

# Category 5e F/UTP Cables

Datasheet: GD103082v4

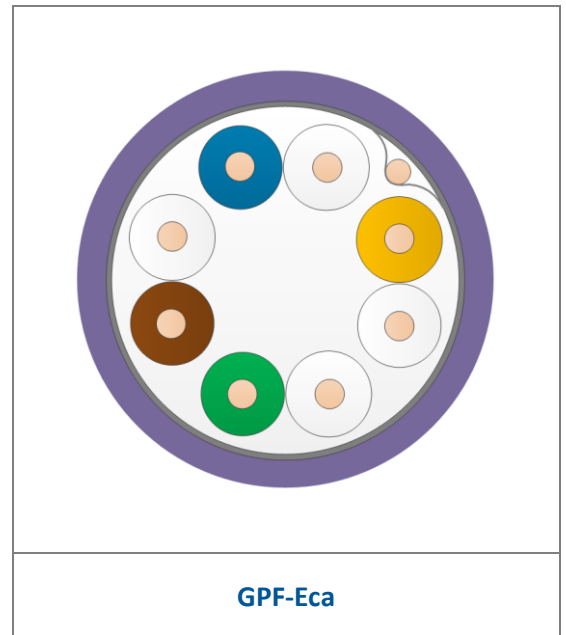
**Brand-Rex** | a **LEVITON** company

## APPLICATION

The Brand-Rex GPF 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. GPF cable supports 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
- 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 D protocols including Gigabit Ethernet
- Supports Power over Ethernet (PoE & 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.



\* Halogen Free Flame Retardant – Low Smoke

## STANDARDS

Applicable Cable Standards: IEC 61156-5 and EN 50288-2-1

## MATERIAL PERFORMANCE

Material Identifier	HF1	HF3	HF1-X
Material Description	Standard HFFR-LS*	Enhanced HFFR-LS*	Inner - HFFR-LS Outer - Polyethylene
Flammability Rating	IEC/EN 60332-1-2	IEC/EN 60332-1-2 IEC/EN 60332-3-24	n/a – External Only
EuroClass Level EN13501-6	Eca	Eca	n/a – External Only
Colour	Violet†	Blue†	Inner - Grey Outer - Black

† Also 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 19Ω/100m	16Ω/100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>310GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

## SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Propagation Delay	<534nsec/100m @ 100MHz	480nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @100MHz	11nsec/100m @100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω +/- 3Ω @ 100MHz
Transfer Impedance	Grade 2	14mΩ/m @ 10MHz

## ELECTRICAL PERFORMANCE

Frequency (MHz)		1	4	10	16	20	31.25	100	200	250
Insertion Loss (dB/100m)	Standard	2.1	4.0	6.3	8.0	9.0	11.4	21.4	na	na
	<b>Typical</b>	<b>2.0</b>	<b>3.8</b>	<b>6.0</b>	<b>7.6</b>	<b>8.6</b>	<b>10.8</b>	<b>20.4</b>	<b>30.3</b>	<b>34.5</b>
NEXT (dB)	Standard	65.3	56.3	50.3	47.2	45.8	42.9	35.3	na	na
	<b>Typical</b>	<b>73.3</b>	<b>64.3</b>	<b>58.3</b>	<b>55.2</b>	<b>53.8</b>	<b>50.9</b>	<b>43.3</b>	<b>38.8</b>	<b>37.3</b>
PSNEXT (dB)	Standard	62.3	53.3	47.3	44.2	42.8	39.9	32.3	na	na
	<b>Typical</b>	<b>70.3</b>	<b>61.3</b>	<b>55.3</b>	<b>52.2</b>	<b>50.8</b>	<b>47.9</b>	<b>40.3</b>	<b>35.8</b>	<b>34.3</b>
ELFEXT (dB/100m)	Standard	63.8	51.8	43.8	39.7	37.8	33.9	23.8	na	na
	<b>Typical</b>	<b>78.8</b>	<b>66.8</b>	<b>58.8</b>	<b>54.7</b>	<b>52.8</b>	<b>48.9</b>	<b>38.8</b>	<b>32.8</b>	<b>30.8</b>
PSELFEXT (dB/100m)	Standard	60.8	48.8	40.8	36.7	34.8	30.9	20.8	na	na
	<b>Typical</b>	<b>76.8</b>	<b>64.8</b>	<b>56.8</b>	<b>52.7</b>	<b>50.8</b>	<b>46.9</b>	<b>36.8</b>	<b>30.8</b>	<b>28.8</b>
Return Loss (dB)	Standard	na	23.0	25.0	25.0	25.0	23.6	20.1	na	na
	<b>Typical</b>	<b>25.0</b>	<b>28.0</b>	<b>30.0</b>	<b>30.0</b>	<b>30.0</b>	<b>28.6</b>	<b>25.1</b>	<b>23.0</b>	<b>22.3</b>
ACR (dB/100m)	<b>Typical</b>	<b>71.3</b>	<b>60.5</b>	<b>52.3</b>	<b>47.6</b>	<b>45.2</b>	<b>40.0</b>	<b>22.9</b>	<b>8.5</b>	<b>2.9</b>
PSACR (dB/100m)	<b>Typical</b>	<b>68.3</b>	<b>57.5</b>	<b>49.3</b>	<b>44.6</b>	<b>42.2</b>	<b>37.0</b>	<b>19.9</b>	<b>5.5</b>	<b>-0.1</b>

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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 C		

## PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company GPF-HF1-Eca Cat 5e F/UTP IEC 60332-1-2 EuroClass Eca NVP 0.68 MADE IN UK  
[ID number] [Week/Year]

## STANDARD PACKAGING SPECIFICATIONS

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
GPF-HF1-Eca-500VT <sup>†</sup>	6.1	40.0	400 x 310	22.0	18
GPF-HF1-Eca-1000VT <sup>‡</sup>	6.1	40.0	465 x 390	43.0	6
GPF-HF1-Eca-D500VT <sup>  </sup>	12.3 x 6.1	80.1	600 x 315	46.0	6
GPF-HF1-Eca-D1000VT	12.3 x 6.1	80.1	750 x 410	89.4	2
GPF-HF3-Eca-500BU	6.7	50.2	400 x 390	27.6	12
GPF-HF3-Eca-1000BU	6.7	50.2	600 x 315	56.2	6
GPF-HF1-X-500BK	7.45	53.5	465 x 390	56.5	6
GPF-HF1-X-1000BK	7.45	53.5	6000 x 405	60.0	4

<sup>†</sup>500 = 500m length

<sup>‡</sup>1000 = 1000m length

<sup>||</sup>'D' denotes duplex cable

*“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.