

Category 6 UTP Cables

Datasheet: GD102051v4

Brand-Rex | a **LEVITON** company

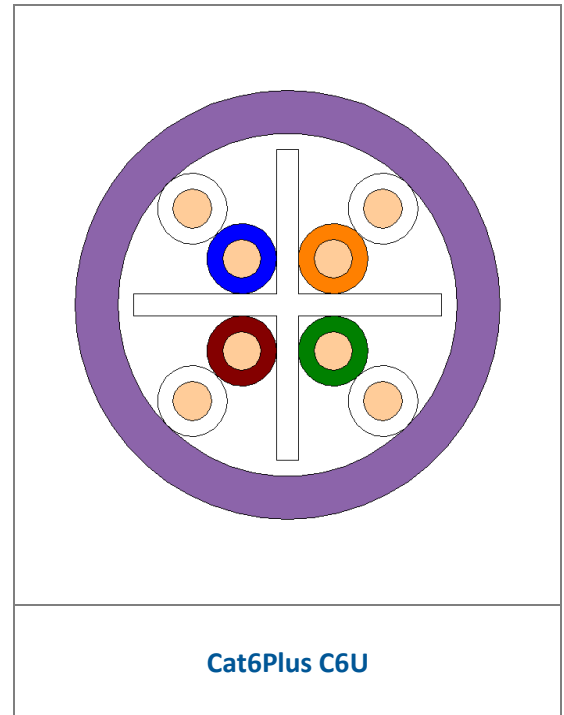
APPLICATION

The Brand-Rex Cat6Plus C6U cables exceed the Category 6 performance standards. They are rated to 250MHz and are suitable for use in all Class E structured wiring cable systems.

The Cat6Plus C6U cable supports Gigabit Ethernet, PoE, voice and broadband video transmissions at frequencies as high as 250MHz.

FEATURES AND BENEFITS

- 23 AWG Solid Annealed Copper Wire
- Polyolefin Core Insulation
- Central Cross Filler – for increased internal crosstalk performance
- 4 Unshielded Twisted Pairs Cabled Together
- 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: ISO/IEC 11801, IEC 61156-5, EN 50173-1, EN 50288-6-1 and EIA/TIA 568C

MATERIAL IDENTIFICATION

Material Identifier	HF1	HF3-22	HF1-X
Material Description	Standard HFFR-LS*	Enhanced HFFR-LS	Inner - HFFR-LS Outer - Polyethylene
Flammability Rating	IEC 60332-1-2	IEC 60332-3-22 & NBN C 30-004 F2	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
Standard Colour†	Violet	Green	Inner - Violet Outer - Black

* Halogen Free Flame Retardant – Low Smoke

† Available in a range of non-standard colours

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PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19 Ω / 100m	16 Ω / 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	490nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @100MHz	30nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Transverse Conversion Loss (TCL)	≥50-10log(f)dB	61dB @ 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
	<i>Typical</i>	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
	<i>Typical</i>	86.5	77.5	71.5	67.0	56.5	52.0	50.5	46.0	45.4
PSNEXT (dB)	Standard	64.0	63.3	57.3	52.8	42.3	37.8	36.3	na	na
	<i>Typical</i>	84.5	75.5	69.5	65.0	54.5	50.0	48.5	44.0	43.4
ELFEXT (dB/100m)	Standard	66.0	58.0	50.0	44.0	30.0	24.0	22.0	na	na
	<i>Typical</i>	85.0	73.0	65.0	59.0	45.0	39.0	37.0	31.0	30.2
PSELFEXT (dB/100m)	Standard	64.0	55.0	47.0	41.0	27.0	21.0	19.0	na	na
	<i>Typical</i>	82.0	70.0	62.0	56.0	42.0	36.0	34.0	28.0	27.2
Return loss (dB)	Standard	na	23.0	25.0	25.0	20.1	18.0	17.3	na	na
	<i>Typical</i>	27.0	30.0	30.0	30.0	25.1	23.0	22.3	20.2	19.9
ACR (dB/100m)	<i>Typical</i>	84.6	73.9	66.0	59.1	38.5	25.9	21.1	3.0	0.0
PSACR (dB/100m)	<i>Typical</i>	82.6	71.9	64.0	57.1	36.5	23.9	19.1	1.0	-2.0

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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	0.69
Segregation Class	Class B		

PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company C6U-HF1-Eca Cat 6 U/UTP IEC 60332-1-2 Euroclass Eca NVP 0.69 MADE IN UK
[ID number] [Week/Year]

STANDARD PACKAGING SPECIFICATIONS - REELS

Brand-Rex Part Number	Colour	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6U-HF1-Eca-500VT [†]	Violet	5.8	37.5	400 x 310	20.8	18
C6U-HF1-Eca-1000VT [‡]	Violet	5.8	37.5	465 x 390	40.5	6
C6U-HF1-Eca-500WH [†]	White	5.8	37.5	400 x 310	20.8	18
C6U-HF1-Eca-D500VT	Violet	11.6 x 5.8	75.0	465 x 390	40.5	6
C6U-HF1-Eca-D1000VT	Violet	11.6 x 5.8	75.0	750 x 410	84.3	2
C6U-HF3-22-Eca-500GN	Green	5.8	38.3	400 x 310	21.2	18
C6U-HF3-22-Eca-1000GN	Green	5.8	38.3	465 x 390	41.3	6
C6U-HF1-X-500BK	Black	7.0	48.7	400 x 390	26.8	12
C6U-HF1-X-1000BK	Black	7.0	48.7	600 x 405	55.2	4

[†]500 = 500m length

[‡]1000 = 1000m length

^{||}'D' denotes duplex cable

STANDARD PACKAGING SPECIFICATIONS - BOXES

Brand-Rex Part Number	Colour	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-HF1-Rlx-Eca-305VT [§]	Violet	5.8	37.5	405 x 265 x 405	11.4	27 or 18
C6U-HF1-Rlx-Eca-305GY [§]	Grey	5.8	37.5	405 x 265 x 405	11.4	27 or 18
C6U-HF1-Rlx-Eca-305WH [§]	White	5.8	37.5	405 x 265 x 405	11.4	27 or 18

[§]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.