

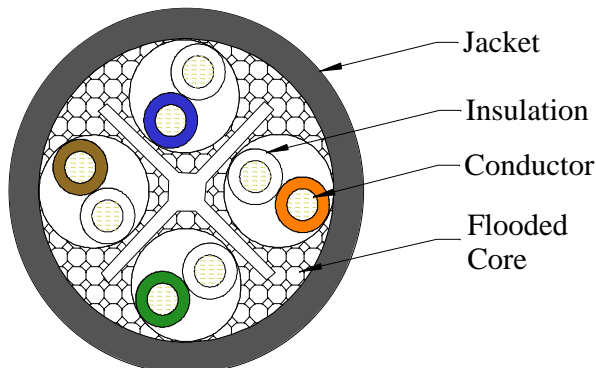
**SPECIFICATION**  
**4 PAIR #24 AWG LAN-Trak OSP**  
**CAT 6 OUTDOOR UTP**  
**(SUITABLE FOR DUCT & AERIAL LASHING)**

Design Number:  
**LT44169**

**DESCRIPTION**

UNSHIELDED TWISTED PAIR (UTP) CATEGORY 6 CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS E. THE CABLE MEETS ANSI/TIA-568-C.2 & ISO/IEC 11801:2002 CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #24 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR, FLOODED TO PREVENT MOISTURE INGRESS, UNDER AN OVERALL UV-RESISTANT JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL. SEE BELDEN.COM/P FOR ANY/ALL APPLICABLE PATENT DETAILS.

THE CABLE IS SUITABLE FOR OUTDOOR USE IN DUCT AND FOR AERIAL LASHING. 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 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), IEEE 802.3af POWER OVER ETHERNET FOR VoIP, 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 & 2.4 Gbps.

**TABLE 1**

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

**CONSTRUCTION**

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

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

**COLOR CODE:** SEE TABLE 1 (WHITE CONDS HAVE INTEGRAL STRIPE TO MATCH THEIR MATE)

**CABLE ASSEMBLY:** 4 PAIRS CABLED TOGETHER WITH A FLEXWEB CORE SEPARATOR

**JACKET:** MATERIAL: POLYETHYLENE  
 NOMINAL DIAMETER: .251 (6.38 mm)  
 COLOR: BLACK

**NOTE:** CABLE FLOODED FOR MOISTURE PROTECTION

**PHYSICAL CHARACTERISTICS**

**CABLE WEIGHT w/reel:** 30 lbs/1000ft (45 kg/km)

**BEND RADIUS:** 2.5" (64 mm) MIN (10 x CABLE OD)

**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.



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Rev	Description	Date	Init.
L	UPDATE FOOTER & STDS; ADD SWEEP TESTING	05/29/13	JS
M	UPDATE DESC, PATENT INFO, ELECS	06/26/14	JS
N	UPDATE DESC & ELECS	02/22/16	JS
O	UPDATE DESC WITH SQ FT MKS	06/24/16	JS
Date: 08/22/01		Page 1 of 2	
Orig:		Review:	
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**ELECTRICAL CHARACTERISTICS** (REF TABLE 2)

**STANDARDS:** MEETS ANSI/TIA-568-C.2 CAT 6,  
ICEA S-90-661-1997 CAT 6 &  
ISO/IEC 11801:2002 CAT 6  
HORIZONTAL CABLE

**CONDUCTOR DCR:** 9.38 Ω/100m (28.6 Ω/Mft) MAX

**DCR UNBALANCE:** 5% MAX

**MUTUAL CAPACITANCE:** 46 pF/m NOM

**CAPACITANCE UNBALANCE PAIR/GROUND:** 66 pF/100m MAX

**CHARACTERISTIC IMPEDANCE:** 100 Ω ± 15% (1-250 MHz)

**INPUT IMPEDANCE:** 100 Ω ± 15% (1-100 MHz)  
100 Ω ± 20% (>100-200 MHz)  
100 Ω ± 25% (>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:**  $1.808\sqrt{f} + .017f + \frac{.20}{\sqrt{f}}$  dB/100m MAX

**NEAR END CROSSTALK (NEXT):** 44.3 - 15 log<sub>10</sub>(f/100) dB/100m MIN

**POWER SUM NEAR END CROSSTALK (PS-NEXT):** 42.3 - 15 log<sub>10</sub>(f/100) dB/100m MIN

**EQUAL LEVEL FAR END CROSSTALK (ELFEXT):** 27.8 - 20 log<sub>10</sub>(f/100) dB/100m MIN

**POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT):** 24.8 - 20 log<sub>10</sub>(f/100) dB/100m MIN

**PROPAGATION DELAY:** 534 + 36 / √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 250 MHz.

**TABLE 2**

**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	1.7	1.8	82	76.0	74.2	77	74.0	72.2	-	-	-
1.0	1.9	2.0	80	74.3	72.3	75	72.3	70.3	67.8	64.8	20.0
4.0	3.6	3.8	71	65.3	61.5	66	63.3	59.5	55.8	52.8	23.0
8.0	5.1	5.3	67	60.8	55.5	62	58.8	53.5	49.7	46.7	24.5
10.0	5.7	6.0	65	59.3	53.3	60	57.3	51.3	47.8	44.8	25.0
16.0	7.3	7.6	62	56.2	48.6	57	54.2	46.6	43.7	40.7	25.0
20.0	8.1	8.5	61	54.8	46.3	56	52.8	44.3	41.8	38.8	25.0
25.0	9.1	9.5	59	53.3	43.8	54	51.3	41.8	39.8	36.8	24.3
31.25	10.2	10.7	58	51.9	41.2	53	49.9	39.2	37.9	34.9	23.6
62.5	14.8	15.4	53	47.4	32.0	48	45.4	30.0	31.9	28.9	21.5
100.0	19.0	19.8	50	44.3	24.5	45	42.3	22.5	27.8	24.8	20.1
155.0	24.2	25.2	47	41.4	16.3	42	39.4	14.3	24.0	21.0	18.8
200.0	27.8	29.0	46	39.8	10.8	41	37.8	8.8	21.8	18.8	18.0
250.0	31.5	32.8	44	38.3	5.5	39	36.3	3.5	19.8	16.8	17.3
300.0	35.0	36.4	43	37.1	0.7	38	35.1	--	18.3	15.3	16.8
350.0	38.2	39.8	42	36.1	--	37	34.1	--	16.9	13.9	16.3
400.0	41.3	43.0	41	35.3	--	36	33.3	--	15.8	12.8	15.9
500.0	47.0	48.9	40	33.8	--	35	31.8	--	13.8	10.8	15.2
550.0	49.7	51.8	39	33.2	--	34	31.2	--	13.0	10.0	14.9

SWEEP TESTED TO 550 MHz; VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.



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