

# GenSPEED™ 6500 Category 6+ Cable

## optimally balanced performance

## GenSPEED™ 6500

GenSPEED™ 6500 Category 6 cable has been designed and engineered with precision balance to protect networks from cable emissions and outside noise sources. As with all of the General Cable line of category products, this cable is capable of consistently outperforming under the present network

infrastructure environments as well as being equipped to handle the next generation network applications. The construction utilizes a cross-web design resulting in pair separation, which enhances the electrical performance of this cable. Better near end crosstalk (NEXT), power sum near end crosstalk (PSNEXT), equal level

far end crosstalk (ELFEXT) and power sum equal level far end crosstalk (PSSELFEXT) values have proven to exceed Category 6 standards, providing a higher performance cable.

GenSPEED 6500 Category 6 cable is an optimally balanced performing cable supporting applications beyond Gigabit Ethernet.

### Features and Benefits

- Innovative cross-web design allowing for maximum pair separation increasing key electrical performance parameters
- Positive PSACR beyond 300MHz for increased available bandwidth
- Enhanced signal-to-noise ratio improving bit error rate
- Every master reel is tested for electrical performance compliance
- TRU-Mark™ print legend contains footage marking from 1000' to 0'
- Unique product-specific packaging for ease of identification
- UL Verified for guaranteed performance
- Application assurance warranty

### Applications

- IEEE 802.3: 1000BASE-T (Gigabit Ethernet), 100BASE-TX, 10BASE-T
- ANSI/TIA/EIA-854: 1000BASE-TX
- 155 Mp/s, 1.2 Gb/s ATM
- ANSI X3.263: 100 Mb/s
- IEEE 802.3af DTE Power (POE)
- 4/16 Mb/s Token Ring
- Digital Video
- Broadband and Baseband analog video

### Standard Compliances

- ANSI/TIA/EIA-568-B.2-1 (Category 6)
- ANSI/TIA/EIA-862 (Building Automation)
- ISO/IEC 11801 Ed. 2.0 (Class E)
- ICEA S-102-700 (Category 6)
- UL Type CMR (UL 1666) & c(UL) CMG for Non-Plenum
- UL Type CMP (NFPA 262) & c(UL) CMP for Plenum
- UL 444

### CONSTRUCTION

#### Conductors

- 23 AWG solid bare annealed copper

#### Insulation

- Non-Plenum: Polyolefin
- Plenum: 3 Pairs FEP / 1 Pair Polyolefin

#### 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 design

#### Rip Cord

- Applied longitudinally under jacket

#### Jacket

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

### PHYSICAL DATA

	CMR (Non-Plenum)	CMP (Plenum)
Nominal Cable Diameter (in)	0.248	0.235
Nominal Cable Weight (lbs/1000 ft)	28	31
Minimum Bend Radius (in)	1.0	1.0
Maximum Pulling Force (lbs)	25	25
Temperature Rating (°C)		
Installation:	0 to +60	0 to +60
Operation:	-10 to +60	-10 to +60

### PART NUMBERS

Standard packaging: 1000' Spool-Pac®

Jacket Color	CMR (Non-Plenum)	CMP (Plenum)
Blue	7133374	7131431
White	7133342	7131450
Yellow	7133289	7131379
Gray	7133329	7131456
Red	7133427	7131553
Orange	7133734	7131576
Green	7133693	7131575
Black	7133735	7131742
Pink	7133447	7131714
Purple	7133679	7131650

