

# Category 6 F/FTP Euroclass C<sub>ca</sub> Cables

Datasheet: GD103458v2

**Brand-Rex** a LEVITON company

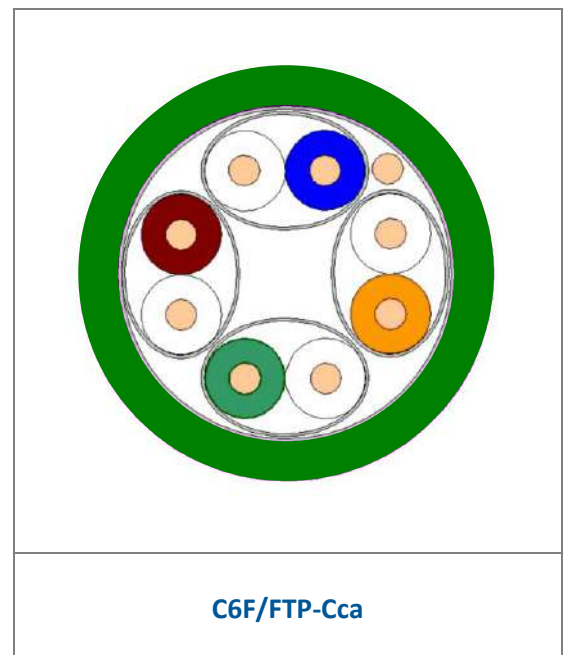
## APPLICATION

The Brand-Rex C6F/FTP C<sub>ca</sub> cables are compliant with the European Construction Products Regulation, achieving Euroclass level C<sub>ca</sub> according to EN 13501-6. These C<sub>ca</sub> Euroclass cables also have optimum levels of smoke emission, flaming droplets and acid gas production making them a versatile choice for most internal installation. The C6F/FTP C<sub>ca</sub> Euroclass cables are suited to any high density backbone installation where people safety in the case of fire is a high priority.

The Brand-Rex C6F/FTP cables exceed the Category E performance standards. They are rated to 250MHz and are suitable for use in all Class E structured wiring cable systems. The applications supported include Gigabit Ethernet, PoE and PoE+ and broadband video transmissions at frequencies as high as 250MHz.

## FEATURES AND BENEFITS

- 23 AWG Solid Annealed Copper Wire
- 4 Twisted Pairs Individually Screened and cabled together – providing EMI immunity
- Overall Aluminium Polyester Screen – for improved shielding efficiency and increased heat dissipation
- Designed to Support all Class E protocols including Gigabit Ethernet
- Supports Power Over Ethernet (PoE) and Power Over Ethernet Plus (PoE+) Applications
- Enhanced HFFR-LS\* material meets the requirements of the Construction Products Regulation (CPR) Euroclass C<sub>ca</sub>
- Green† Coloured Jacket to identify Euroclassification level C<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 EN50288-5-1

## REACTION TO FIRE

CHARACTERISTIC	STANDARD	RATING
Single Cable Flame Rating	IEC 60332-1-2	Pass
Bundled Cable Flame Rating	EN 50399 20.5kW source	C <sub>ca</sub>
Smoke Production	EN 50399	s1a
Flaming Droplets / Particles	EN 50399	d1
Acid Gas Emission / Acidity	EN 50267-2-3	a1
Euroclassification	EN 13501-6	C <sub>ca</sub> s1a d1 a1

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## PRIMARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Conductor Loop Resistance	Max 19 Ω / 100m	14Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.1%
Insulation Resistance	>5GΩ.km	>50GΩ.km
Dielectric Strength	2500 Vdc/2secs	Pass

