

# Category 6 F/UTP EuroClass Eca Cables

Datasheet: GD102470v10

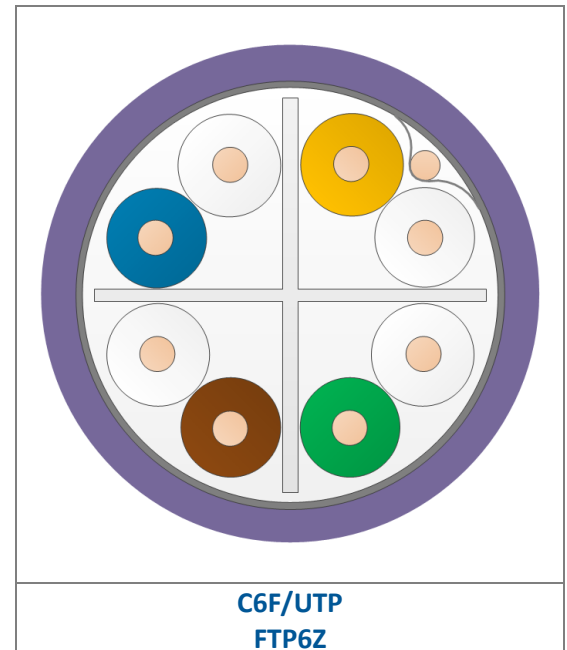


## APPLICATION

Leviton Category 6 F/UTP cables exceed 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 Gigabit Ethernet, Power over Ethernet, 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
- Aluminum polyester screen
- Available in a range of jacket materials - to suit a variety of installation environments and color coded for identification
- HFFR-LS\* versions meet the requirements of the Construction Products Regulation (CPR) EuroClass Eca
- Included in the Leviton Limited 25-Year System Warranty when used in conjunction with Leviton copper connectivity. System warranties are 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
  - EN 50173-1 and EN 50288-5-1
  - ANSI/TIA 568.2-D
- Supports Gigabit Ethernet
- Meets the design requirements of 802.11ac wireless
- Recommended for PoE standards:
  - IEEE 802.3bt PoE Type 1 (15.4 Watts) formerly 802.3af
  - IEEE 802.3bt PoE Type 2 (30 Watts) formerly 802.3at
  - IEEE 802.3bt PoE Type 3 (60 Watts)
  - IEEE 802.3bt PoE Type 4 (90 Watts)
  - Cisco UPoE (60 Watts)
  - Cisco UPoE+ (90 Watts)
  - Power over HDBaseT™ PoH (95 Watts)

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## REACTION TO FIRE

Material Identifier	<b>HF1</b>
Material Description	Standard HFFR-LS
Flammability Rating	IEC 60332-1-2
Fire EuroClass EN13501-6	Eca
Smoke Emission	IEC 61034-1 & 2
Acid Gas Emission	IEC 60754-2

