



FURUKAWA NETWORKING CABLES



FURUKAWA

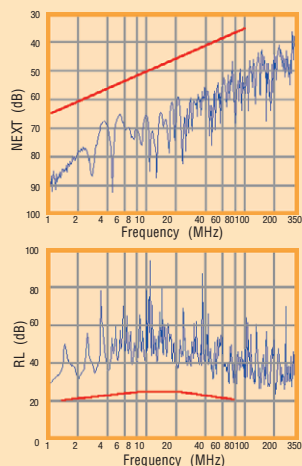
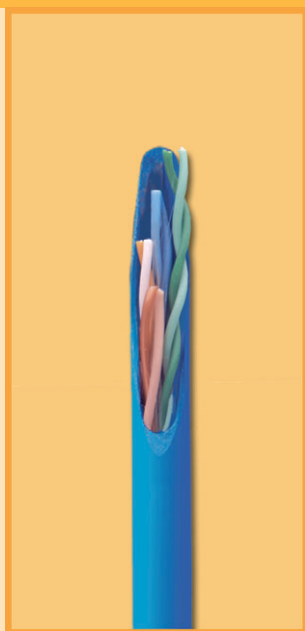
ETL VERIFIED TIA/EIA 568B CATEGORY 5e --- 2001

FURUKAWA BRAZIL IS ONE OF THE LARGEST MANUFACTURERS OF OPTICAL AND METALLIC CABLES IN BRAZIL AND HOLDS A 70% SHARE OF THE BRAZILIAN LAN CABLE MARKET.

Established 29 years ago, Furukawa Brazil is at the forefront of supplying products and solutions with advanced technology and innovation for the Telecommunications, Data Communications sectors and broadband systems for the globalized economy. Furukawa in Brazil is a joint venture between Furukawa Electric Co. Ltd and Mitsui & Co. Ltd.

Furukawa Electric Co. Ltd. is the second largest fiber optic manufacturer in the world dealing in the communication sector and Mitsui, one of the largest trading companies in the world, is a Japanese company with its US subsidiary headquartered in New York and branch offices throughout the country.

Furukawa's international certification includes: TL 9000, ISO 9001:2000, ISO 14001 issued by UL (Underwriters Laboratory) and UL & ETL certification for structured cabling products.



MULTI-LAN - CATEGORY 5e UTP

APPLICATION

- Structured Cabling Systems for voice, data and video traffic in compliance with ANSI/TIA/EIA-568B.2 standard requirements, (Category 5e) for horizontal or secondary cabling between distribution frames (Patch Panels), as well as work area connectors.

PART NUMBER

Part Number	Flame Rating	Jacket Color	Packaging
23200007	CM	Blue*	Box
23450001	CMR	Blue*	Box

*Others colors available upon enquiry.

PHYSICAL DATA

Pair Count	Nominal Conductor Diameter	Nominal Outside Diameter		Cable Weight		Length	
	AWG	mm	inch	kg/305m	Lbs/1000ft	m	ft
4	24	5.2	0.205	9	19.8	305	1,000

ELECTRICAL CHARACTERISTICS

Characteristics	Unit	Value
Maximum DC Conductor Electric Resistance at 20°C	Ω/km	93.8
Maximum Mutual Capacitance at 20°C	pF/m	56
Nominal Characteristic Impedance	Ω	100 ± 15%
Delay Skew – Typical	ns/100m	15
Nominal Velocity of Propagation	%	68
Dielectric Strength	V _{DC} /3s	1500
Maximum Propagation Delay at 10 MHz	ns/100m	545

