

## APPLICATION

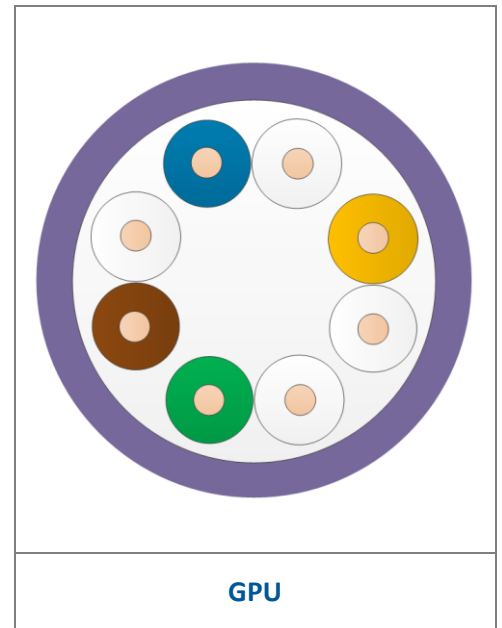
Brand-Rex GPU cables exceed the Category 5e performance standards. They are rated to 100MHz and are suitable for use in all Class D structured wiring cable systems. GPU cables support Gigabit Ethernet, Power over Ethernet and voice transmissions at frequencies up to 100MHz.

## FEATURES AND BENEFITS

- 24 AWG solid annealed copper wire
- Polyolefin core Insulation
- 4 unshielded twisted pairs cabled together
- Designed to support all Class D protocols including Gigabit Ethernet
- Supports Power over Ethernet (PoE & PoE+) applications
- HFFR-LS\* jacket enables the cable to meet the requirements of the Construction Products Regulation (CPR) EuroClass Eca
- Violet† coloured jacket to identify EuroClass level 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.

\* Halogen Free Flame Retardant – Low Smoke

† Also available in a range of non-standard colours



## STANDARDS

Applicable Cable Standards: ISO/IEC 11801, IEC 61156-5, EN 50173-1, EN 50288-3-1 and EIA/TIA 568C

## MATERIAL PERFORMANCE

Material Identifier	HF1	HF1-X
Material Description	Standard HFFR-LS*	Inner - HFFR-LS Outer – Polyethylene
Flammability Rating	IEC 60332-1-2	n/a – External Only
EuroClass Level EN13501-6	Eca	n/a – External Only
Colour	Violet†	Inner - Violet Outer - Black

# Category 5e UTP Cables

Datasheet: GD102446v7

## PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19 Ω / 100m	18 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>45GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

## SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Propagation Delay	<534nsec/100m @ 100MHz	487nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @100MHz	38nsec/100m @100MHz
Mean Characteristic Impedance	100Ω ± 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Transverse Conversion Loss (TCL)	≥50-10log(f)dB	65dB @ 10MHz

## ELECTRICAL PERFORMANCE

Frequency (MHz)		1	4	10	16	20	31.25	100	200	250
Insertion Loss (dB/100m)	Standard	2.0	4.1	6.5	8.2	9.3	11.7	22.0	n/a	n/a
	<b>Typical</b>	<b>1.9</b>	<b>3.8</b>	<b>6.0</b>	<b>7.7</b>	<b>8.6</b>	<b>10.9</b>	<b>20.6</b>	<b>30.4</b>	<b>34.6</b>
NEXT (dB)	Standard	65.3	56.3	50.3	47.2	45.8	42.9	35.3	n/a	38.3
	<b>Typical</b>	<b>76.8</b>	<b>67.8</b>	<b>61.8</b>	<b>58.7</b>	<b>57.3</b>	<b>54.4</b>	<b>46.8</b>	<b>42.3</b>	<b>40.8</b>
PSNEXT (dB)	Standard	62.3	53.3	47.3	44.2	42.8	39.9	32.3	n/a	n/a
	<b>Typical</b>	<b>73.8</b>	<b>64.8</b>	<b>58.8</b>	<b>55.7</b>	<b>54.3</b>	<b>51.4</b>	<b>43.8</b>	<b>39.3</b>	<b>37.8</b>
ELFEXT (dB/100m)	Standard	63.8	51.8	43.8	39.7	37.8	33.9	23.8	n/a	n/a
	<b>Typical</b>	<b>81.4</b>	<b>69.4</b>	<b>61.4</b>	<b>57.3</b>	<b>55.4</b>	<b>51.5</b>	<b>41.4</b>	<b>35.4</b>	<b>33.4</b>
PSELFEXT (dB/100m)	Standard	60.8	48.8	40.8	36.7	34.8	30.9	20.8	n/a	n/a
	<b>Typical</b>	<b>78.4</b>	<b>66.4</b>	<b>58.4</b>	<b>54.3</b>	<b>52.4</b>	<b>48.5</b>	<b>38.4</b>	<b>32.4</b>	<b>30.4</b>
Return Loss (dB)	Standard	20.0	23.0	25.0	25.0	25.0	23.6	20.1	n/a	n/a
	<b>Typical</b>	<b>24.8</b>	<b>27.8</b>	<b>29.8</b>	<b>29.8</b>	<b>29.8</b>	<b>28.4</b>	<b>24.9</b>	<b>22.8</b>	<b>22.1</b>
ACR (dB/100m)	<b>Typical</b>	<b>74.9</b>	<b>64.0</b>	<b>55.8</b>	<b>51.1</b>	<b>48.7</b>	<b>43.4</b>	<b>26.2</b>	<b>11.9</b>	<b>6.2</b>
PSACR (dB/100m)	<b>Typical</b>	<b>71.9</b>	<b>61.0</b>	<b>52.8</b>	<b>48.1</b>	<b>45.7</b>	<b>40.4</b>	<b>23.2</b>	<b>8.9</b>	<b>3.2</b>

# Category 5e UTP Cables

Datasheet: GD102446v7

**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	0.69
Segregation Class	Class B		

## PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company GPU-HF1-Eca Cat 5e 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	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
GPU-HF1-Eca-500VT <sup>†</sup>	5.1	32.2	400 x 400 x 210	17.6	24
GPU-HF1-Eca-1000VT <sup>‡</sup>	5.1	32.2	400 x 400 x 390	34.7	12
GPU-HF1-Eca-D500VT <sup>  </sup>	5.1 x 10.3	63.1	400 x 400 x 390	34.7	12
GPU-HF1-Eca-D1000VT <sup>  </sup>	5.1 x 10.3	63.1	600 x 600 x 405	71.9	4
GPU-HF1-X-500BK	6.3	42.6	400 x 400 x 310	23.3	18
GPU-HF1-X-1000BK	6.3	42.6	465 x 465 x 390	45.6	6

<sup>†</sup>500 = 500m length

<sup>‡</sup>1000 = 1000m length

<sup>||</sup>'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
GPU-HF1-Eca-Rlx-305VT <sup>§</sup>	5.1	32.2	365 x 250 x 365	9.9	27 or 18

<sup>§</sup>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.