## 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	N/A	N/A
	<b>Typical</b>	<b>1.9</b>	<b>3.5</b>	<b>5.5</b>	<b>7.8</b>	<b>18.0</b>	<b>26.1</b>	<b>29.4</b>	<b>43.0</b>	<b>45.4</b>
NEXT (dB)	Standard	66.0	65.3	59.3	54.8	44.3	39.8	38.3	N/A	N/A
	<b>Typical</b>	<b>80.0</b>	<b>71.0</b>	<b>65.0</b>	<b>60.5</b>	<b>50.0</b>	<b>45.5</b>	<b>44.0</b>	<b>39.5</b>	<b>38.9</b>
PSNEXT (dB)	Standard	64.0	63.3	57.3	52.8	42.3	37.8	36.3	N/A	N/A
	<b>Typical</b>	<b>80.0</b>	<b>71.0</b>	<b>65.0</b>	<b>60.5</b>	<b>50.0</b>	<b>45.5</b>	<b>44.0</b>	<b>39.5</b>	<b>38.9</b>
ELFEXT (dB/100m)	Standard	66.0	58.0	50.0	44.0	30.0	24.0	22.0	N/A	N/A
	<b>Typical</b>	<b>82.0</b>	<b>70.0</b>	<b>62.0</b>	<b>56.0</b>	<b>42.0</b>	<b>36.0</b>	<b>34.0</b>	<b>28.0</b>	<b>27.2</b>
PSELFEXT (dB/100m)	Standard	64.0	55.0	47.0	41.0	27.0	21.0	19.0	N/A	N/A
	<b>Typical</b>	<b>79.0</b>	<b>67.0</b>	<b>59.0</b>	<b>53.0</b>	<b>39.0</b>	<b>33.0</b>	<b>31.0</b>	<b>25.0</b>	<b>24.2</b>
Return Loss (dB)	Standard	N/A	23.0	25.0	25.0	20.1	18.0	17.3	N/A	N/A
	<b>Typical</b>	<b>27.0</b>	<b>30.0</b>	<b>30.0</b>	<b>30.0</b>	<b>25.1</b>	<b>23.0</b>	<b>22.3</b>	<b>20.2</b>	<b>19.9</b>
ACR (dB/100m)	<b>Typical</b>	<b>78.1</b>	<b>67.4</b>	<b>59.5</b>	<b>52.6</b>	<b>32.0</b>	<b>19.4</b>	<b>14.6</b>	<b>-3.5</b>	<b>-6.5</b>
PSACR (dB/100m)	<b>Typical</b>	<b>78.1</b>	<b>67.4</b>	<b>59.5</b>	<b>52.6</b>	<b>32.0</b>	<b>19.4</b>	<b>14.6</b>	<b>-3.5</b>	<b>-6.5</b>

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## INSTALLATION

Temperature (Installation)	0°C to +50°C
Temperature (Operation)	-20°C to +75°C
Max Tensile Load (Installation)	10kg per simplex cable
Segregation Class	Class C

Min Bend Radius (Installation)	8 x Outer Diameter
Min Bend Radius (Operation)	4 x Outer Diameter
Field Test NVP Value	0.68

## STANDARD PACKAGING SPECIFICATIONS - REELS

Part Number	Alternative** Part Number	Packaging Length (m)	Color	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange Dia. x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6F/UTP-HF1-Eca-500WH	128-FTP6Z-5WS	500	White	7.1	51.5	400 x 390	28.2	12
C6F/UTP-HF1-Eca-500VT	129-FTP6Z-5VS	500	Violet	7.1	51.5	400 x 390	28.2	12
C6F/UTP-HF1-Eca-1000VT*	-	1000	Violet	7.1	51.5	600 x 405	58.0	4
C6F/UTP-HF1-Eca-D500VT*†	-	500	Violet	14.3 x 7.1	102.9	600 x 405	58.0	4
C6F/UTP-HF1-Eca-D1000VT*†	-	1000	Violet	14.3 x 7.1	102.9	750 x 405	112.2	2

## STANDARD PACKAGING SPECIFICATIONS - BOXES

Part Number	Alternative** Part Number	Packaging Length (m)	Color	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-Eca-Rlx-305GY	124-FTP6Z-MSB	305	Gray	7.1	54.3	475 x 295 x 475	17.6	12
C6F/UTP-HF1-Eca-Rlx-305VT	125-FTP6Z-MVB	305	Violet	7.1	54.3	475 x 295 x 475	17.6	12

\* Only available in Europe and Middle East regions

\*\* May be ordered using Alternative Part Number in some regions

† 'D' denotes duplex cable

## COUNTRY OF ORIGIN

COO: United Kingdom

*"Leviton is dedicated to designing, developing, and manufacturing sustainable high performance structured cabling and specialty cabling solutions."*

The information contained in this document is valid and correct at the time of issue. Leviton reserves the right to modify details without notice in light of subsequent standard/specification changes and ongoing technical developments.