MAIN ELECTRICAL CHARACTERISTICS ON HIGH-SPEED TRANSMISSIONS

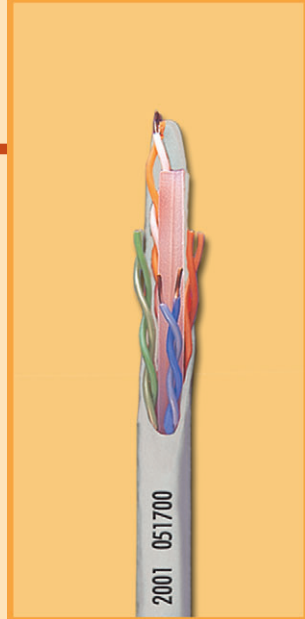
Frequency (MHz)	Attenuation (dB/100m)	NEXT Worst Pair (dB)		PS NEXT (dB)		ACR (dB)		PS ACR (dB)		ELFEXT Worst Pair (dB)		PS ELFEXT (dB)		RL (dB)
	Typical	Minimum	Typical	Minimum	Typical	*	Typical	**	Typical	Minimum	Typical	Minimum	Typical	Minimum
1	1.8	65.3	79.0	62.3	75.0	63.3	77.0	60.3	73.0	63.8	74.0	60.8	71.0	20.0
4	3.6	56.3	70.0	53.3	66.0	52.2	66.0	49.2	62.0	51.7	62.0	48.7	60.0	23.1
8	5.1	51.8	62.0	48.8	58.0	46.0	57.0	43.0	53.0	45.7	55.0	42.7	54.0	24.5
10	5.7	50.3	61.0	47.3	57.0	43.8	54.0	40.8	51.0	43.8	49.0	40.8	48.0	25.0
16	7.3	47.3	59.0	44.3	55.0	39.0	52.0	36.0	48.0	39.7	47.0	36.7	46.0	25.0
20	8.2	45.8	57.0	42.8	53.0	36.5	49.0	33.5	45.0	37.7	45.0	34.7	44.0	25.0
25	9.3	44.3	55.0	41.3	51.0	33.9	46.0	30.9	42.0	35.8	43.0	32.8	41.0	24.3
31.25	10.4	42.9	54.0	39.9	50.0	31.2	43.0	28.2	40.0	33.9	41.0	30.9	40.0	23.6
62.5	15.0	38.4	52.0	35.4	48.0	21.4	37.0	18.4	33.0	27.8	39.0	24.8	36.0	21.5
100	19.2	35.3	48.0	32.3	44.0	13.3	29.0	10.3	25.0	23.8	36.0	20.8	31.0	20.1
155	23.7	32.5	46.0	29.5	42.0	4.4	22.0	1.4	18.0	19.9	33.0	16.9	27.0	18.8
200	27.5	30.8	43.0	27.8	39.0	-	15.0	-	12.0	17.7	30.0	14.7	25.0	18.0
250	31.1	29.3	40.0	26.3	36.0	-	9.0	-	5.0	15.8	28.0	12.8	23.0	17.3
350	37.4	27.2	37.0	24.2	33.0	-	-	-	-	12.9	24.0	9.9	20.0	16.3

Values not specified in the ANSI/TIA/EIA-568B.2 standard:

* ACR (dB) = NEXT (minimum) - Attenuation (maximum) in 100m

** PS ACR (dB) = PS NEXT (minimum) - Attenuation (maximum) in 100m

FURUKAWA – BUILDING THE NE



FAST-LAN 6 - CATEGORY 6 UTP

APPLICATION

- Structured Cabling Systems for voice, data and video traffic in compliance with ANSI/TIA/EIA-568B.2-1 standard requirements, for horizontal or secondary cabling between distribution frames (Patch Panels), as well as work area connectors on systems requiring a large safety margin over normalized specifications as a support guarantee for future applications.

PART NUMBER

Part Number	Flame Rating	Jacket Color	Packaging
23400001	CM	Gray*	Box

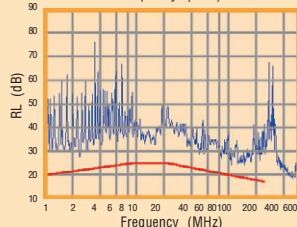
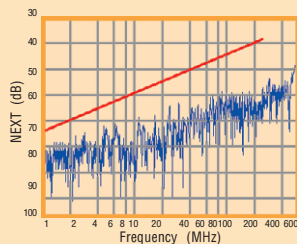
*Others colors available upon enquiry.

