

I. DESCRIPTION PLENUM:

4 PAIR UTP (UNSHIELDED TWISTED PAIR) CABLE, 23 AWG
SOLID BARE COPPER, FEP INSULATED SINGLES @ ROD FILLER,
RIPCORD, FLEXIBLE FLAMARREST(R) JACKET. JACKET IS
SEQUENTIALLY MARKED AT TWO FOOT INTERVALS.

II. APPLICATIONS:

SUPPORTS CURRENT SUCH AS 100 BASE TX, 100 BASE VG
ANYLAN, AND 155 ATM. IDEAL FOR USE IN EXISTING OR
FUTURE HIGH BANDWIDTH APPLICATIONS SUCH AS 622 ATM
AND GIGABIT ETHERNET.

III. PHYSICAL CHARACTERISTICS:

TEMPERATURE RANGE: -20 TO 75 C
INSULATION MATERIAL: FEP
JACKET AND FILLER MATERIAL: FLAMARREST
MAX. PULLING TENSION: 40 LBS.
MIN. CONDUCTOR OD: 0.023"
MIN. INSULATION OD: 0.038"
NOM. WEIGHT/1000 FT: 28.0 LBS.
MIN. BEND RADIUS: 0.5"
NOM. DIAMETER: 0.224"
APPLICABLE SPECIFICATIONS: ANSI/TIA/EIA-568-B.2 CAT 6
FLAME RATING AND TEST: UL TYPE CMP,
UL 910 STEINER TUNNEL
C(UL)TYPE CMP, CSA FT6

IV. COLOR CODE:

PAIR #1: WHITE/BLUE & BLUE
PAIR #2: WHITE/ORANGE & ORANGE
PAIR #3: WHITE/GREEN & GREEN
PAIR #4: WHITE/BROWN & BROWN

V. ELECTRICAL CHARACTERISTICS:

MAX. OPERATING VOLTAGE: 300 V RMS
NOM. CAPACITANCE @ 1 KHZ: 15 PF/FT.
NOM. VELOCITY OF PROPAGATION: 72%

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;DELAY ; DELAY ;CAPACITANCE;DCR ;DCR
;SKEW ; @ 100 MHZ ; UNBALANCE ;@ 20C ;UNBALANCE
;NS/100M ; NS/100M ; PF/100M ;OHMS/ ;(%)

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MAXIMUM; 45 ; 537 ; 330.0 ; 9.38 ; 5.0
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IMPORTANT NOTE: THE IMPEDANCE AND RL (RETURN LOSS) VALUES SPECIFIED BELOW ARE BASED ON SWEPT FREQUENCY CABLE INPUT MEASUREMENTS ONLY. CURVE FITTING OR SMOOTHING FUNCTIONS HAVE NOT BEEN UTILIZED TO IMPROVE THE VALUES. TIA/EIA 568-A TESTING ALLOWS FOR THE USE OF A CURVE FITTING FUNCTION TO REMOVE THE EFFECTS OF RANDOM STRUCTURAL VARIATIONS. RETURN LOSS VALUES ARE BASED ON A 100 OHM IMPEDANCE, WHICH IS THE IMPEDANCE OF MOST SYSTEMS, AND ARE NOT BASED ON THE FITTED IMPEDANCE. A RETURN LOSS REQUIREMENT IS MORE DIFFICULT TO MEET THAN AN SRL REQUIREMENT. RETURN LOSS REPRESENTS THE LOSSES FOR THE SYSTEM, WHEREAS SRL IS MERELY A CABLE SPECIFICATION. A FITTING FUNCTION WOULD IMPROVE THE REPORTED IMPEDANCE AND RL VALUES.

FREQ. (MHZ)	IMPEDANCE SPEC	MIN RL (DB)	MAX ATTEN (DB/100M)	MIN PSNEXT (DB)	MIN. PSELFEXT (DB/100M)
1.0	100+/-15%	20.0	2.0	72.3	64.8
4.0	100+/-15%	23.0	3.8	63.3	52.7
8.0	100+/-15%	24.5	5.4	58.8	46.7
10.0	100+/-15%	25.0	6.0	57.3	44.8
16.0	100+/-15%	25.0	7.6	54.3	40.7
20.0	100+/-15%	25.0	8.5	52.8	38.7
25.0	100+/-15%	24.3	9.6	51.3	36.8
31.25	100+/-15%	23.6	10.7	49.9	34.9
62.5	100+/-15%	21.5	15.5	45.4	28.8
100	100+/-15%	20.1	19.9	42.3	24.8
155	100+/-22%	18.8	25.3	39.5	20.9
200	100+/-32%	18.0	29.2	37.8	18.7
250	100+/-32%	17.3	33.0	36.3	-

THE DATA IN THE ABOVE TABLES REPRESENTS DISCRETE FREQUENCY POINTS. ALL TEST ARE SWEEP TESTED OUT TO 250 MHZ. THE EQUATIONS BELOW ARE USED TO CALCULATE THE LIMITS FOR EACH ATTRIBUTE SO THAT A MAXIMUM (OR MINIMUM) VALUE CAN BE CALCULATED AT ANY FREQUENCY IN THE RANGE.

ELECTRICAL PERFORMANCE EQUATIONS

INPUT IMPEDANCE: 1.0 - 100.0 MHZ 100 +/- 15 OHMS
100.0 - 200.0 MHZ 100 +/- 22 OHMS
200.0 - 250.0 MHZ 100 +/- 32 OHMS

MIN. RETURN LOSS: 1.0 - 10.0 MHZ 20+5*LOG(F)DB

10.0 - 20.0 MHZ 25 DB
20.0 - 250.0 MHZ 25-7*LOG(F/20) DB

MAX. ATTENUATION (DB/100 M): $1.808*\sqrt{F}+0.017F$
 $+0.2/\sqrt{F}$
MIN. PSNEXT (DB): $42.3-15*\log(F/100)$
MIN. NEXT (DB/100 M): $44.3-15*\log(F/100)$
MIN. ACR (DB/100 M): $44.3-15*\log(F/100)-$
 $(1.808*\sqrt{F}+0.017F+$
 $0.2/\sqrt{F})$
MIN. PSACR (DB/100 M): $42.3-15*\log(F/100)-$
 $(1.808*\sqrt{F}+0.017F+$
 $0.2/\sqrt{F})$
MIN. ELFEXT (DB/100 M): $27.8-20*\log(F/100)$
MIN. PSELFEXT (DB/100 M): $24.8-20*\log(F/100)$

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WHERE F IS THE FREQUENCY FROM 1 TO 250 MHZ.

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9001 CERTIFIED FACILITIES. BELDEN'S U.S. DOMESTIC
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