

Category 6 UTP Cables

Datasheet: GD102051v6

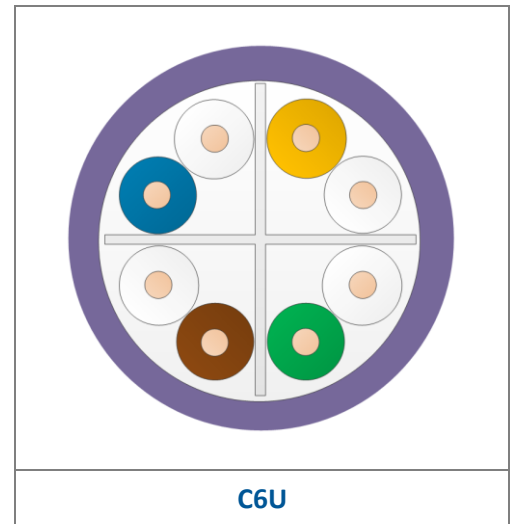
Brand-Rex | a **LEVITON** company

APPLICATION

The Brand-Rex 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. C6U cable supports Gigabit Ethernet, Power over Ethernet, voice and broadband video transmissions at frequencies up to 250MHz.

FEATURES AND BENEFITS

- 23 AWG solid annealed copper wire
- 4 unshielded twisted pairs cabled together
- Central separator for increased internal crosstalk performance
- HFFR-LS* sheath enables cable to meet the requirements of the Construction Products Regulation (CPR) EuroClass E_{ca}
- 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.



* Halogen Free Flame Retardant – Low Smoke

STANDARDS

- Designed and constructed to give optimum electrical performance to the following standards:
 - ISO/IEC 11801 Class E, IEC 61156-5
 - EN50173-1 and EN 50288-6-1
 - ANSI/TIA 568C.2
- Supports Gigabit Ethernet
- Meets the design requirements of 802.11ac wireless
- Recommended for PoE standards: IEEE 802.3af, 802.3at, Cisco UPoE, and Power over HDBaseT™ (PoH) up to 100 watts, as well as emerging 4 pair PoE standards such as the IEEE 802.3bt, including 90 watts at the powered device (PD)

MATERIAL PERFORMANCE

Material Identifier	HF1	HF1-X
Material Description	Standard HFFR-LS*	Inner - HFFR-LS Outer - Polyethylene
Flammability Rating	IEC/EN 60332-1-2	n/a – External Only
Reaction to Fire Classification / EuroClass	Eca	n/a – External Only

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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)	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)	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)	<i>Typical</i>	84.6	73.9	66.0	59.1	38.5	25.9	21.1	3.0	0.0
PSACR (dB)	<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-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-Eca-Rlx-305VT [§]	Violet	5.8	37.5	405 x 265 x 405	11.4	27 or 18 ^{§§}
C6U-HF1-Eca-Rlx-305GY [§]	Grey	5.8	37.5	405 x 265 x 405	11.4	27 or 18 ^{§§}
C6U-HF1-Eca-Rlx-305WH [§]	White	5.8	37.5	405 x 265 x 405	11.4	27 or 18 ^{§§}

[§]305 = 305m box

^{§§} Double or single stack pallets

*Also available in a range of non-standard colours

“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.