

# Category 3

## 4 Pair #24 AWG ScTP Category 3 Cable

**PLENUM PART # M54708**

**NON-PLENUM PART # M53639**

### DESCRIPTION

SCREENED TWISTED PAIR (ScTP) CATEGORY 3 CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS AS DESCRIBED IN TIA/EIA 568-B. THE CABLE CONSISTS OF #24 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS WITH AN OVERALL FOIL SHIELD, DRAIN AND RIPCORD, UNDER AN OVERALL JACKET.

THE PLENUM RATED CABLE IS FOR USE IN AIR HANDLING DUCTS AND SPACES IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262/UL 910 (STEINER TUNNEL) TEST.

THE RISER NON-PLENUM RATED CABLE IS FOR USE AS A VERTICAL RUN IN A SHAFT AND FOR GENERAL PURPOSE COMMUNICATIONS USE IN ACCORDANCE WITH ARTICLE 800 OF THE NEC. THE CABLE IS UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING UL 1666 RISER CABLE FLAMMABILITY TEST.

THIS CABLE COMPLIES WITH THE EU-RoHS DIRECTIVE 2002/95/EC (RESTRICTIONS ON HAZARDOUS SUBSTANCES) REGULATIONS.

### SUPPORTED APPLICATIONS

ANALOG & DIGITAL VOICE, ISDN, IBM 3270 & 3x, IEEE 802.5 4 Mbps TOKEN RING, IEEE 802.3 1BASE-5 & 10BASE-T, 10 Mbps ETHERNET, 100BASE VG-ANYLAN.

### CONSTRUCTION

**PRIMARIES:** CONDUCTOR: 24 AWG (.5 mm) SOLID BARE COPPER  
INSULATION: PL: ALL FEP  
NP: THERMOPLASTIC

**PAIR ASSEMBLY:** 2 PRIMARIES TWISTED IN VARIED LAYS

**COLOR CODE:** SEE TABLE 1

**CABLE ASSEMBLY:** 4 PAIRS CABLED TOGETHER

**BARRIER:** OVERALL POLYESTER TAPE, 25% OVERLAP

**DRAIN:** #24 AWG SOLID TINNED COPPER

**SCREEN (SHIELD):** OVERALL ALUMINUM/POLYESTER TAPE, ALUM SIDE FACING IN, 25% OVERLAP, 100% COVERAGE

**JACKET:** PL: NO LEAD PLENUM RATED THERMOPLASTIC  
NP: NO LEAD THERMOPLASTIC  
JACKET COLOR: GRAY  
NOMINAL CABLE OD: PL: .189" (4.8 mm)  
NP: .210" (5.33 mm)

**LISTINGS:** PL: UL/cUL TYPE CMP, ETL VERIFIED TO IBM TYPE 3 MEDIA  
NP: UL/cUL TYPE CMR

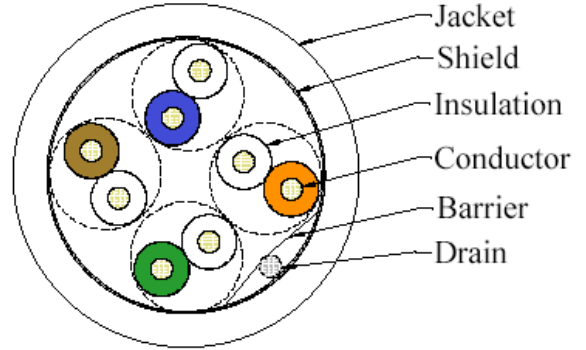


TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
	1	WHITE-BLUE
2	WHITE-ORANGE	ORANGE
3	WHITE-GREEN	GREEN
4	WHITE-BROWN	BROWN

### PHYSICAL CHARACTERISTICS

**CABLE WEIGHT:** 29 lbs/1000ft (43 kg/km)

**BENDING RADIUS:** 1" (25.4 mm) MIN (4 x CABLE OD)

**PULLING TENSION:** 25 lbf (110 N) MAX

**OPERATING TEMP.:** PL: -20°C to +60°C (-4°F to +140°F)  
NP: -34°C to +60°C (-30°F to +140°F)

**STORAGE TEMP.:** PL: -20°C to +75°C (-4°F to +167°F)  
NP: -34°C to +75°C (-30°F to +167°F)

**INSTALLATION TEMP.\*:** PL: 0°C to +60°C (+32°F to +140°F)  
NP: -20°C to +60°C (-4°F to +140°F)

\*THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE CABLE WHILE BEING INSTALLED OR PULLED. DO NOT INSTALL CABLE BELOW 0°C (+32°F).

PL = PLENUM  
NP = NON-PLENUM

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### ELECTRICAL CHARACTERISTICS (REF TABLE 2)

<b>CONDUCTOR DCR:</b>	9.38 $\Omega$ /100m (28.6 $\Omega$ /Mft) MAX	<b>NEAR END CROSSTALK (NEXT):</b>	47 - 15 $\log_{10}(f/0.772)$ dB/100m MIN
<b>DCR UNBALANCE:</b>	5% MAX	<b>POWER SUM NEAR END CROSSTALK (PS-NEXT):</b>	43 - 15 $\log_{10}(f/0.772)$ dB/100m MIN
<b>MUTUAL CAPACITANCE:</b>	66 pF/m (20 pF/ft) NOM	<b>PROPAGATION DELAY:</b>	534 + 36 / $f$ ns/100m MAX
<b>CAPACITANCE UNBALANCE PAIR/GROUND:</b>	330 pF/100m (1000 pF/Mft) MAX	<b>DELTA DELAY (SKEW):</b>	45 ns/100m MAX
<b>CHARACTERISTIC IMPEDANCE:</b>	100 $\Omega$ $\pm$ 15% (1-16 MHz)	<b>NOMINAL VELOCITY OF PROPAGATION (NVP):</b>	72% PLENUM 68% NON-PLENUM
<b>STRUCTURAL RETURN LOSS (SRL):</b>	12 dB MIN (1-10 MHz) 12 - 10 $\log_{10}(f/10)$ dB MIN (>10 MHz)	WHERE $f$ = FREQUENCY IN MHz from .772 to 16 MHz.	
<b>ATTENUATION:</b>	2.320 $f$ + .238 $f$ dB/100m MAX		

TABLE 2

### REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	ATTENUATION (dB/100m)			NEXT (dB/100m)		ACR* (dB/100m)	PS-NEXT (dB/100m)		PS-ACR* (dB/100m)	SRL (dB)
	avg	max	max	avg	min	avg	avg	min	avg	min
.772	1.9	2.2	6.8	52	47	50.1	48	43	46.1	-
1.0	2.2	2.6	7.8	50	45	47.8	46	41	43.8	12
4.0	5.0	5.6	17	41	36	36.0	37	32	32.0	12
8.0	7.7	8.5	26	36	31	28.3	32	27	24.3	12
10.0	8.8	9.7	30	35	30	26.2	31	26	22.2	12
16.0	11.9	13.1	40	32	27	20.1	28	23	16.1	10

\*ACR - MINIMUM ATTENUATION TO CROSSTALK RATIO

Mohawk reserves the right to change specification in the interest of product enhancement.

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