



MULTILAN CAT.5e INDUSTRIAL F/UTP OUTDOOR CMX

Description	4 pairs twisted cable, using solid bare copper, insulated with an appropriated thermoplastic external jacket, using a flame retardant and UV resitant material.
Application	1. Exceeds physical and electrical requirements of ANSI/TIA-568-C.2 2. Cable according with RoHS directive (Restriction of Hazardous Substances) 3. Can be used with all of the following protocols. a) GIGABIT ETHERNET, IEEE 802.3z, 1000 Mbps; b) 100BASE-TX, IEEE 802.3u, 100 Mbps; c) 100BASE-T4, IEEE 802.3u, 100 Mbps; d) 100vg-AnyLAN, IEEE802.12, 100 Mbps; e) ATM -155 (UTP), AF-PHY-0015.000 y AF-PHY-0018.000, 155/51/25 Mbps; f) TP-PMD, ANSI X3T9.5, 100 Mbps; g) 10BASE-T, IEEE802.3, 10 Mbps; h) TOKEN RING, IEEE802.5, 4/16 Mbps; i) 3X-AS400, IBM, 10 Mbps; j) POWER OVER ETHERNET, IEEE 802.3af
Installation Environment	Indoor - Outdoor
Operation Environment	Aerial spinning or external installations that do not strain the cable.
Constructive Characteristic	
Conductor	Solid bare copper with nominal diameter 24AWG.
Insulation	High density Polyethylene nominal diameter 1.1 mm
Pair	All pairs are twisted in such way to reduce Crosstalk effects. Each conductor is identified according with the following color sequence.
Number of Pairs	4 pairs 24 AWG
Cabling	All four pairs are cabled together in such way to reduce electromagnetic interferences making the cable lay-up.
Construction	Category 5e F/UTP (shielded) PVC - UV Resistant

Color code	Pair	Conductor "A"	Conductor "B"
	1	White	Blue
	2	White	Orange
	3	White	Green
	4	White	Brown
Shield	Over the cable core is used an aluminum foil tape		
Ripcord	A ripcord is added to easy the removal of the sheath.		
Sheath	Outer Jacket: Flame retardant material, UV resistant in black color, according UL 444 "CMX OUTDOOR"		
Color	Black		
Cable Flammability Rating	CMX OUTDOOR UL 444 - CMX UL 1581 VW-1 or NBR 14705		
Nominal Diameter (mm)	6.9mm		
Operation Temperature (°C)	-20°C up to 60°C		
Storage Temperature (°C)	-20°C up to 70°C		
Installation Temperature (°C)	0 °C up to 50 °C		
Insulation Resistance (MΩ)	10000 MΩ.km		
Maximum Unbalance Resistance	5%		
Conductor Max. DC Resistance @ 20 °C	93.8 Ω/km		
Maximum Mutual Capacitance @ 1 kHz	56 pF/m		
Max. Unbalance Capacitance Pair x Ground @ 1 kHz	3.3 pF/m		
Dieletric strength	Between conductors	Between each conductor and shield	
	2500 VDC/3s	2500 VDC/2s	
	100±15% Ω		

**Characteristic
Impedance**

Maximum Propagation Delay 545ns/100m @ 10MHz

Maximum Delay Skew 45 ns/100m

NVP (%) 68%

**Transmission
Performance**

Freq. (MHz)	IL (dB/100m)		NEXT (dB)		PSNEXT (dB)		ACR (dB)	
	TIA Max.	TYPICAL	TIA Min.	TYPICAL	TIA Min.	TYPICAL	TIA Min.	TYPICAL
1	2,0	1,7	65,3	83,1	62,3	76,8	63,3	75,3
4	4,1	3,6	56,3	74,8	53,3	67,8	52,2	64,4
8	5,8	5,1	51,8	70,0	48,8	63,4	46,0	57,9
10	6,5	5,7	50,3	68,6	47,3	61,7	43,8	55,7
16	8,2	7,3	47,3	63,4	44,3	57,4	39,0	50,8
20	9,3	8,3	45,8	63,7	42,8	57,6	36,5	49,9
25	10,4	9,3	44,3	61,0	41,3	54,3	33,9	44,5
31,25	11,7	11,1	42,9	60,7	39,9	53,7	31,2	43,6
62,5	17,0	15,0	38,4	55,4	35,4	49,3	21,4	34,7
100	22,0	19,3	35,3	51,9	32,3	45,2	13,3	25,8

Freq. (MHz)	PSACR (dB)		ACRF (dB)		PSACRF (dB)		RL (dB)	
	TIA Min.	TYPICAL	TIA Min.	TYPICAL	TIA Min.	TYPICAL	TIA Min.	TYPICAL
1	60,3	75,1	63,8	84,8	60,8	76,5	20,0	35,7
4	49,2	64,3	51,7	74,2	48,7	65,3	23,1	39,1
8	43,0	58,3	45,7	68,1	42,7	59,2	24,5	36,3
10	40,8	56,0	43,8	66,5	40,8	57,4	25,0	35,1
16	36,0	50,1	39,7	61,4	36,7	53,2	25,0	36,0
20	33,5	49,4	37,7	59,7	34,7	51,3	25,0	37,5
25	30,9	45,1	35,8	56,8	32,8	48,9	24,3	37,7
31,25	28,8	42,9	33,9	53,3	30,9	45,6	23,6	34,8
62,5	18,4	34,4	27,8	47,9	24,8	40,2	21,5	34,1
100	13,3	26,1	23,8	43,3	20,8	35,7	20,1	32,3

Cable measurements are made at 20°C in 100 meters cables, pulled out of their packages and released on a non-conductive surface as described in ANSI/TIA-568-C.2.

Standard ANSI/TIA-568-C.2 Category 5e, ISO/IEC 11801, UL 444 y UL 1581 VW-1

Certifications Anatel 02046-07-00256

Warranty 12 months

Marking **FURUKAWA MULTILAN F/UTP 24AWGX4P NBR 14703 ANATEL XXXXX-XX-XXXXX CMX
OUTDOOR 75°C TIA-568-C.2 CAT.5E YAAMMDDHHmm {1}**

Where:

XXXXX-XX-XXXXX - Anatel certification number.

{1} - Sequential length marking

Traceability

Y- Process line

AAMMDDHHmm: AA-Year, MM-month, DD - Day, HH - Time, mm - minute

Cable Weight 45 kg/km

Package

Package	Reel in a Box or Wooden Reel
Length	1500 m or 305 m

Observations The cable development for external use solves the problems regarding the environment where they are installed, however, is very important the electrical protection system installed against lightning, surges and outbrakes, compatible with the cable category installed.

[Part Numbers](#)