

# Category 6 F/UTP EuroClass D<sub>ca</sub> Cables

Datasheet: GD103594v3

**Brand-Rex** a LEVITON company

## APPLICATION

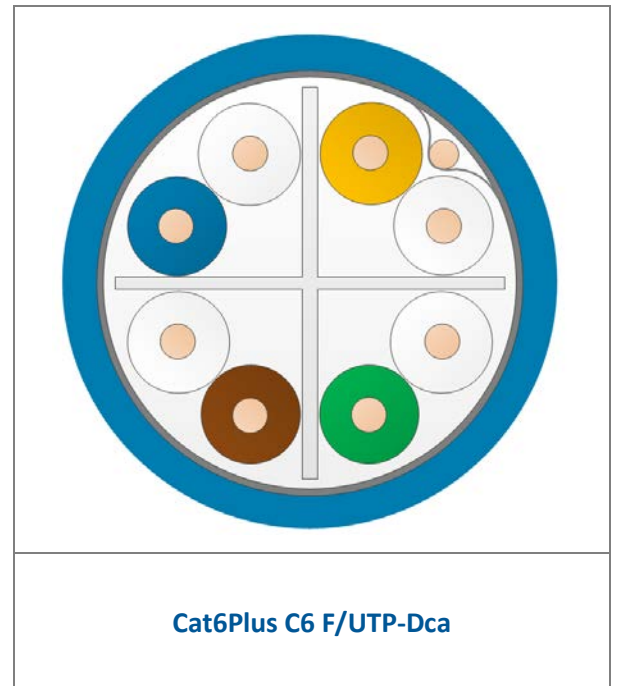
The Brand-Rex Cat6Plus C6F/UTP cables exceed the Category 6 performance standards. They are specified to 250MHz and are suitable for use in all Class E structured wiring cable systems. The applications supported include Gigabit Ethernet, Power over Ethernet and broadband video transmissions at frequencies up to 250MHz.

## FEATURES AND BENEFITS

- 23 AWG solid annealed copper wire
- 4 unshielded twisted pairs cabled together
- Aluminium polyester screen
- Designed to support all class E protocols including Gigabit Ethernet
- Supports Power over Ethernet (PoE) and Power over Ethernet Plus (PoE+) applications
- HFFR-LS\* material enables cable to meet the requirements of the Construction Products Regulation (CPR) EuroClass D<sub>ca</sub>
- Blue† coloured jacket to identify EuroClass level D<sub>ca</sub>
- 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: IEC 61156-5 and EN 50288-5-1

## REACTION TO FIRE

CHARACTERISTIC	STANDARD	RATING
Single Cable Flame Rating	IEC/EN 60332-1-2	Pass
Acid Gas Emission / Acidity	EN 50267-2-3	Pass
Classification	EN 13501-6	D <sub>ca</sub> s2 d2 a1

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## 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>

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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	0.68
Segregation Class	Class C		

## PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company C6F/UTP-Dca Cat 6 F/UTP EN50399 EuroClass Dca s2 d2 a1 NVP 0.68 MADE IN UK [ID number] [Week/Year]

## STANDARD PACKAGING SPECIFICATIONS - REELS

Brand-Rex Part Number	Packaging Length (m)	Colour	Nominal Cable Dimension (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Reels Per Pallet
C6F/UTP-Dca-500BU	500	Blue†	7.1	51.5	400 x 390	28.3	12
C6F/UTP-Dca-1000BU	1000	Blue†	7.1	51.5	600 x 315	57.5	6
C6F/UTP-Dca-D500BU††	500m	Blue†	7.1 x 14.4	103.1	600 x 315	58	6

## STANDARD PACKAGING SPECIFICATIONS – 305m 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
C6F/UTP-Dca-RIx-305BU†	Blue†	7.1	51.5	475 x 295 x 475	16.7	12

† Also available in a range of non-standard colours

†† 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.