



PVCAT6BLU

SCOPE

This establishes the specifications for a four pair unshielded, 100 Ohm Category 6 data cable. The cable is particular suited for bi-directional transmission protocols including 622 ATM, gigabitethernet, and Wideband networking. It is also suitable for 100 Base TX, 100 Base VG and 155 ATM.

REFERENCE DOCUMENTS:

- NEC Article 800
- UL Subject 444, Type CMR
- TIA/EIA 568-A, Category 6 Draft 3, PCC, FT4

REQUIREMENTS

This document contains values for all important electrical and mechanical parameters, and as such is the basis for all incoming inspection and acceptance.

ELECTRICAL

- Mutual Capacitance 14pF/ft., nominal
- Capacitance unbalance 330pF/100m maximum @1KHz.
- Velocity of propagation 72% nominal
- Characteristic impedance: 100+/- 15% (Measured from 1MHz to 100 MHz)

Maximum attenuation per 100 meeters:

dB	MHz	dB	MHz
1.2	@ .150	8.5	@ 20.00
1.8	@ .772	9.6	@ 25.00
2.0	@ 1.00	10.7	@ 31.25
3.8	@ 4.00	15.5	@ 62.5
5.4	@ 8.00	19.9	@ 100.00
6.0	@ 10.00	29.2	@ 200.00
7.6	@ 16.00	33.0	@ 250.00



Minimum NEXT, per 100 meeters (worst pair-to-pair):

dB	MHz	dB	MHz
86.7 @	.150	59.3 @	10.00
76.0 @	.772	56.3 @	16.00
74.3 @	1.00	54.8 @	20.00
65.3 @	4.00	53.3 @	25.00
56.3 @	8.00	51.9 @	31.25
		47.4 @	62.5
		44.3 @	100.00
		39.8 @	200.00
		38.3 @	250.00

Minimum PS-NEXT, per 100 meeters:

dB	MHz	dB	MHz
84.7 @	.150	57.3 @	10.00
74.0 @	.772	54.3 @	16.00
72.3 @	1.00	52.8 @	20.00
63.3 @	4.00	51.3 @	25.00
58.8 @	8.00	49.9 @	31.25
		45.4 @	62.50
		42.3 @	100.00
		37.8 @	200.00
		36.3 @	250.00

Minimum ELFEXT, per 100 meters (worst pair-to-pair):

dB	MHz	MHz
70.0 @	.772	41.7 @ 20.00
67.8 @	1.00	39.8 @ 25.00
55.7 @	4.00	37.9 @ 31.25
49.7 @	8.00	31.8 @ 62.50
47.8 @	10.00	27.8 @ 100.00
43.7 @	16.0	21.7 @ 200.00
		19.8 @ 250.00

Minimum PS-ELFEXT, per 100 meters:

dB	MHz	dB	MHz
67.0 @	.772	38.7 @	20.00
64.8 @	1.00	36.8 @	25.00
52.7 @	4.00	34.9 @	31.25
46.7 @	8.00	28.8 @	62.50
44.8 @	10.00	24.8 @	100.00
40.7 @	16.0	18.7 @	200.00
		16.8 @	250.00



Minimum Return Loss:

dB	@	MHz		dB	@	MHz
19	@	1.00		23	@	20.00
21.4	@	4.00		22.3	@	25.00
22.6	@	8.00		21.6	@	31.25
23	@	10.00		19.5	@	62.50
23	@	16.0		18.1	@	100.00
				16.0	@	200.00

Conductor D.C.R. 28.6 ohms/mft maximum at 20c
 D.C.R. Unbalance: 5% maximum
 Propagation delay skew. 45ns/100m maximum

MECHANICAL

Conductor: 23AWG Solid bare copper
 Insulation material: Polyolefin
 Number of unshielded pairs: 4
 Color Code : Pair #1 White/Blue – Blue, Pair #2 White/Orange – Orange
 Pair #3 White/Green – Green , Pair #4 White/Brown – Brown
 (Pairs are twisted w/staggered left hand lays)
 Jacket Material PVC
 Jacket Thickness 0.022 in. nominal
 Jacket O.D. 0.250 in., nominal
 Temperature Ratings: Insulation 0c to 60c
 Operation –20c to 60c

- 1.) NEXT = Near End Cross Talk – measurement of noise between any two active pairs in a four pair cable.
- 2.) PS-NEXT = Power Sum Next is the measurement of noise between all pairs in a four pair cable.
- 3.) ELFEXT = Equal Level Far End Cross Talk - between any two active pairs in a four pair cable.
- 4.) PS-ELFEXT = Power Sum Next – between all pairs in a four pair cable.