed | PG Guaranteed | TIA Guaranteed       | PG Guaranteed | TIA Guaranteed | PG Guaranteed | TIA Guaranteed | PG Guaranteed |
| 1             | 77.4          | 79.4          | 2.0                  | 1.9           | 72.3           | 79.3          | 74.3           | 81.3          |
| 4             | 66.8          | 68.8          | 3.8                  | 3.5           | 63.3           | 70.3          | 65.3           | 72.3          |
| 10            | 58.8          | 60.8          | 6.0                  | 5.5           | 57.3           | 64.3          | 59.3           | 66.3          |
| 16            | 54.2          | 56.2          | 7.6                  | 7.0           | 54.2           | 61.2          | 56.2           | 63.2          |
| 20            | 51.9          | 53.9          | 8.5                  | 7.8           | 52.8           | 59.8          | 54.8           | 61.8          |
| 31.25         | 47.0          | 49.0          | 10.7                 | 9.9           | 49.9           | 56.9          | 51.9           | 58.9          |
| 62.5          | 38.0          | 40.0          | 15.4                 | 14.3          | 45.4           | 52.4          | 47.4           | 54.4          |
| 100           | 30.8          | 32.8          | 19.8                 | 18.5          | 42.3           | 49.3          | 44.3           | 51.3          |
| 200           | 17.5          | 19.5          | 29.0                 | 27.2          | 37.8           | 44.8          | 39.8           | 46.8          |
| 250           | 12.4          | 14.4          | 32.8                 | 30.9          | 36.3           | 43.3          | 38.3           | 45.3          |
| 350           | 3.5           | 5.5           | —                    | 37.6          | —              | 41.1          | —              | 43.1          |
| 500           | —             | —             | —                    | 46.5          | —              | 38.8          | —              | 40.8          |

Note: Values are expressed in dB per 100 m (328 ft.) length @ 20 °C. Results beyond 350 MHz for reference only.  
\*PSACR & ACR not specified in ANSI/TIA 568.2-E

| Frequency MHz | PSACRF (min)   |               | ACRF (min)     |               | Return Loss (max) |               | TCL (min)      |               | ELTCTL (min)   |               |
|---------------|----------------|---------------|----------------|---------------|-------------------|---------------|----------------|---------------|----------------|---------------|
|               | TIA Guaranteed | PG Guaranteed | TIA Guaranteed | PG Guaranteed | TIA Guaranteed    | PG Guaranteed | TIA Guaranteed | PG Guaranteed | TIA Guaranteed | PG Guaranteed |
| 1             | 64.8           | 70.8          | 67.8           | 73.8          | 20.0              | 20.0          | 40.0           | 40.0          | 35.0           | 35.0          |
| 4             | 52.8           | 58.8          | 55.8           | 61.8          | 23.0              | 23.0          | 40.0           | 40.0          | 23.0           | 23.0          |
| 10            | 44.8           | 50.8          | 47.8           | 53.8          | 25.0              | 25.0          | 40.0           | 40.0          | 15.0           | 15.0          |
| 16            | 40.7           | 46.7          | 43.7           | 49.7          | 25.0              | 25.0          | 38.0           | 38.0          | 10.9           | 10.9          |
| 20            | 38.8           | 44.8          | 41.8           | 47.8          | 25.0              | 25.0          | 37.0           | 37.0          | 9.0            | 9.0           |
| 31.25         | 34.9           | 40.9          | 37.9           | 43.9          | 23.6              | 25.0          | 35.1           | 35.1          | —              | 5.1           |
| 62.5          | 28.9           | 34.9          | 31.9           | 37.9          | 21.5              | 23.5          | 32.0           | 32.0          | —              | 5.0           |
| 100           | 24.8           | 30.8          | 27.8           | 33.8          | 20.1              | 22.1          | 30.0           | 30.0          | —              | 5.0           |
| 200           | 18.8           | 24.8          | 21.8           | 27.8          | 18.0              | 20.0          | 27.0           | 27.0          | —              | 5.0           |
| 250           | 16.8           | 23.8          | 19.8           | 26.8          | 17.3              | 19.3          | 26.0           | 26.0          | —              | 5.0           |
| 350           | —              | 19.9          | —              | 22.9          | —                 | 18.3          | —              | —             | —              | —             |
| 500           | —              | 16.8          | —              | 19.8          | —                 | 17.2          | —              | —             | —              | —             |

Note: Values are expressed in dB per 100 m (328 ft.) length @ 20 °C. Results beyond 350 MHz for reference only.

## CROSS-SECTION



## ELECTRICAL CHARACTERISTICS

|                                                             | Max.               | Nom. |
|-------------------------------------------------------------|--------------------|------|
| <b>DC Resistance</b><br>Ohms/100 m (328 ft) @ 20 °C         | 9.38               | 6.50 |
| <b>DC Resistance Unbalanced</b><br>Individual Pair %        | 4.00               | < 1  |
| <b>Delay Skew (Max)</b><br>ns/100 m                         | 45                 | 35   |
| <b>Nom. Velocity of Propagation</b><br>% Speed of Light     | CMP: 72<br>CMR: 70 |      |
| <b>Characteristic Impedance</b><br>Frequency (f): 1-500 MHz | Ohms<br>100 ± 15   |      |