


CATEGORY 6	UTP/4 PAIR	LANMARK-1000
	▶ Horizontal and Patch Cable	
	▶ Gigabit Capable	
	▶ Riser and Plenum Rated	
	▶ Limited Combustible Available	

LANmark-1000 is an ANSI/TIA/EIA Category 6 verified cable that is ideal for gigabit network applications. It introduces new electrical performance parameters which are needed for gigabit Ethernet network systems. These electrical characteristics include: PS-NEXT, PS-ACR, PS-ELFEXT, ELFEXT, RL and LCL/TCL/EL TCTL (balance).

LANmark-1000 was the first cable in the industry which set requirements for cable balance. Balance is the performance parameter which affects cable emissions. Cable balance is a property that helps protect the network from the damaging effects of outside noise sources such as alien crosstalk.

CONSTRUCTION

0.58 mm (23 AWG), bare copper wire insulated with polyethylene (non-plenum) or FEP (plenum). Two insulated conductors twisted together to form a pair and four such pairs cabled to form the basic unit jacketed with flame-retardant PVC.

STANDARDS

North American	ANSI/TIA/EIA-568-B.2-1 Category 6
International	ISO/IEC 11801-1995
European	EN 50173

FLAME RATING

Non-plenum—UL 1666, CMR, CMG, IEC 332-1
 Plenum—NFPA 262, CMP
 Patch—UL 1581, CM, IEC 332-1
 UL Listed

APPLICATIONS

LANmark-1000 UTP cable is intended for high speed data applications including:

IEEE 802.3 1000BASE-T, 100BASE-TX,
 10BASE-T
 155 Mb/s ATM
 ANSI X3.263 100 Mb/s
 1000BASE-TX (ANSI/TIA/EIA-854-2001)
 4/16 Mb/s Token Ring

FEATURES

- ▶ Full duplex operation over four cable pairs
- ▶ Full power sum performance
- ▶ Increased usable bandwidth up to 250 MHz
- ▶ Documented balance characteristics (LCL, LCTL)
- ▶ Small, round, easy to install construction
- ▶ ETL verified to ANSI/TIA/EIA-568-B.2-1 Category 6 standard gigabit

BENEFITS

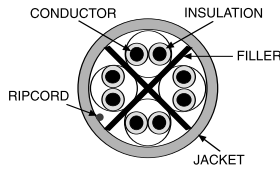
- ▶ Capable of handling next generation network applications which will utilize full duplex operation and/or simultaneous bidirectional transmission
- ▶ Power sum characterization gives highest performance using existing applications
- ▶ Provides additional bandwidth required for future applications
- ▶ Addition of balance requirements improves overall cable performance and reduces cable emissions which results in reduced transmission errors
- ▶ State-of-the-art testing allows high frequency characterization of the cable to 500 MHz



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TECHNICAL DATA—PHYSICAL

	CMR		CMP		CM (PATCH) *	
Conductor diameter—in. (mm)	.022	(0.56)	.022	(0.56)	.024	(0.61)
Cable diameter—in. (mm)	.224	(5.7)	.22	(5.6)	.215	(5.4)
Nominal cable weight—lb./kft. (kg/km)	27	(40)	28	(41.3)	23	(34)
Max. installation tension—lb. (N)	25	(110)	25	(110)	25	(110)
Min. bend radius—in. (mm)	1.0	(25.4)	1.0	(25.4)	1.0	(25.4)

* Patch cables utilize stranded tinned copper conductors.

PARAMETRIC MEASUREMENTS

	HORIZONTAL	PATCH
Mutual Capacitance	4.4 nF/100 m nom.	4.4 nF/100 m nom.
DC resistance	9.38 Ohms/100 m max.	9.09 Ohms/100 m max.
Skew	25 ns/100 m max.	25 ns/100 m max.
Pair to ground Unbalance	330 pF/100 m max.	330 pF/100 m max.
Velocity of Propagation	70% nom. Non-Plenum 72% nom. Plenum	70% nom.
Input Impedance	100 ± 13% 0.772-100 MHz 100 ± [13+15log (F/100)] 100-500 MHz	100 ± 13% 0.772-100 MHz 100 ± [13+15log (F/100)] 100-500 MHz

TEMPERATURE RATING

Installation	0°C to +50°C
Operation	-10°C to +60°C

COLOR CODE

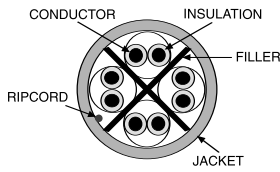
Pair 1	White/Blue	Blue
Pair 2	White/Orange	Orange
Pair 3	White/Green	Green
Pair 4	White/Brown	Brown

PART NUMBERS—LANMARK-1000 UTP

NO. PAIRS	PART NUMBER	JACKET	FLAME RATING	JACKET COLOR
4	10032452	PVC	CMR Riser	Gray
4	10032455	PVC	CMR Riser	Blue
4	10032459	PVC	CMR Riser	White
4	10032461	PVC	CMR Riser	Yellow
4	10032479	PVC	CMR Riser	Green
4	10032678	PVC	CM Patch (reel)	Gray
4	10032679	PVC	CM Patch (reel)	White
4	10032680	PVC	CM Patch (reel)	Blue
4	10032681	PVC	CM Patch (reel)	Yellow
4	10032693	PVC	CM Patch (reel)	Green
4	10032026	PVC Alloy	CMP Plenum	Gray
4	10032090	PVC Alloy	CMP Plenum	Yellow
4	10032092	PVC Alloy	CMP Plenum	White
4	10032094	PVC Alloy	CMP Plenum	Blue
4	10032097	PVC Alloy	CMP Plenum	Green

NOTE: Standard Lengths: 1,000 feet (305 meters.) Specifications subject to change without notice. Part numbers here are for Tek-Pak boxes—also available on reels and Reel-It reel-in-a-box. Other jacket colors available.

