SPECIFICATION

VersaLAN® INDOOR/OUTDOOR 4 PAIR #23 AWG UTP CAT 6 CMR/CMX

Design Number:

LT57978

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. VERSALAN CMR/CMX OUTDOOR CABLE IS DESIGNED FOR RESIDENTIAL INDOOR/OUTDOOR LAN APPLICATIONS. CATEGORY 6 COMPLIANCE ENSURES THIS CABLE WILL SUPPORT 1000BASE-T GIGABIT ETHERNET. THE CABLE EXCEEDS THE GRADE 2 REQUIREMENTS SPECIFIED IN THE ANSI/TIA/EIA-570-B; "RESIDENTIAL TELECOMMUNICATIONS STANDARD". CMR/CMX-OUTDOOR CABLE IS SPECIALLY DESIGNED TO RESIST CRACKING AFTER LONG-TERM UV EXPOSURE, MAKING IT IDEAL FOR INSTALLATION RUNS THAT REQUIRE THE CABLE TO BE EXPOSED TO THE ELEMENTS. WHILE THIS GEL-FREE CABLE CAN GET WET, IT IS NOT SUITABLE FOR EXTENDED EXPOSURE TO WATER. 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 CORE SEPARATOR AND A RIPCORD, UNDER AN OVERALL SUNLIGHT 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 RISER (NON-PLENUM) RATED FOR USE AS A VERTICAL RUN IN A SHAFT AND FOR GENERAL PURPOSE COMMUNICATIONS USE IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS ALSO RATED FOR OUTDOOR CMX LIMITED USE SUITABLE FOR USE IN DWELLINGS AND IN RACEWAYS. THE CABLE IS UL (USA) & CUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING UL 1666 VERTICAL TRAY & 1581 VERTICAL WIRE FLAME TESTS.

SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), 100BASE-TX, 100BASE-VG ANYLAN, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, ATM UP TO 2.4 Gbps AND 550 MHz BROADBAND VIDEO.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER

INSULATION: THERMOPLASTÍC POLYOLEFIN

PAIR ASSEMBLY:

2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1 (WHITE CONDS HAVE INTEGRAL

STRIPE TO MATCH THEIR MATE)

CABLE 4 PAIRS CABLED TOGETHER WITH A CORE

ASSEMBLY: SEPARATOR

JACKET: MATERIAL: UV-RESISTANT OUTDOOR GRADE PVC

NOMINAL WALL: .030" (.76 mm) NOMINAL DIAMETER: .249 (6.32 mm)

COLOR: BLACK

LISTINGS: UL TYPE CMR/CMX OUTDOOR; cUL CMG

UL OR ETL VERIFIED CAT 6

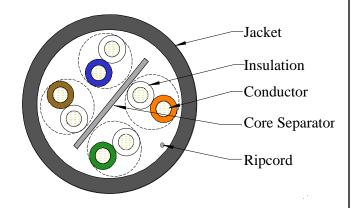


TABLE 1

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

PHYSICAL & ENVIRONMENTAL CHARACTERISTICS

CABLE WEIGHT w/reel: 32 lbs/1000ft (43 kg/km)

BEND RADIUS: 2.5" (64 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.: -20°C to +75°C (-4°F to +167°F)

*INSTALLATION TEMP.: -20°C to +75°C (-4°F to +167°F)

- * THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE *CABLE* WHILE BEING INSTALLED OR PULLED.
- CABLE HAS BEEN TESTED AND LISTED AS UL 444 SUNLIGHT RESISTANT COMPLIANT. THIS DESIGNATION REQUIRES THE CABLE TO RESIST 720 HOURS OF HARSH UV AND HEAT, AND IS MORE THAN TWICE THE EXPOSURE TIME OF THE STANDARD 300 HOURS REQUIRED.
- CABLE PASSES -40°C COLD BEND PER UL1581.
- CABLE PASSES IEEE 1202 FLAME TEST



MOHAVK Cabling Excellence for Open Architecture

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SPECIFICATION

VersaLAN® INDOOR/OUTDOOR 4 PAIR #23 AWG UTP CAT 6 CMR/CMX

Design Number:

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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

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 $\Omega/100$ m (28.6 Ω/M ft) MAX

DCR UNBALANCE: 5% MAX

MUTUAL

CAPACITANCE: 46 pF/m NOM

CAPACITANCE UNBALANCE

PAIR/GROUND: 66 pF/100m MAX

CHARACTERISTIC

IMPEDANCE: $100 \Omega \pm 15\% (1-250 \text{ MHz})$

INPUT 100 Ω ± 15% (1-100 MHz) **IMPEDANCE**: 100 Ω ± 20% (>100-200 MHz)

 $100 \Omega \pm 25\% (>200 \text{ MHz})$

RETURN LOSS (RL): $20 + 5 \log_{10}(f) \text{ dB MIN (1-10 MHz)}$

25 dB MIN (>10-20 MHz)

25 - $7 \log_{10}(\hat{f}/20)$ dB MIN (>20 MHz)

INSERTION LOSS: $1.808\sqrt{f} + .017f + \frac{.20}{\sqrt{f}} \text{ dB/100m MAX}$

NEAR END

CROSSTALK (NEXT): 44.3 - 15 $\log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END

CROSSTALK (PS-NEXT): 42.3 - 15 log₁₀(f/100) dB/100m MIN

EQUAL LEVEL FAR END

CROSSTALK (ELFEXT): 27.8 - 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END

CROSSTALK (PS-ELFEXT): 24.8 - 20 log₁₀(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): 68%

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

TABLE 3

REFERENCE ELECTRICAL CHARACTERISTICS

FREQ	INSERTIO	N LOSS	NE	XT	ACR	PS-N	EXT	PS-ACR	ELFEXT	PS-ELFEXT	RL
(MHz)	(dB/10	00m)	(dB/1	00m)	(dB/100m)	(dB/10	00m)	(dB/100m)	(dB/100m)	(dB/100m)	(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.

Orig:



M59200

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