

Category 6 U/FTP Cables

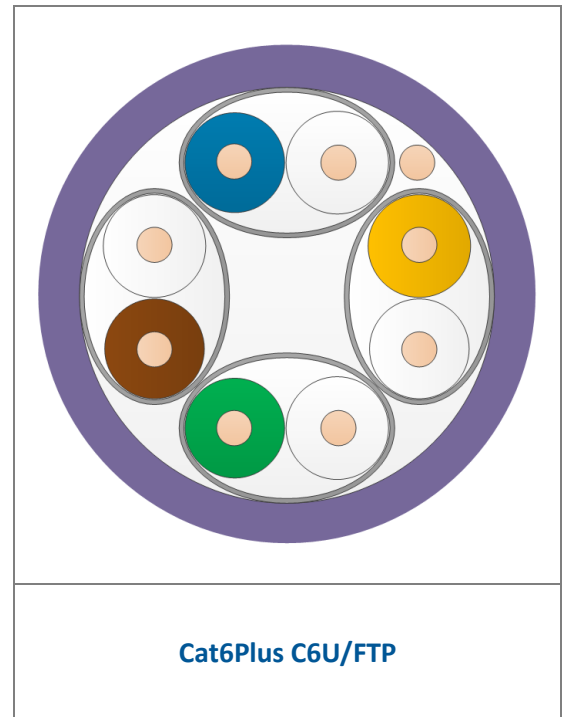
Datasheet: GD103084v4

APPLICATION

The Brand-Rex Cat6Plus C6U/FTP cables exceed the Category 6 performance standards. They are specified to 250MHz and are suitable for use in all Class E structured wiring cable systems. The applications supported include 10 Gigabit Ethernet, Gigabit Ethernet, PoE and PoE+ and broadband video transmissions at frequencies up to 250MHz.

FEATURES AND BENEFITS

- 23 AWG Solid Annealed Copper Wire
- Gas Injection Foamed Polyolefin Core Insulation – offering superior signal speed
- 4 Twisted Pairs Individually Screened and cabled together – providing EMI immunity
- Available in a Range of Sheath Materials – to suit a variety of installation environments and colour coded for identification
- Designed to Support all Class E protocols including Gigabit Ethernet
- Supports Power Over Ethernet (PoE) and Power Over Ethernet Plus (PoE+) Applications
- HFFR-LS versions meet the requirements of the Construction Products Regulation (CPR) Euroclass Eca
- Included in the Leviton and Brand-Rex 25 Year System Warranties when used in conjunction with Leviton or Brand-Rex copper connectivity. System warranties available for qualified projects installed by certified contractors.



STANDARDS

Applicable Cable Standards: IEC 61156-5 and EN50288-5-1

MATERIAL IDENTIFICATION

Material Identifier	HF1	HF3	HF1-X
Material Description	Standard HFFR-LS*	Enhanced HFFR-LS	Inner - HFFR-LS Outer - Polyethylene
Flammability Rating	IEC 60332-1-2	IEC 60332-3-24	n/a – External Only
Fire Euroclass EN13501-6	Eca	Eca	n/a – External Only
Smoke Emission	IEC 61034-1 & 2	IEC 61034-1 & 2	n/a – External Only
Acid Gas Emission	IEC 60754-2	IEC 60754-2	n/a – External Only
Colour	Violet	Blue	Inner - Violet Outer - Black

* Halogen Free Flame Retardant – Low Smoke

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PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19 Ω / 100m	14Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>50GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Velocity of Propagation	<534nsec/100m @ 100MHz	413nsec/100m @ 100MHz
Delay Skew	Max 25nsec/100m @ 100MHz	4nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Coupling Attenuation	Type 1b	75dB
Transfer Impedance	Grade 2	28mΩ/m @ 10MHz

ELECTRICAL PERFORMANCE

Frequency (MHz)		1	4	10	20	100	200	250	500	550
Insertion Loss (dB/100m)	Standard	2.1	3.8	6.0	8.5	19.9	29.1	33.0	na	na
	Typical	1.9	3.5	5.5	7.8	18.0	26.1	29.4	43.0	45.4
NEXT (dB)	Standard	66.0	65.3	59.3	54.8	44.3	39.8	38.3	na	na
	Typical	100.0	100.0	100.0	100.0	94.3	88.9	87.1	81.7	81.0
PSNEXT (dB)	Standard	64.0	63.3	57.3	52.8	42.3	37.8	36.3	na	na
	Typical	97.0	97.0	97.0	97.0	91.3	85.9	84.1	78.7	78.0
ELFEXT (dB/100m)	Standard	66.0	58.0	50.0	44.0	30.0	24.0	22.0	na	na
	Typical	90.0	90.0	90.0	84.8	70.8	64.8	62.8	56.8	56.0
PSELFEXT (dB/100m)	Standard	64.0	55.0	47.0	41.0	27.0	21.0	19.0	na	na
	Typical	87.0	87.0	87.0	81.8	67.8	61.8	59.8	53.8	53.0
Return loss (dB)	Standard	na	23.0	25.0	25.0	20.1	18.0	17.3	na	na
	Typical	27.0	30.0	30.0	30.0	25.1	23.0	22.3	20.2	19.9
ACR (dB/100m)	Typical	98.1	96.5	94.5	92.2	76.3	62.8	57.7	38.7	35.6
PSACR (dB/100m)	Typical	95.1	93.5	91.5	89.2	73.3	59.8	54.7	35.7	32.6

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Brand-Rex a **LEVITON** company

INSTALLATION

Temperature (Installation)	0°C to +50°C	Min Bend Radius (Installation)	8 x Outer Diameter
Temperature (Operation)	-20°C to +75°C	Min Bend Radius (Operation)	4 x Outer Diameter
Max Tensile Load (Installation)	10kg per simplex cable	Field Test NVP Value	0.80
Segregation Class	Class C		

PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company C6U/FTP-HF1-Eca Cat 6 U/FTP IEC 60332-1-2 Euroclass Eca NVP 0.80
MADE IN UK [ID number] [Week/Year]

STANDARD PACKAGING SPECIFICATIONS - REELS

Brand-Rex Part Number	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Packaging Dimensions (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6U/FTP-HF1-Eca-500VT [†]	6.8	45.0	400 x 390	25	12
C6U/FTP-HF1-Eca-1000VT [‡]	6.8	45.0	600 x 405	51.5	4
C6U/FTP-HF1-Eca-D500VT	6.8 x 13.7	90.0	600 x 405	51.5	4
C6U/FTP-HF1-Eca-D1000VT	6.8 x 13.7	90.0	750 x 405	99.0	2
C6U/FTP-HF3-Eca-500BU	7.2	52.9	400 x 390	28.9	12
C6U/FTP-HF3-Eca-1000BU	7.2	52.9	600 x 405	59.4	4

[†]500 = 500m length

[‡]1000 = 1000m length

^{||}'D' denotes duplex cable

STANDARD PACKAGING SPECIFICATIONS - BOXES

Brand-Rex Part Number	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Box Size L x W x H (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6U/FTP-HF1-Eca-Rlx-305VT [§]	6.8	45.0	475 x 295 x 475	14.7	12

[§]305 = 305m box

*“Brand-Rex is **dedicated** to **designing, developing and manufacturing** sustainable **high performance** structured cabling and speciality **cabling solutions**”*

The information contained in this document is valid and correct at the time of issue. Brand-Rex reserves the right to modify details without notice in light of subsequent standard/specification changes and ongoing technical developments.