PHYSICAL DATA

Pair Count	Nominal Conductor Diameter	Nominal Outside Diameter		Cable Weight		Length	
	AWG	mm	inch	kg/305m	Lbs/1000ft	m	ft
4	23	6.5	0.255	14	30.8	305	1,000

ELECTRICAL CHARACTERISTICS

Characteristics	Unit	Value
Maximum DC Conductor Electric Resistance at 20°C	Ω/km	93.8
Maximum Mutual Capacitance at 20°C	pF/m	56
Nominal Characteristic Impedance	Ω	100±15%
Dielectric Strength	V ₀ /3s	1500
Maximum Propagation Delay at 10 MHz	ns/100m	545
Delay Skew – Worst Case	ns/100m	20
Nominal Velocity of Propagation	%	68



MAIN ELECTRICAL CHARACTERISTICS ON HIGH-SPEED TRANSMISSIONS

Frequency (MHz)	Attenuation (dB/100m)		NEXT Worst Pair (dB)		PS NEXT (dB)		ACR (dB)		PS ACR (dB)		ELFEXT Worst Pair (dB)		PS ELFEXT (dB)		RL (dB)	
	Maximum	Typical	Minimum	Typical	Minimum	Typical	*	Typical	**	Typical	Minimum	Typical	Minimum	Typical	Minimum	Typical
1	2.0	1.7	74.3	97.0	72.3	95.0	72.3	95.3	70.3	93.3	67.8	103.1	64.8	100.1	20.0	32.0
4	3.8	3.0	65.3	86.9	63.3	84.9	61.5	83.9	59.5	81.9	55.8	89.2	52.8	86.2	23.0	32.0
8	5.3	4.7	60.8	83.1	58.8	81.1	55.5	78.4	53.5	76.4	49.7	83.6	46.7	80.6	24.5	31.0
10	6.0	5.3	59.3	81.5	57.3	79.5	53.3	76.2	51.3	74.2	47.8	80.0	44.8	77.0	25.0	35.0
16	7.6	6.9	56.2	77.9	54.2	75.9	48.6	71.0	46.6	69.0	43.7	78.1	40.7	75.1	25.0	35.0
20	8.5	7.0	54.8	76.6	52.8	74.6	46.3	69.6	44.3	67.6	41.8	73.3	38.8	70.3	25.0	35.0
25	9.5	7.0	53.3	76.4	51.3	74.4	43.8	69.4	41.8	67.4	39.8	72.0	36.8	69.0	24.0	35.0
31.25	10.7	9.8	51.9	75.5	49.9	73.5	41.2	65.7	39.2	63.7	37.9	70.3	34.9	67.3	24.0	35.0
62.5	15.4	14.1	47.4	65.7	45.4	63.7	32.0	51.6	30.0	49.6	31.9	65.0	28.9	62.0	22.0	33.0
100	19.8	18.0	44.3	62.4	42.3	60.4	24.5	44.4	22.5	42.4	27.8	60.3	24.8	57.3	20.0	32.0
200	29.0	26.0	39.8	56.7	37.8	54.7	10.8	30.7	8.8	28.7	21.8	59.1	18.8	56.1	18.0	31.0
250	32.8	30.1	38.3	55.7	36.3	53.7	5.5	25.6	3.5	23.6	19.8	54.2	16.8	51.2	17.0	29.0
300	—	32.8	—	53.6	—	—	—	21.0	—	19.0	—	53.1	—	50.1	—	28.0
350	—	35.1	—	51.8	—	—	—	16.7	—	14.7	—	52.1	—	49.1	—	28.0
400	—	40.2	—	53.9	—	—	—	13.7	—	11.7	—	51.4	—	48.4	—	27.0
500	—	44.9	—	52.7	—	—	—	7.8	—	5.8	—	45.8	—	42.8	—	27.0
600	—	49.4	—	40.0	—	—	—	—	—	—	—	43.5	—	40.5	—	27.0

