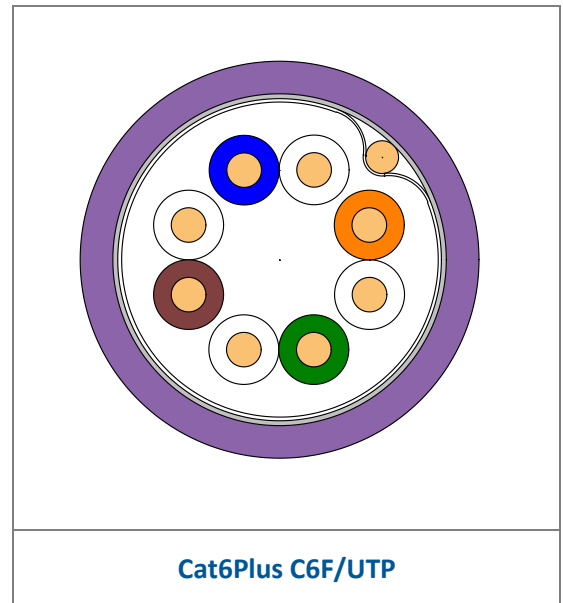


APPLICATION

The Brand-Rex Cat6Plus C6F/UTP 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
- Polyolefin Core Insulation
- 4 Unshielded Twisted Pairs Cabled Together
- Aluminium Polyester screen
- 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
- 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
Material Description	Standard HFFR-LS*
Flammability Rating	IEC 60332-1-2
Smoke Emission	IEC 61034-1 & 2
Acid Gas Emission	IEC 60754-2
Colour	Violet

* Halogen Free Flame Retardant – Low Smoke

Category 6 F/UTP Cables

Datasheet: GD102470v3

PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19Ω/100m	15Ω/100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>490GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Velocity of Propagation	<534nsec/100m @ 100MHz	502nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @ 100MHz	23nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Coupling Attenuation	Type 1b	86dB
Transfer Impedance	Grade 2	80mΩ/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
	<i>Typical</i>	<i>1.9</i>	<i>3.5</i>	<i>5.5</i>	<i>7.8</i>	<i>18.0</i>	<i>26.1</i>	<i>29.4</i>	<i>43.0</i>	<i>45.4</i>
NEXT (dB)	Standard	66.0	65.3	59.3	54.8	44.3	39.8	38.3	na	na
	<i>Typical</i>	<i>80.0</i>	<i>71.0</i>	<i>65.0</i>	<i>60.5</i>	<i>50.0</i>	<i>45.5</i>	<i>44.0</i>	<i>39.5</i>	<i>38.9</i>
PSNEXT (dB)	Standard	64.0	63.3	57.3	52.8	42.3	37.8	36.3	na	na
	<i>Typical</i>	<i>80.0</i>	<i>71.0</i>	<i>65.0</i>	<i>60.5</i>	<i>50.0</i>	<i>45.5</i>	<i>44.0</i>	<i>39.5</i>	<i>38.9</i>
ELFEXT (dB/100m)	Standard	66.0	58.0	50.0	44.0	30.0	24.0	22.0	na	na
	<i>Typical</i>	<i>82.0</i>	<i>70.0</i>	<i>62.0</i>	<i>56.0</i>	<i>42.0</i>	<i>36.0</i>	<i>34.0</i>	<i>28.0</i>	<i>27.2</i>
PSELFEXT (dB/100m)	Standard	64.0	55.0	47.0	41.0	27.0	21.0	19.0	na	na
	<i>Typical</i>	<i>79.0</i>	<i>67.0</i>	<i>59.0</i>	<i>53.0</i>	<i>39.0</i>	<i>33.0</i>	<i>31.0</i>	<i>25.0</i>	<i>24.2</i>
Return loss (dB)	Standard	na	23.0	25.0	25.0	20.1	18.0	17.3	na	na
	<i>Typical</i>	<i>27.0</i>	<i>30.0</i>	<i>30.0</i>	<i>30.0</i>	<i>25.1</i>	<i>23.0</i>	<i>22.3</i>	<i>20.2</i>	<i>19.9</i>
ACR (dB/100m)	<i>Typical</i>	<i>78.1</i>	<i>67.4</i>	<i>59.5</i>	<i>52.6</i>	<i>32.0</i>	<i>19.4</i>	<i>14.6</i>	<i>-3.5</i>	<i>-6.5</i>
PSACR (dB/100m)	<i>Typical</i>	<i>78.1</i>	<i>67.4</i>	<i>59.5</i>	<i>52.6</i>	<i>32.0</i>	<i>19.4</i>	<i>14.6</i>	<i>-3.5</i>	<i>-6.5</i>

Category 6 F/UTP Cables

Datasheet: GD102470v3

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	0.68
Segregation Class	Class C		

PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX C6F/UTP-HF1 Cat6 IEC 60332-1-2 NVP 0.68 Made in the UK [ID number] [Week/Year]

STANDARD PACKAGING SPECIFICATIONS - REELS

Brand-Rex Part Number	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6F/UTP-HF1-500VT [†]	7.1	51.5	400 x 390	28.2	12
C6F/UTP-HF1-1000VT [‡]	7.1	51.5	600 x 405	58.0	4
C6F/UTP-HF1-D500VT	14.3 x 7.1	102.9	600 x 405	58.0	4
C6F/UTP-HF1-D1000VT	14.3 x 7.1	102.9	750 x 405	112.2	2

[†]500 = 500m length

[‡]1000 = 1000m length

[§]305 = 305m box

^{||}'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
C6F/UTP-HF1-RIx-305VT [§]	7.1	51.5	405 x 265 x 405	16.7	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.