



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

Product Type LAN Cable

Product Family GigaLan Augmented

Construction RoHS Compliant

Category 6A

F/UTP

PVC - CM, CMR

General Characteristics

Features 4 pairs twisted cable, 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

Applications

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.

Standards Compliance ANSI/TIA-568-C.2, ISO/IEC 11801, IEC 61156-5, NBR 14705, UL1666 (CMR) and UL1685 (CM).

Certifications

ETL Listed	3132753
ETL Verified	3130563CRT-003
ETL 4 connections	101795378CRT-001a
ANATEL	1337-013-0256 (CM)
	1561-10-0256 (CMR)
Product code	2337XXXX XXXX=serial number

Constructive characteristic

Conductor Solid bare copper with nominal diameter 23AWG.

Insulation High density Polyethylene. Nominal diameter 1.0mm

Insulation Resistance 10000 MΩ.km

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 Codes

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

Nominal Diameter 7.5 mm

Drain Wire 26 AWG wire in contact with the foil.

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

Cable Weight 58 kg/km

Physical Characteristics

Cable Flammability Rating CM: standard UL 1581-Vertical tray Section 1160 (UL1685)
CMR: standard UL 1666 (Riser)

Installation Temperature 0°C up to 50°C

Storage Temperature -20°C up to 70°C

Operation Temperature -20°C up to 60°C

Electrical Characteristics

Maximum Unbalance Resistance 4%

Conductor Max. DC Resistance at 20°C 93.8 Ω/km

Maximum Mutual Capacitance 1kHz 56 pF/m

Max. Unbalance Capacitance Pair x Ground 3.3 pF/m

Characteristic Impedance 100±15% Ω

Maximum Propagation Delay 545ns/100m

Maximum Delay Skew 45ns/100m

Dielectric strength	Between two pairs	Between a pair and shield
	1000 VDC/3s	500 VDC/3s

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	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	13.8	47.4	68.6	45.4	60.8	31.9	64
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	-	42.2	-	40.2	-	35.3

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	35.4	67	90	67	88
4	52.8	88.4	23	37.2	67	90.8	66.2	87.3
8	46.7	81.8	24.5	42.3	67	92.8	60.1	87
10	44.8	77.7	25	36.9	67	92.4	58.2	87.1
16	40.7	71.3	25	40.5	67	91.9	54.1	84.7
20	38.8	69.6	25	39.9	67	85.3	52.2	79.3
25	36.8	67.4	24.3	38.2	67	86.5	50.2	77.8
31.25	34.9	65.8	23.6	39.5	67	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	30.2	58	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	-	33.9	-	20.4	-	74	-	33

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

Marking for CM:

**FURUKAWA GIGALAN AUGMENTED CAT 6A F/UTP 23AWGX4P - CM - ANATEL
1337-13-0256 ETL VERIFIED TO TIA-568-C.2 CATEGORY 6A --- AAMMDHm {1}M**

Gravação CMR

**FURUKAWA GIGALAN AUGMENTED CAT 6A F/UTP 23AWGX4P - CMR - ANATEL
1561-10-0256 ETL VERIFIED TO TIA-568-C.2 CATEGORY 6A --- AAMMDHm {1}M**

Where:

{1} - Decreasing sequential marking in meters from 305m to 000m

AAMMDHm: 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
