

Category 6 U/UTP Cables

Datasheet: GD102051v8

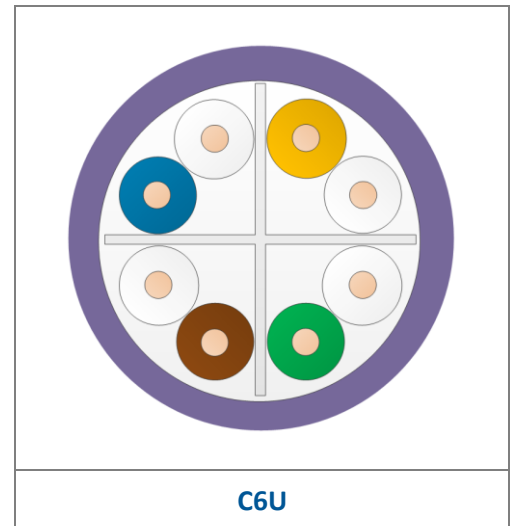
APPLICATION

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 cables support 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.
- Designed and manufactured in a carbon neutral facility in the UK
- Delivered in 100% recyclable packaging

* 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
- 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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Brand-Rex a LEVITON company

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
ACR-F (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
PSACR-F (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.