



# MegaLAN™ ScTP

## 4 Pair #24 AWG ScTP Category 5E+ Cable

### DESCRIPTION

ENHANCED SCREENED TWISTED PAIR (ScTP) MEGALAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER TIA 568-B. THE CABLE EXCEEDS CATEGORY 5e ELECTRICAL CHARACTERISTICS AND IS TESTED TO 400 MHz. THE CABLE CONSISTS OF #24 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH AN OVERALL FOIL AND DRAIN SHIELD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0. THE PLENUM VERSION AND/OR ITS MANUFACTURE IS COVERED BY US PATENT NO. 5424491.

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 OR FT6 - 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. THE CABLE ALSO PASSES THE CSA FT4 VERTICAL FLAME TEST - CABLES IN CABLE TROUGH FROM CLAUSE 4.11.4 OF CSA C22.2 NO. 0.3.

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

### SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5.4 AND 16 Mbps TOKEN RING, ATM UP TO 155 Mbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 622 Mbps & 1.2 Gbps.

### INDUSTRY APPROVALS

**STANDARDS:** EXCEEDS TIA 568-B.2 CAT 5e & ISO/IEC 11801 CAT 5 HORIZONTAL CABLE

### 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: SEE TABLE 2  
NOMINAL CABLE OD: PL: .224" (5.69 mm)  
NP: .245" (6.2 mm)
- LISTINGS:** PL: C(UL)US TYPE CMP - ETL VERIFIED CAT 5e  
NP: C(UL)US TYPE CMR - ETL VERIFIED CAT 5e

PL = PLENUM  
NP = NON-PLENUM

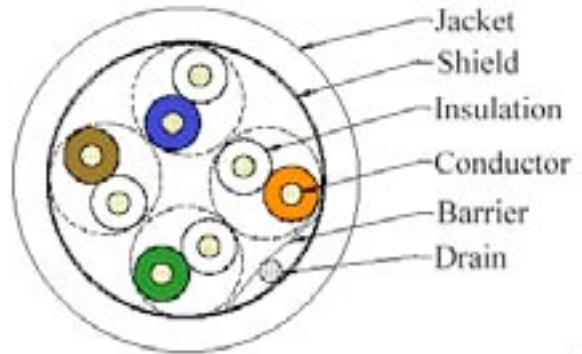


TABLE 1

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

TABLE 2

PLENUM		NON-PLENUM	
PART NUMBER	JACKET COLOR	PART NUMBER	JACKET COLOR
M55986	WHITE	M55987	WHITE
M57360	BLUE	M57370	BLUE
M57322	PINK	M57371	PINK
M57361	YELLOW	M57372	YELLOW
M57362	GRAY	M57373	GRAY
M57363	GREEN	M57374	GREEN
M57364	RED	M57375	RED
M57365	ORANGE	M57376	ORANGE
M57366	BLACK	M57377	BLACK
M57367	VIOLET	M57378	VIOLET

### PHYSICAL CHARACTERISTICS

- CABLE WEIGHT:** PL: 33 lbs/1000ft (49 kg/km)  
NP: 32 lbs/1000ft (48 kg/km)
- BENDING RADIUS:** 1" (25.4 mm) MIN (4 x CABLE OD)
- PULLING TENSION:** 25 lbf (110 N) MAX
- OPERATING TEMP.:** -20°C to +60°C (-4°F to +140°F)
- STORAGE TEMP.:** -20°C to +75°C (-4°F to +167°F)
- INSTALLATION TEMP.:** 0°C to +60°C (+32°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).