**ELECTRICAL PERFORMANCE**

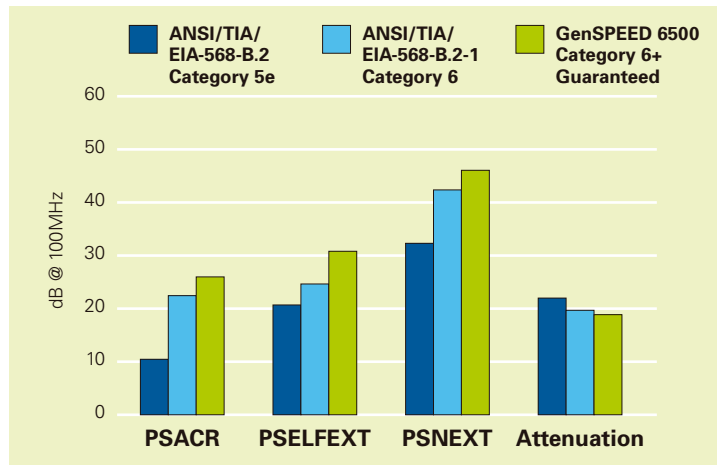
Frequency MHz	PSACR min.	ACR min.	Attenuation max.	PSNEXT min.	NEXT min.	PSELFEXT min.	ELFEXT min.	Return Loss min.	LCL/TCL min.	ELTCTL
1	74.3	76.3	2.0	76.3	78.3	71.8	74.8	20.0	50.0	35.0
4	63.6	65.6	3.7	67.3	69.3	59.7	62.7	23.0	44.0	23.0
10	55.5	57.5	5.8	61.3	63.3	51.8	54.8	25.0	40.0	15.0
16	50.8	52.8	7.4	58.2	60.2	47.7	50.7	25.0	38.0	10.9
20	48.5	50.5	8.3	56.8	58.8	45.7	48.7	25.0	37.0	9.0
31.25	43.4	45.4	10.5	53.9	55.9	41.9	44.9	23.6	35.1	5.1
62.5	34.3	36.3	15.1	49.4	51.4	35.8	38.8	21.5	32.0	-
100	26.9	28.9	19.4	46.3	48.3	31.8	34.8	20.1	30.0	-
200	13.4	15.4	28.4	41.8	43.8	25.7	28.7	18.0	27.0	-
250	8.1	10.1	32.2	40.3	42.3	23.8	26.8	17.3	26.0	-
300	3.4	5.4	35.7	39.1	41.1	22.2	25.2	16.8	25.2	-
350	-	1.1	39.0	38.1	40.1	20.9	23.9	16.3	24.6	-
400	-	-	42.1	37.3	39.3	19.7	22.7	15.9	24.0	-
500	-	-	48.0	35.8	37.8	17.8	20.8	15.2	23.0	-

Note: Values are expressed in dB per 100m (328ft.) length

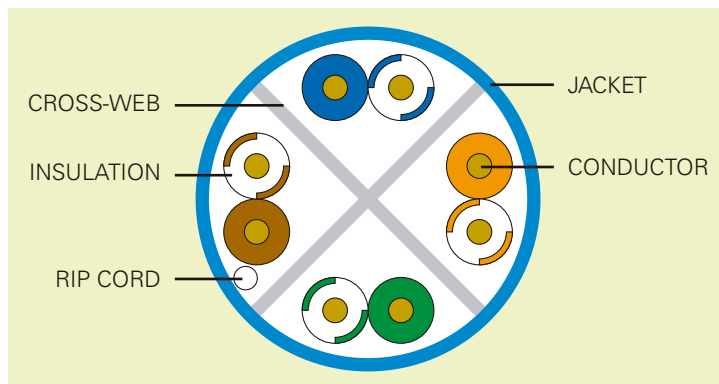
**ELECTRICAL CHARACTERISTICS**

<b>DC Resistance (max)</b> Ohms/100m (328ft) @ 20°C	8.9
<b>DC Resistance Unbalance (max)</b> Individual Pair %	3.0
<b>Delay Skew (max)</b> ns/100m	25
<b>Nom. Velocity of Propagation</b> % Speed of Light	CMP: 72 CMR: 70
<b>Characteristic Impedance</b> Frequency (f):	Ohms 1-500MHz 100 ± 15
<b>Input Impedance</b> Frequency (f):	Ohms 1-100MHz 100 ± 15 100-350MHz 100 ± 22 350-500MHz 100 ± 32

**KEY PERFORMANCE PARAMETERS**



**GenSPEED 6500 CABLE CROSS SECTION**



	ANSI/TIA/EIA-568-B.2 Category 5e	ANSI/TIA/EIA-568-B.2-1 Category 6	GenSPEED 6500 Category 6+ Guaranteed
PSACR	10.3	22.5	26.9
PSELFEXT	20.8	24.8	31.8
PSNEXT	32.3	42.3	46.3
Attenuation	22.0	19.8	19.4

Note: Values are expressed in dB at 100MHz

An increased **PSACR** value will yield a better signal strength, which translates into extended usable bandwidth.

An increased **PSELFEXT** value delivers better signal strength at the far end for bi-directional transmission.

By increasing the **PSNEXT** value, noise immunity is boosted.

When **attenuation** is lower, the signal power is better.



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