

SPECIFICATION  
**25 PAIR #24 AWG LAN-Trak OSP™**  
**CAT 5e OUTDOOR SHIELDED**  
**(SUITABLE FOR DIRECT BURIAL)**

Design Number:  
**LT51603**

THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY  
 US PATENT NOS. 5821466 & 5424491.

**APPLICATIONS**

10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND  
 1000BASE-T (GIGABIT ETHERNET), FDDI TP-PMD, IEEE 802.5 4  
 AND 16 Mbps TOKEN RING, ATM UP TO 155 Mbps AND  
 STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 622 Mbps.

**CONSTRUCTION**

**PRIMARIES:** CONDUCTOR: 24 AWG (.5mm) SOLID BARE COPPER  
 INSULATION: THERMOPLASTIC POLYOLEFIN

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

**CABLE ASSEMBLY:** 25 PAIRS CABLED TOGETHER

**BINDER:** OVERALL OPEN BINDER

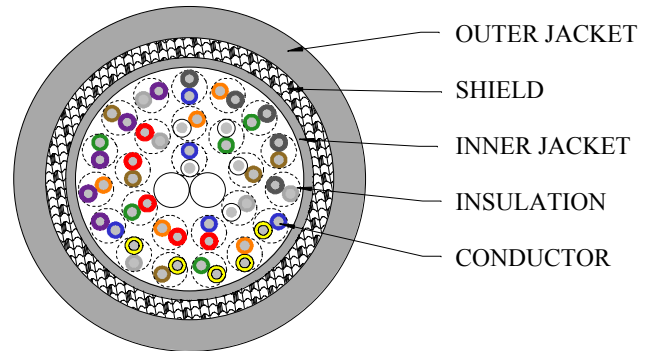
**INNER JACKET:** MATERIAL: MEDIUM DENSITY POLYETHYLENE  
 NOMINAL WALL: .040" (1.0 mm)  
 NOMINAL DIAMETER: .510" (12.95 mm)  
 COLOR: BLACK

**SHIELD:** CORRUGATED ALUMINUM TAPE .008" (.20 mm)

**OUTER JACKET:** MATERIAL: MEDIUM DENSITY POLYETHYLENE  
 NOMINAL WALL: .060" (1.5 mm)  
 NOMINAL DIAMETER: .730" (18.54 mm)  
 COLOR: BLACK

**PRINT:** MOHAWK 25PR 24 AWG CAT 5E --- M58527  
 (W/SEQUENTIAL FOOTAGE MARKERS)

**NOTE:** CABLE IS FLOODED FOR MOISTURE PROTECTION



**INSERTION LOSS:**  $1.967\sqrt{f} + .023f + \frac{.050}{\sqrt{f}}$  dB/100m MAX

**POWER SUM NEAR END CROSSTALK (PS-NEXT):**  $32.3 - 15 \log_{10}(f/100)$  dB/100m MIN

**POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT):**  $20.8 - 20 \log_{10}(f/100)$  dB/100m MIN

**PROPAGATION DELAY:**  $534 + 36/\sqrt{f}$  ns/100m MAX

**DELTA DELAY (SKEW):** 45 ns/100m MAX

**NOMINAL VELOCITY OF PROPAGATION (NVP):** 65%

WHERE  $f$  = FREQUENCY IN MHZ from .772 to 100 MHZ.

**ELECTRICAL CHARACTERISTICS**

**STANDARDS:** TIA/EIA 568-B.2 CAT 5e BACKBONE  
 CABLE, MEETING POWER SUM NEXT,  
 ANSI/ICEA S-99-689-1997

**VOLTAGE RATING:** 300 VOLTS

**CONDUCTOR DCR:** 9.38  $\Omega$ /100m (28.6  $\Omega$ /Mft) MAX

**CAPACITANCE:** 51.5 pF/m (15.7 pF/ft) NOM

**CAPACITANCE UNBALANCE PAIR/GROUND:** 330 pF/100m (1000 pF/Mft) MAX

**CHARACTERISTIC IMPEDANCE:** 100  $\Omega \pm 15\%$  (1-100 MHz)

**RETURN LOSS (RL):** 20 + 5  $\log_{10}(f)$  dB MIN (1-10 MHz)  
 25 dB MIN (>10-20 MHz)  
 25 - 7  $\log_{10}(f/20)$  dB MIN (>20 MHz)

**PHYSICAL CHARACTERISTICS**

**CABLE WEIGHT:** 300 lbs/1000ft (446 kg/km)

**BEND RADIUS:** 11.0" (279 mm) MIN (15 x CABLE OD)

**PULLING TENSION:** 165 lbf (750 N) MAX

**OPERATING TEMP.:** -40°C to +60°C (-40°F to +140°F)

**STORAGE TEMP.:** -40°C to +75°C (-40°F to +167°F)

**\*INSTALLATION TEMP.:** -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.



**MOHAWK**  
 Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
A	UPDATE DIA'S, WGT, TEMP, STDS, NVP; ADD PAT #S	06/09/04	JS
B	ADDED PART NUMBER TO SPEC	07/29/04	VB
C	UPDATE HEADER/FOOTER, PRINT	01/20/05	JS
D	ADD VOLTAGE RATING & ROHS COMPLIANCE	10/27/06	JS
Date: 04/15/03		Page 1 of 2	
Orig:		Review:	
Part Number:			<b>M58527</b>

Mohawk reserves the right to change any specification in the interest of product enhancement.  
 This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

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**REFERENCE ELECTRICAL CHARACTERISTICS**

FREQUENCY (MHz)	INSERTION LOSS (dB/100m)			PS-NEXT (dB/100m)		PS-ACR*	PS-ELFEXT	RL
	avg	max	max	avg	min	(dB/100m)	(dB/100m)	(dB)
.772	1.5	1.8	5.5	70	64.0	62.2	-	-
1.0	1.9	2.0	6.3	68	62.3	60.3	60.8	20.0
4.0	3.8	4.1	13	57	53.3	49.2	48.7	23.0
8.0	5.4	5.8	18	54	48.8	43.0	42.7	24.5
10.0	6.1	6.5	20	52	47.3	40.8	40.8	25.0
16.0	7.8	8.2	25	50	44.3	36.1	36.7	25.0
20.0	8.8	9.3	28	48	42.8	33.5	34.7	25.0
25.0	9.9	10.4	32	47	41.3	30.9	32.8	24.3
31.25	11.1	11.7	36	46	39.9	28.2	30.9	23.6
62.5	16.0	17.0	52	42	35.4	18.4	24.8	21.5
100.0	20.5	22.0	67	38	32.3	10.3	20.8	20.1

\*ACR -- ATTENUATION TO CROSSTALK RATIO



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