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TECHNICAL DATA—ELECTRICAL (Patch cable values appear in parentheses)

HORIZONTAL																	
FREQ	SRL (dB)			RL (dB)			INSERTION LOSS (Attenuation) (dB)			PS-NEXT (dB)			NEXT (dB)			ACR (dB)	
MHz	min.	typical	patch	min.	typical	patch	max.	typical	patch	min.	typical	patch	min.	typical	patch	min.	typical
1	26.0	40.0	(26.0)	20.0	33.7	(20.0)	2.0	1.7	(2.4)	73.3	81	(73.3)	75.3	84	(75.3)	73.3	82
4	26.0	42.0	(26.0)	23.6	35.4	(23.6)	3.8	3.5	(4.6)	64.3	72	(64.3)	66.3	75	(66.3)	62.5	71
10	26.0	40.0	(26.0)	26.0	30.1	(26.0)	5.9	5.7	(7.1)	58.3	66	(58.3)	60.3	69	(60.3)	54.4	63
16	26.0	41.0	(26.0)	26.0	31.9	(26.0)	7.5	7.3	(9.0)	55.3	63	(55.3)	57.3	66	(57.3)	49.8	59
20	26.0	43.0	(26.0)	26.0	33.3	(26.0)	8.4	8.2	(10.1)	53.8	62	(53.8)	55.8	65	(55.8)	47.4	57
31.25	25.0	41.6	(25.0)	25.0	31.6	(25.0)	10.6	10.3	(12.7)	50.9	59	(50.9)	52.9	62	(52.9)	42.3	52
62.5	23.5	40.5	(23.5)	23.5	31.9	(23.5)	15.3	14.9	(18.4)	46.4	54	(46.4)	48.4	57	(48.8)	33.1	42
100	22.5	37.1	(22.5)	22.5	31.1	(22.5)	19.7	19.1	(23.6)	43.3	51	(43.3)	45.3	54	(45.3)	25.3	35
155	21.6	33.8	(21.6)	21.6	28.8	(21.6)	25.0	24.3	(30.0)	40.4	48	(40.4)	42.4	51	(42.4)	17.0	27
200	21.0	33.0	(21.0)	21.0	28.0	(21.0)	28.8	28.0	(34.6)	38.8	47	(38.8)	40.8	50	(40.8)	12.2	22
250	20.5	17.3	(20.5)	20.5	27.2	(20.5)	32.6	31.7	(39.1)	37.3	45	(37.3)	39.3	48	(39.3)	6.2	16
350	19.8	28.3	(19.8)	19.8	26.2	(19.8)	39.5	38.4	(47.4)	35.2	43	(35.2)	37.2	46	(37.2)	—	—
500	19.0	25.2	(19.0)	19.0	23.2	(19.0)	48.6	47.2	(58.3)	32.8	41	(32.8)	34.8	44	(34.8)	—	—

IMPORTANT: performance guarantees are based on swept-frequency testing and apply to all frequencies for the entire specified frequency range and are not limited to the tables of data shown which are presented to demonstrate our guarantees at "representative" frequencies.

TECHNICAL DATA—ELECTRICAL (Patch cable values appear in parentheses)

HORIZONTAL															
FREQ	PS-ACR (dB)		ELFEXT (dB)			PS-ELFEXT (dB)			LCL/TCL (dB)			EL TCTL (dB)			
MHz	min.	typical	min.	typical	patch	min.	typical	patch	min.	typical	patch	min.	typical	patch	
1	71.3	79	68.8	83	(68.8)	65.8	80	(65.8)	50.0	55	(50.0)	35.0	40	(35.0)	
4	60.5	68	56.7	71	(56.7)	53.7	68	(53.7)	43.0	48	(43.0)	22.0	27	(22.0)	
10	52.4	60	48.8	63	(48.8)	45.8	60	(45.8)	40.0	45	(40.0)	15.0	20	(15.0)	
16	47.7	56	44.7	59	(44.7)	41.7	56	(41.7)	37.0	42	(37.0)	10.9	15	(10.9)	
20	45.4	54	42.7	57	(42.7)	39.7	54	(39.7)	36.0	41	(36.0)	9.0	13	(9.0)	
31.25	40.3	49	38.9	53	(38.9)	35.9	50	(35.9)	35.1	40	(35.1)	5.1	11	(5.1)	
62.5	31.1	39	32.8	47	(32.8)	29.8	44	(29.8)	32.0	37	(32.0)	—	—	(—)	
100	23.6	32	28.8	43	(28.8)	25.8	40	(25.8)	30.0	35	(30.0)	—	—	(—)	
155	15.5	24	24.9	39	(24.9)	21.9	36	(21.9)	28.0	33	(28.0)	—	—	(—)	
200	10.0	19	22.7	37	(22.7)	19.7	34	(19.7)	27.0	31	(27.0)	—	—	(—)	
250	4.7	13	20.8	35	(20.8)	17.8	32	(17.8)	26.0	30	(26.0)	—	—	(—)	
350	—	—	17.9	32	(17.9)	14.9	29	(14.9)	—	—	(—)	—	—	(—)	
500	—	—	14.8	29	(17.9)	11.8	26	(11.8)	—	—	(—)	—	—	(—)	

