

# SPECIFICATION

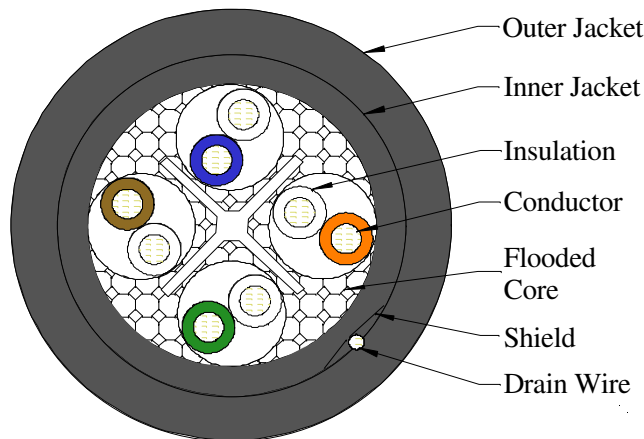
## 4 PAIR #23 AWG LAN-Trak OSP CAT 6A OUTDOOR SHIELDED

Design Number:  
**LT57977**

### DESCRIPTION

SHIELDED TWISTED PAIR (F/UTP) CATEGORY 6A CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS EA. THE CABLE EXCEEDS ANSI/TIA-568-C.2 & ISO/IEC 11801:2002 CATEGORY 6A ELECTRICAL CHARACTERISTICS, VERIFIED/CHANNEL CAT 6A. IT IS NOT SUITABLE FOR DIRECT BURIAL. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR, FLOODED TO PREVENT MOISTURE INGRESS, WITH AN INNER UV-RESISTANT POLYOLEFIN JACKET, OVERALL FOIL SHIELD & DRAIN, AND OUTER UV-RESISTANT POLYOLEFIN JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL.

THE CABLE IS SUITABLE FOR OUTDOOR USE IN DUCT, FOR AERIAL LASHING, AND FOR DIRECT BURIAL. IT IS WATER BLOCKED AND HAS A BLACK SUNLIGHT RESISTANT JACKET. THE CABLE IS NOT UL OR CSA LISTED, SINCE IT IS NOT FLAME RETARDANT. CONSULT THE NATIONAL ELECTRICAL CODE (NEC) ARTICLE 800 FOR USE IN BUILDINGS.



### SUPPORTED APPLICATIONS

IEEE 802.3an 10BASE-T (10 GIGABIT ETHERNET), 1000BASE-T (GIGABIT ETHERNET), 100BASE-T (FAST ETHERNET) AND IEEE 802.3 10BASE-T (ETHERNET), IEEE 802.3af POE, IEEE 802.at-2009 POE+, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, 550 MHz BROADBAND VIDEO, ATM UP TO 4.8 Gbps, 10G Wi-Fi ACCESS POINTS

### CONSTRUCTION/PHYSICAL CHARACTERISTICS

**PRIMARIES:** CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER  
INSULATION: THERMOPLASTIC POLYOLEFIN

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

**COLOR CODE:** SEE TABLE 1

**CABLE ASSEMBLY:** 4 PAIRS CABLED TOGETHER

**INNER JACKET:** MATERIAL: BLACK POLYETHYLENE  
NOMINAL DIAMETER: .260 (6.6 mm)

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

**DRAIN:** #26 AWG STRANDED TINNED COPPER

**OUTER JACKET:** MATERIAL: BLACK POLYETHYLENE  
NOMINAL DIAMETER: .355 (9.02 mm)

**NOTE:** CABLE FLOODED FOR MOISTURE PROTECTION

**TABLE 1**

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

### PHYSICAL/MECHANICAL CHARACTERISTICS & STANDARDS

**CABLE WEIGHT w/reel:** 54 bs/1000ft (80 kg/km)

**BEND RADIUS:** 3.6" (91 mm) MIN (10 x CABLE OD)

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

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

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

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

\*THE INSTALLATION TEMP REFERS TO THE TEMP OF THE CABLE WHILE BEING INSTALLED OR PULLED.

**COLD BEND:** -40°C COMPLIANCE PER UL 1581

**WATER PENETRATION:** GR 421-CORE para. 4.3.5.1  
ANSI/ICEA S-107-704 para. 8.2.1  
ANSI/ICEA S-99-689

**OTHER STANDARDS:** OUTDOOR USE ANSI/ICEA S-56-434,  
BROADBAND OUTDOOR USE ANSI/ICEA S-99-689



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Rev	Description	Date	Init.
A	UPDATE DESC, STANDARDS, TABLE 3, FOOTER	12/06/17	JS/CC
B	UPDATE DESC, PHYS/MECHANICAL	12/13/17	CWC
Date: 03/08/16		Page 1 of 2	
Orig:		Review:	
			Part Number: <b>M59199</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.

