



CABLE GIGALAN AUGMENTED CAT. 6A F/UTP 23AWGX4P CMR



Construction	RoHS Compliant	
	Category 6A	
	F/UTP	
	PVC - CMR	
Description	4 pairs twisted cable, circular format, using solid bare copper, 23 AWG, insulated with a special compound. External jacket using a PVC flame retardant material.	
Installation Environment	Internal	
Operation Environment	Non heavy	
Compatibility	FCS products	
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) 10GIGABIT ETHERNET, IEEE 802.3an, 10 Gbps; b) GIGABIT ETHERNET, IEEE 802.3z, 1000 Mbps; c) 100BASE-TX, IEEE 802.3u, 100 Mbps; d) 100BASE-T4, IEEE 802.3u, 100 Mbps; e) 100vg-AnyLAN, IEEE802.12, 100 Mbps; f) ATM -155 (UTP), AF-PHY-0015.000 y AF-PHY-0018.000, 155/51/25 Mbps; g) TP-PMD, ANSI X3T9.5, 100 Mbps; h) 10BASE-T, IEEE802.3, 10 Mbps; i) TOKEN RING, IEEE802.5, 4/16 Mbps; j) 3X-AS400, IBM, 10 Mbps; k) Support POE+ (in accordance with IEEE 802.3at e TSB-184) 4. Solutions: Data Center, Commercial Building, Government, Financial, Health, Education.	
Standard	ANSI/TIA-568-C.2, ISO/IEC 11801, IEC 61156-5, NBR 14705, UL1666 (CMR)	
Certifications	UL Listed	E160837
	ETL Verified	3130563CRT-003
	ETL 4 connections	101795378CRT-001a
	ANATEL	01561-10-00256 (CMR)
	LP (Limited Power)	UL CMR-LP (0.5A)
	HDBaseT	UL (PoH) E497131

Constructive Characteristic

Conductor Solid bare copper with nominal diameter 23AWG.

Insulation High density Polyethylene. Nominal diameter 1.0mm

Number of Pairs 4 pairs, 23AWG

Pair All pairs are twisted in such way to reduce Crosstalk effects. Each conductor is identified according with the following color sequence.

Color code	Pair	Conductor "A"	Conductor "B"
	1	White	Blue
	2	White	Orange
	3	White	Green
	4	White	Brown

The color pattern above references the ANSI/TIA-568-C.2 item 5.3.3, which presents two configuration options possible, the Furukawa in this specification illustrates only one.

Cabling All pairs are assembled, making the core cable. Will be used a central member (Cross web) made of a thermoplastic material to separate all 4 pairs.

Ripcord A ripcord is added to easy the removal of the sheath.

Shield Over the cable core is used an aluminum foil tape

Drain Wire 26 AWG wire in contact with the foil.

Nominal Diameter (mm) 7,5 mm

Color Blue, Grey, Yellow, Light Brown, White, Orange, Brown, Black, Red, Green.

Cable Weight 58 kg/km

Cable Flammability Rating CMR: standard UL 1666 (Riser)

Installation Temperature (°C) 0 °C up to 50 °C

Storage Temperature (°C) -20°C up to 70°C

Operation Temperature (°C) -20°C up to 60°C

Insulation Resistance 10000 MΩ.km
(MΩ)