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Cabling Excellence for Open Architecture



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### ELECTRICAL CHARACTERISTICS (REF TABLE 3)

<b>CONDUCTOR DCR:</b>	8.9 Ω/100m (27.1 Ω/Mft) MAX
<b>DCR UNBALANCE:</b>	3% MAX
<b>MUTUAL CAPACITANCE:</b>	46 pF/m (14 pF/ft) NOM
<b>CAPACITANCE UNBALANCE PAIR/GROUND:</b>	66 pF/100m (200 pF/Mft) MAX
<b>CHARACTERISTIC IMPEDANCE:</b>	100 Ω ± 15% (1-400 MHz)
<b>INPUT IMPEDANCE:</b>	100 Ω ± 15% (1-100 MHz) 100 Ω ± 22% (>100-200 MHz)
<b>RETURN LOSS (RL):</b>	20 + 5 log <sub>10</sub> (f) dB MIN (1-10 MHz) 25 dB MIN (>10-20 MHz) 25 - 7 log <sub>10</sub> (f / 20) dB MIN (>20 MHz)

<b>INSERTION LOSS: (ATTENUATION)</b>	1.97 f + .013 f + $\frac{.050}{f}$ dB/100m MAX
<b>NEAR END CROSSTALK (NEXT):</b>	40.3 - 15 log <sub>10</sub> (f/100) dB/100m MIN
<b>POWER SUM NEAR END CROSSTALK (PS-NEXT):</b>	38.3 - 15 log <sub>10</sub> (f/100) dB/100m MIN
<b>EQUAL LEVEL FAR END CROSSTALK (ELFEXT):</b>	27.8 - 20 log <sub>10</sub> (f/100) dB/100m MIN
<b>POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT):</b>	24.8 - 20 log <sub>10</sub> (f/100) dB/100m MIN
<b>PROPAGATION DELAY:</b>	506 + 36 / f ns/100m MAX
<b>DELTA DELAY (SKEW):</b>	30 ns/100m MAX
<b>NOMINAL VELOCITY OF PROPAGATION (NVP):</b>	72% PLENUM 68% NON-PLENUM

WHERE f = FREQUENCY IN MHz from .772 to 250 MHz.

TABLE 3

### REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)		NEXT (dB/100m)		ACR (dB/100m)	PS-NEXT (dB/100m)		PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	RL (dB)
	avg	max	avg	min	min	avg	min	min	min	min	min
.772	1.6	1.8	82	72.0	72.2	75	70.0	68.2	-	-	-
1.0	1.8	2.0	80	70.3	70.3	73	68.3	66.3	67.8	64.8	20.0
4.0	3.6	4.0	70	61.3	59.3	63	59.3	55.3	55.8	52.8	23.0
8.0	5.2	5.7	66	56.8	53.1	59	54.8	49.1	49.7	46.7	24.5
10.0	5.8	6.4	64	55.3	50.9	58	53.3	46.9	47.8	44.8	25.0
16.0	7.3	8.1	62	52.2	46.1	56	50.2	42.1	43.7	40.7	25.0
20.0	8.3	9.1	60	50.8	43.7	54	48.8	39.7	41.8	38.8	25.0
25.0	9.3	10.2	59	49.3	41.1	52	47.3	37.1	39.8	36.8	24.3
31.25	10.4	11.4	58	47.9	38.5	51	45.9	34.5	37.9	34.9	23.6
62.5	15.1	16.4	54	43.4	29.0	47	41.4	25.0	31.9	28.9	21.5
100.0	19.6	21.0	50	40.3	21.3	43	38.3	17.3	27.8	24.8	20.1
155.0	25.0	26.6	48	37.4	12.9	41	35.4	8.9	24.0	21.0	18.8
200.0	28.8	30.5	46	35.8	7.3	40	33.8	3.3	21.8	18.8	18.0
250.0	32.8	34.4	45	34.3	1.9	38	32.3	-	19.8	16.8	17.3
300.0	36.5	38.0	44	33.1	-	37	31.1	-	18.3	15.3	16.8
350.0	40.0	41.4	43	32.1	-	36	30.1	-	16.9	13.9	16.3
400.0	43.2	44.6	42	31.3	-	35	29.3	-	-	-	15.9

VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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

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