# SPECIFICATION

## 4 PAIR #23 AWG LAN-Trak OSP CAT 6A OUTDOOR SHIELDED

Design Number:  
**LT57977**

### ELECTRICAL CHARACTERISTICS (REF TABLE 3)

**STANDARDS:** EXCEEDS ANSI/TIA-568-C.2 CAT 6A,  
ANSI/ICEA S-116-732-2013 CAT 6A,  
ANSI/NEMA WC-66 CATEGORY 6A,  
ISO/IEC 11801 ed 2.2 (2011) CLASS EA &  
IEC 61156-5 ed 2.0 HORIZONTAL CABLE

**CONDUCTOR DCR:** 7.9 Ω/100m (24.0 Ω/Mft) MAX

**DCR UNBALANCE:** 3% MAX (CONDUCTOR-CONDUCTOR)  
5% MAX (PAIR-PAIR)

**MUTUAL CAPACITANCE:** 56 pF/m NOM

**CAPACITANCE UNBALANCE PAIR/GROUND:** 90 pF/100m MAX

**CHARACTERISTIC IMPEDANCE:** 105 Ω ± 10% (1 MHz)  
100 Ω ± 15% (>1-25 MHz)  
100 Ω ± 10% (>25-500 MHz)

**INPUT IMPEDANCE:** 100 Ω ± 15% (1-100 MHz)  
100 Ω ± 22% (>100-200 MHz)  
100 Ω ± 32% (>200 MHz)

**RETURN LOSS (RL):** 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)

**INSERTION LOSS:**  $1.82\sqrt{f} + .0091f + \frac{.25}{\sqrt{f}}$  dB/100m  
MAX

**POWER SUM NEAR END CROSSTALK (PS-NEXT):** 43.3 - 15 log<sub>10</sub>(f/100) dB/100m MIN

**POWER SUM ATTENUATION TO CROSSTALK RATIO (PS ACR):** 23.2 - 20 log<sub>10</sub>(f/100) dB/100m MIN

**POWER SUM ATTENUATION TO CROSSTALK RATIO FAR END (PS ACRF):** 28.2 - 20 log<sub>10</sub>(f/100) dB/100m MIN

**POWER SUM ALIEN NEAR END CROSSTALK (PS ANEXT):** 62.5 - 15 log<sub>10</sub>(f/100) dB/100m MIN  
67.0 dB MIN

**POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO FAR END (PS AACRF):** 38.2 - 20 log<sub>10</sub>(f/100) dB/100m MIN  
67.0 dB MIN

**PROPAGATION DELAY:** 534 + 36 / √f ns/100m MAX

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

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

**NOTE:** Attenuation To Crosstalk Ratio Far End (ACRF) was previously referred to as Equal Level Far End Crosstalk (ELFEXT).  
WHERE f = FREQUENCY IN MHz from 1 to 500 MHz.

**TABLE 3  
REFERENCE ELECTRICAL CHARACTERISTICS**

FREQ (MHz)	INSERTION LOSS (dB/100m)	PS NEXT (dB/100m)	PS ACR (dB/100m)	PS ACRF (dB/100m)	RETURN LOSS (dB)	PROP. DELAY (ns/100m)	ALIEN CROSSTALK	
							PS ANEXT (dB/100m)	PS AACRF (dB/100m)
	max	min	min	min	min	max	min	min
1.0	2.1	72.3	70.2	64.8	20.0	570.0	67.0	67.0
4.0	3.8	63.3	59.5	52.8	23.0	552.0	67.0	66.2
8.0	5.3	58.8	53.4	46.7	24.5	546.7	67.0	60.1
10.0	5.9	57.3	51.4	44.8	25.0	545.4	67.0	58.2
16.0	7.5	54.2	46.8	40.7	25.0	543.0	67.0	54.1
20.0	8.4	52.8	44.5	38.8	25.0	542.0	67.0	52.2
25.0	9.4	51.3	42.0	36.8	24.3	541.2	67.0	50.2
31.25	10.5	49.9	39.4	34.9	23.6	540.4	67.0	48.3
62.5	15.0	45.4	30.4	28.9	21.5	538.6	65.6	42.3
100.0	19.1	43.3	23.2	24.8	20.1	537.6	62.5	38.2
200.0	27.6	37.8	10.2	18.8	18.0	536.9	58.0	32.2
250.0	31.1	36.3	5.3	16.8	17.3	536.5	56.5	30.2
300.0	34.3	35.1	0.9	15.3	16.8	536.3	55.3	28.7
350.0	37.2	34.1	--	13.9	16.3	536.1	54.3	27.3
400.0	40.0	33.3	--	12.8	15.9	535.9	53.5	26.2
450.0	42.7	32.5	--	11.7	15.5	535.8	54.3	25.1
500.0	45.3	31.8	--	10.8	15.2	535.6	52.0	24.2

SWEEP TESTED TO 500 MHz.



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