Maximum Unbalance 4%
Resistance

Conductor Max. DC 93,8 Ω/km
Resistance @ 20 °C

Maximum Mutual 56 pF/m
Capacitance @ 1 kHz

Max. Unbalance 3,3 pF/m
Capacitance Pair x
Ground @ 1 kHz

Dielectric strength

Between conductors	Between each conductor and shield
2500 VDC/3s	2500 VDC/2s

Characteristic 100±15% Ω
Impedance

Maximum Propagation 545ns/100m
Delay

Maximum Delay Skew 45ns/100m

NVP (%) 68%

Transmission
Performance

Freq. (MHz)	IL (dB/100m)		NEXT (dB)		PSNEXT (dB)		ACRF (dB)	
	TIA/EIA Max.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical
1	2.1	1.6	74.3	104.6	72.3	91.4	67.8	100.8
4	3.8	3.2	65.3	93.8	63.3	80.2	55.8	95.6
8	5.3	4.8	60.8	91.3	58.8	78,0	49.7	89.4
10	5.9	5.3	59.3	95.6	57.3	73.8	47.8	87.4
16	7.5	6.7	56.2	79.9	54.2	72.6	43.7	80.8
20	8.4	7.7	54.8	82.1	52.8	71.8	41.8	77.9
25	9.4	8.7	53.3	85.9	51.3	72.8	39.8	76.6
31.25	10.5	9.6	51.9	75.3	49.9	69.4	37.9	74.6
62.5	15,0	13.8	47.4	68.6	45.4	60.8	31.9	64,0
100	19.1	17.6	44.3	66.5	42.3	61	27.8	60.3
200	27.6	25.2	39.8	63.3	37.8	56.2	21.8	57.5

250	31.1	28.4	38.3	59.5	36.3	53.8	19.8	50.5
300	34.3	31.1	37.1	59.2	35.1	51.9	18.3	49.8
400	40.1	36.3	35.3	57.6	33.3	49.6	15.8	49.7
500	45.3	40.7	33.8	54.4	31.8	48.6	13.8	43.2
550	-	41.0	-	42.2	-	40.2	-	36.3
600	-	42.5	-	34.0	-	33.2	-	35.5
700	-	46.3	-	32.0	-	30.0	-	31.6

Freq. (MHz)	PSACRF (dB)		RL (dB)		PSANEXT (dB)		PSAACRF (dB)	
	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical
1	64.8	93.8	20.0	35.4	67.0	90.0	67.0	88.0
4	52.8	88.4	23.0	37.2	67.0	90.8	66.2	87.3
8	46.7	81.8	24.5	42.3	67.0	92.8	60.1	87.0
10	44.8	77.7	25.0	36.9	67.0	92.4	58.2	87.1
16	40.7	71.3	25.0	40.5	67.0	91.9	54.1	84.7
20	38.8	69.6	25.0	39.9	67.0	85.3	52.2	79.3
25	36.8	67.4	24.3	38.2	67.0	86.5	50.2	77.8
31.25	34.9	65.8	23.6	39.5	67.0	86.2	48.3	76.9
62.5	28.8	58.4	21.5	31.3	65.6	85.6	42.3	72.3
100	24.8	53.7	20.1	31.2	62.5	86.6	38.2	68.9
200	18.8	50.8	18.0	30.2	58.0	83.6	32.2	60.5
250	16.8	44.8	17.3	26.2	56.5	83.9	30.2	56.9
300	15.3	44.2	16.8	29.5	55.3	81.8	28.7	52.8
400	12.8	42.3	15.9	26.5	53.5	79.7	26.2	46.8
500	10.8	35.4	15.2	21.8	52	76.7	24.2	38.6
550	-	34.6	-	20.4	-	74.0	-	33.0
600	-	34.0	-	17.4	-	72.9	-	30.8
700	-	30.1	-	15.6	-	70.9	-	26.9

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.

Alien Crosstalk measurement made at 20 °C in seven 100 meters samples (Six around one configuration) according to ANSI/TIA-568-C.2.

Marking

FURUKAWA GIGALAN AUGMENTED CAT 6A F/UTP 23AWGX4P ROHS -- ANATEL 01561-10-00256 -- CMR-LP (0.5A) 75°C (UL) PoH – ETL VERIFIED TO TIA-568-C.2 CAT 6A --- YAAMMDDHHmm {1}m {1} - Decreasing sequential marking in meters from 305m to 000m

Trazabilidad

Y: Manufacturing process

AAMMDDHHmm: AA - year; MM - Month; DD - Day; HH - Hour; mm - minute.

Package

Package Type	Wood reel
Standard Length	1000 meters / 305 meters
Dimension	65/30 or 29/15

[Part Numbers](#)