Values not specified in the ANSI/TIA/EIA-568B.2-1 standard:

* ACR (dB) = NEXT (minimum) - Attenuation (maximum) in 100m

** PS ACR (dB) = PS NEXT (minimum) - Attenuation (maximum) in 100m

WORKS OF THE FUTURE



MULTI-LAN - CATEGORY 5e FTP

APPLICATION

- The Multi-Lan FTP cable is recommended for application where it is necessary to limit electromagnetic radiation from the cabling system, and reduce the effects of electromagnetic interference from external sources. It is designed to meet the ANSI/TIA/EIA-568B.2 standard requirement of Category 5e for horizontal cabling.

PART NUMBER

Part Number	Flame Rating	Jacket Color	Packaging
23350008	CM	Blue*	Reel

*Others colors and flame rating upon enquiry.

PHYSICAL DATA

Pair Count	Nominal Conductor Diameter	Nominal Outside Diameter		Cable Weight		Length	
	AWG	mm	inch	kg/km	Lbs/1000ft	m	ft
4	24	6.2	0.244	40	26.8	900	2,953

ELECTRICAL CHARACTERISTICS

Characteristics	Unit	Value
Maximum DC Conductor Electric Resistance at 20°C	Ohm/km	93.8
Maximum Mutual Capacitance at 1 kHz and 20°C	pF/m	56
Nominal Characteristic Impedance	Ohm	100 ± 15%
Dielectric Strength		
Between conductors	V _{DC} /3s	1000
Between conductor and shield		500
Maximum Propagation Delay at 10 MHz	ns/100m	570
Propagation Delay Skew	ns/100m	15
Nominal Velocity of Propagation	%	68

MAIN ELECTRICAL CHARACTERISTICS ON HIGH-SPEED TRANSMISSIONS

Frequency (MHz)	Attenuation (dB/100m)		NEXT (dB)		PS NEXT (dB)		ACR (dB)		PS ACR (dB)		ELFEXT (dB)		PS ELFEXT (dB)		RL (dB)	
	Maximum	Typical	Minimum	Typical	Minimum	Typical	*	Typical	**	Typical	Minimum	Typical	Minimum	Typical	Minimum	Typical
1	2.0	1.8	65.3	83.9	62.3	78.1	63.3	82.0	60.3	76.3	63.8	88.9	60.8	80.1	20.0	27.3
4	4.1	3.6	56.3	75.5	53.3	67.4	52.2	72.0	49.2	63.9	51.7	77.5	48.7	68.5	23.1	33.1
8	5.8	5.1	51.8	69.9	48.8	62.5	46.0	64.9	43.0	57.4	45.7	70.9	42.7	62.6	24.5	34.9
10	6.5	5.7	50.3	68.8	47.3	62.6	43.8	63.1	40.8	56.9	43.8	68.2	40.8	60.4	25.0	35.8
16	8.2	7.3	47.3	66.6	44.3	59.4	39.1	59.3	36.1	52.1	39.7	63.1	36.7	55.8	25.0	36.4
20	9.3	8.2	45.8	64.6	42.8	58.8	36.5	56.4	33.5	50.6	37.7	60.9	34.7	53.5	25.0	37.0
25	10.4	9.2	44.3	64.1	41.3	57.0	33.9	54.9	30.9	47.8	35.8	58.0	32.8	51.5	24.3	36.9
31.25	11.7	10.4	42.9	60.6	39.9	53.8	31.2	50.3	28.2	43.4	33.9	56.5	30.9	49.1	23.6	35.2
62.5	17.0	15.0	38.4	55.8	35.4	49.4	21.4	40.9	18.4	34.5	27.8	51.2	24.8	43.5	21.5	33.1
100	22.0	19.1	35.3	50.2	32.3	43.8	13.3	31.2	10.3	24.8	23.8	40.4	20.8	34.3	20.1	29.4

Values not specified in the ANSI/TIA/EIA-568B.2 standard:

* ACR (dB) = NEXT (minimum) - Attenuation (maximum) in 100m

** PS ACR (dB) = PS NEXT (minimum) - Attenuation (maximum) in 100m



Products certified
by UL and ETL





MULTI-LAN - CATEGORY 5e UTP 25 PAIRS

APPLICATION

- The 25 pairs Multi-Lan is recommended for backbones, vertical or primary cabling (100 MHz) between high-capacity connections blocks located in telecommunications rooms or cabinets.