## SECONDARY ELECTRICAL PARAMETERS

CHARACTERISTIC	SPECIFICATION	TYPICAL PERFORMANCE @ 20°C
Velocity of Propagation	<534nsec/100m @ 100MHz	413nsec/100m @ 100MHz
Delay Skew	Max 45nsec/100m @ 100MHz	4nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Coupling Attenuation	Type 1b	84dB
Transfer Impedance	Grade 2	11mΩ/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
	<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	na	na
	<b>Typical</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>94.3</b>	<b>88.9</b>	<b>87.1</b>	<b>81.7</b>	<b>81.0</b>
PSNEXT (dB)	Standard	64.0	63.3	57.3	52.8	42.3	37.8	36.3	na	na
	<b>Typical</b>	<b>97.0</b>	<b>97.0</b>	<b>97.0</b>	<b>97.0</b>	<b>91.3</b>	<b>85.9</b>	<b>84.1</b>	<b>78.7</b>	<b>78.0</b>
ELFEXT (dB/100m)	Standard	66.0	58.0	50.0	44.0	30.0	24.0	22.0	na	na
	<b>Typical</b>	<b>90.0</b>	<b>90.0</b>	<b>90.0</b>	<b>84.8</b>	<b>70.8</b>	<b>64.8</b>	<b>62.8</b>	<b>56.8</b>	<b>56.0</b>
PSELFEXT (dB/100m)	Standard	64.0	55.0	47.0	41.0	27.0	21.0	19.0	na	na
	<b>Typical</b>	<b>87.0</b>	<b>87.0</b>	<b>87.0</b>	<b>81.8</b>	<b>67.8</b>	<b>61.8</b>	<b>59.8</b>	<b>53.8</b>	<b>53.0</b>
Return loss (dB)	Standard	na	23.0	25.0	25.0	20.1	18.0	17.3	na	na
	<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>98.1</b>	<b>96.5</b>	<b>94.5</b>	<b>92.2</b>	<b>76.3</b>	<b>62.8</b>	<b>57.7</b>	<b>38.7</b>	<b>35.6</b>
PSACR (dB/100m)	<b>Typical</b>	<b>95.1</b>	<b>93.5</b>	<b>91.5</b>	<b>89.2</b>	<b>73.3</b>	<b>59.8</b>	<b>54.7</b>	<b>35.7</b>	<b>32.6</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	0.80
Segregation Class	Class D		

## PRINT LEGEND

Example print legend:

[Length Mark]m BRAND-REX a LEVITON company C6F/FTP-Cca Cat 6 F/FTP EN 50399 Euroclass Cca s1a d1 a1 NVP 0.80 MADE IN UK [ID number] [Week/Year]

## STANDARD PACKAGING SPECIFICATIONS

Brand-Rex Part Number	Packaging Length (m)	Colour	Nominal Cable Diameter (mm)	Nominal Cable Weight (kg/km)	Reel Size Flange x Width (mm)	Gross Weight (kg/Item)	Items Per Pallet
C6F/FTP-Cca-500GN	500	Green†	7.5	57.9	465 x 390	31.9	6
C6F/FTP-Cca-1000GN	1000	Green†	7.5	57.9	600 x 405	64.4	4

†Also available in a range of non-standard colours

*“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.

**DECLARATION OF PERFORMANCE**

**DoP No. 00087**

For the Construction product: Communication cables

- 1. Unique identification code of the product-type **C6 F/FTP Cca**

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- 2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4): See cable print.

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- 3. Intended use or uses of the construction product Supply of communications in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke.

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- 4. Contact address of the manufacturer According to Article 11(5): Brand-Rex Ltd, Viewfield Industrial Estate, Glenrothes Fife, KY6 2RS, Scotland, UK  
Tel: +441592772124 Fax: +441592775314  
Email: support@brand-rex.com

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- 5. Contact address of authorized representative: According to Article 12(2): As per Item 4.

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- 6. System of assessment and verification of constancy of performance of the construction product as set out in CPR EU Annex V. System 1+

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- 7. Notified product certification body NB2661  
Performed the determination of product type, the initial inspection of the manufacturing plant and of FPC, the continuous surveillance, assessment and evaluation of the FPC and the audit testing of samples taken before placing the product on the market and issued the certificate of constancy of performance.

8. Declared performance

Essential characteristics	Performance	Harmonized technical standard
Reaction to fire	<b>Cca-s1a,d1,a1</b>	EN 50575: 2014 +A1: 2016
Release of dangerous substances	None	

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Ken Hodge, Senior Director, Engineering

(Name and function)

Glenrothes, 30th June 2017

(Place and date of issue)



(Signed or on behalf of)