



The tables below are derived from the information provided in the cable standard, TIA-EIA-568-B2.1. The purpose of these tables is to provide an easy to understand version of the transmission parameters for Category 3, 5e and 6 copper communications cables.

### Category 3 Transmission Performance Standards

Frequency-MHz	Insertion Loss-dB (solid cable)	NEXT-dB (worst pair to pair)
.772	2.2	43
1.0	2.6	41.3
4.0	5.6	32.3
8.0	8.5	27.8
10.0	9.7	26.3
16.0	13.1	23.2

Due to limited frequency range of Category 3, Category 3 cable is typically used as backbone cabling for voice applications.

### Category 5e Transmission Performance Standards

Frequency-MHz	Insertion Loss (dB) Solid Cable	NEXT (dB) (worst pair to pair)	PS NEXT (dB)	ELFEXT (dB)	PS ELFEXT (dB)	Return Loss (dB)
.772	1.8	67.0	64.0	-	-	-
1.0	2.0	65.3	62.3	63.8	60.8	20
4.0	4.1	56.3	53.3	51.8	48.8	23
8.0	5.8	51.8	48.8	45.7	42.7	24.5
10	6.5	50.3	47.3	43.8	40.8	25
16	8.2	47.2	44.2	39.7	36.7	25
20	9.3	45.8	42.8	37.8	34.8	25
25	10.4	44.3	41.3	35.8	32.8	24.2
31.25	11.7	42.9	39.9	33.9	30.9	23.3
62.5	17.0	38.4	35.4	27.9	24.9	20.7
100	22.00	35.3	32.3	23.8	20.8	19.0

Category 5e, ratified in 1999, replaced Category 5 as the standard for Ethernet cabling. With stricter specifications than Category 5, Category 5e has the capacity to handle bandwidth beyond that which Category 5 can handle. These higher requirements permit the cable to provide flawless 4-pair Ethernet.

### Category 6 Transmission Performance Standards

Frequency-MHz	Insertion Loss (dB) (Solid cable)	NEXT (dB) (Worst pair to pair)	Power Sum NEXT	ELFEXT (Worst pair to pair)	Power Sum ELFEXT	Return Loss (solid cable)	LCL
.772	1.8	76.0	74.0	70.0	67.0	-	-
1.0	2.0	74.3	72.3	67.8	64.8	20.0	40.0
4.0	3.8	65.3	63.3	55.8	52.8	23.0	40.0
8.0	5.3	60.8	58.8	49.7	46.7	24.5	40.0
10.0	6.0	59.3	57.3	47.8	44.8	25.0	40.0
16.0	7.6	56.2	54.2	43.7	40.7	25.0	38.0
20.0	8.5	54.8	52.8	41.8	38.8	25.0	37.0
25.0	9.5	53.3	51.3	39.8	36.8	24.3	36.0
31.25	10.7	57.9	49.9	37.9	34.9	23.6	35.1
62.5	15.4	47.4	45.4	31.9	28.9	21.5	32.0
100.0	19.8	44.3	42.3	27.8	24.8	20.1	30.0
200.0	29.0	39.8	37.8	21.8	18.8	18.0	27.0
250.0	32.8	38.3	36.3	19.8	16.8	17.3	26.0

The next level beyond Category 5e is Category 6. Ratified in June of 2002, Cat 6 provides yet another level of performance. Testing requirements, including Crosstalk, are more stringent than Category 5e.