PHYSICAL DATA

Pair Count	Nominal Conductor Diameter	Nominal Outside Diameter		Cable Weight		Length	
		mm	inch	kg/km	Lbs/1000ft	m	ft
25	24	13.5	0.531	200	134.7	500	1,640

MAIN ELECTRICAL CHARACTERISTICS ON HIGH-SPEED TRANSMISSIONS

Frequency (MHz)	Attenuation (dB/100m)	NEXT Worst Pair(dB)	PS NEXT (dB)	ACR (dB)	PS ACR (dB)	ELFEXT (dB)		PS ELFEXT Worst Pair(dB)	RL (dB)
	Maximum	Minimum	Minimum	Minimum	Minimum	Minimum	Typical	Minimum	Minimum
1	2.0	65.3	62.3	63.3	60.3	63.8	88.9	60.8	20.0
4	4.1	56.3	53.3	52.2	49.2	51.7	77.5	48.7	23.1
8	5.8	51.8	48.8	46.0	43.0	45.7	70.9	42.7	24.5
10	6.5	50.3	47.3	43.8	40.8	43.8	68.2	40.8	25.0
16	8.2	47.3	44.3	39.1	36.1	39.7	63.1	36.7	25.0
20	9.3	45.8	42.8	36.5	33.5	37.7	60.9	34.7	25.0
25	10.4	44.3	41.3	33.9	30.9	35.8	58.0	32.8	24.3
31.25	11.7	42.9	39.9	31.2	28.2	33.9	56.5	30.9	23.6
62.5	17.0	38.4	35.4	21.4	18.4	27.8	51.2	24.8	21.5
100	22.0	35.3	32.3	13.3	10.3	23.8	40.4	20.8	20.1

PART NUMBER

Part Number	Flame Rating	Jacket Color	Packaging
23200012	CM	Blue*	Reel

*Others colors available upon enquiry.

PATCH/ADAPTER CABLE - CATEGORY 5e AND 6

APPLICATION

- Structured Cabling Systems in compliance with ANSI/TIA/EIA-568 B.2 (Cat. 5e) and ANSI/TIA/EIA-568 B.2-1 (Cat. 6) standard requirements for horizontal or secondary cabling to connect Patch Panels to active equipments (hubs, switches, etc).

PART NUMBER - CORD WIRING T568B

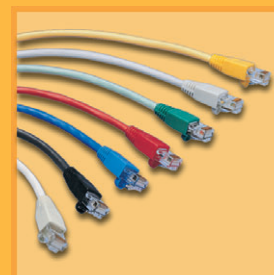
Jacket Color	Length*	
	1.5m (5ft)	2.5m (8ft)
Blue	35100081	35100095
Green	35100016	35101510
Yellow	35100017	35100023
White	35100018	35100024
Gray	35100020	35100026
Black	35100021	35100027
Red	35100022	35100028

*Other length available upon enquiry.

PART NUMBER - CORD WIRING T568B

Jacket Color	Length*	
	1.5m (5ft)	2.5m (8ft)
Blue	35100065	35100075
Green	35100034	35100827
Yellow	35100029	35100036
White	35100030	35100037
Gray	35100031	35100038
Black	35100032	35100039
Red	35100035	35100041

*THE PATCH/ADAPTER CABLES CATEGORY 6 ARE AVAILABLE UPON ENQUIRY.



Adapter Cable



Patch Cable

 **FURUKAWA**
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BUSINESS GENERATION CENTERS:

CURITIBA-PR

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CURITIBA - PR

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