

Category 6_A S/FTP Cables

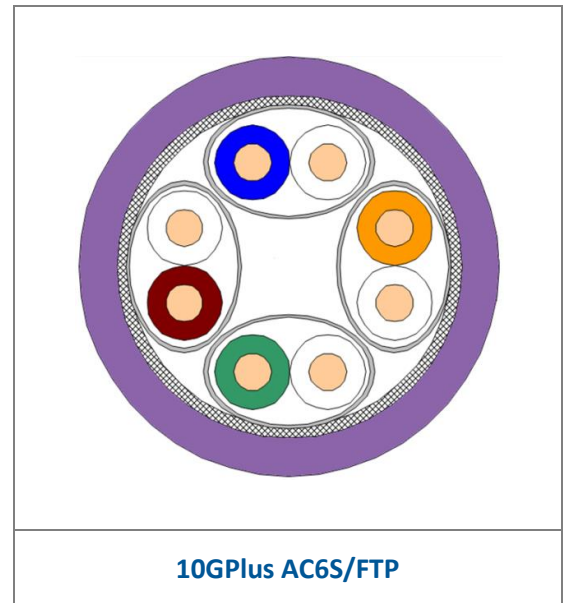
Datasheet: GD102404v2

APPLICATION

The Brand-Rex 10GPlus AC6S/FTP cables exceed the Category 6_A performance standards. They are rated to 500MHz and are suitable for use in all Class E_A structured wiring cable systems. The applications supported include 10 Gigabit Ethernet, Gigabit Ethernet, PoE and PoE+ and broadband video transmissions at frequencies up to 500MHz.

FEATURES AND BENEFITS

- 23 AWG Solid Annealed Copper Wire
- Gas Injection Foamed Polyolefin Core Insulation – offering superior signal speed
- 4 Twisted Pairs Individually Screened and cabled together – providing EMI immunity
- Overall Braided Screen – for improved shielding efficiency, increased mechanical robustness and heat dissipation
- Available in a Range of Sheath Materials – to suit a variety of installation environments and colour coded for identification
- Designed to Support all Class E_A protocols including 10GBASE-T
- Supports Power Over Ethernet (PoE) and Power Over Ethernet Plus (PoE+) Applications
- 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.



STANDARDS

Applicable Cable Standards: IEC 61156-5 and EN50288-10-1

MATERIAL IDENTIFICATION

Material Identifier	HF1	HF3	HF1-X
Material Description	Standard HFFR-LS*	Enhanced HFFR-LS	Inner - HFFR-LS Outer - Polyethylene
Flammability Rating	IEC 60332-1-2	IEC 60332-3-24	n/a – External Only
Smoke Emission	IEC 61034-1 & 2	IEC 61034-1 & 2	n/a – External Only
Acid Gas Emission	IEC 60754-2	IEC 60754-2	n/a – External Only
Colour	Violet	Blue	Inner - Violet Outer - Black

* Halogen Free Flame Retardant – Low Smoke

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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 25nsec/100m @ 100MHz	4nsec/100m @ 100MHz
Mean Characteristic Impedance	100Ω +/- 5Ω @ 100MHz	100Ω ± 3Ω @ 100MHz
Coupling Attenuation	Type 1	90dB
Transfer Impedance	Grade 1	8mΩ/m @ 10MHz

ELECTRICAL PERFORMANCE

Frequency (MHz)		1	4	10	20	100	200	250	500	550
Insertion Loss (dB/100m)	Standard	na	3.8	5.9	8.4	19.1	27.6	31.1	45.3	na
	<i>Typical</i>	1.9	3.5	5.5	7.8	18.0	26.1	29.4	43.0	45.4
NEXT (dB)	Standard	na	66.3	60.3	55.8	45.3	40.8	39.3	34.8	na
	<i>Typical</i>	100.0	100.0	100.0	100.0	94.3	88.9	87.1	81.7	81.0
PSNEXT (dB)	Standard	na	63.3	57.3	52.8	42.3	37.8	36.3	31.8	na
	<i>Typical</i>	97.0	97.0	97.0	97.0	91.3	85.9	84.1	78.7	78.0
ELFEXT (dB/100m)	Standard	na	56.0	48.0	42.0	28.0	22.0	20.0	14.0	na
	<i>Typical</i>	90.0	90.0	90.0	84.8	70.8	64.8	62.8	56.8	56.0
PSELFEXT (dB/100m)	Standard	na	53.0	45.0	39.0	25.0	19.0	17.0	11.0	na
	<i>Typical</i>	87.0	87.0	87.0	81.8	67.8	61.8	59.8	53.8	53.0
Return loss (dB)	Standard	20.0	23.0	25.0	25.0	20.1	18.0	17.3	17.3	na
	<i>Typical</i>	27.0	30.0	30.0	30.0	25.1	23.0	22.3	20.2	19.9
PSANEXT (dB)	Standard	67.0	67.0	67.0	67.0	62.5	58.0	56.5	52.0	na
	<i>Typical</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PSAACR-F (dB)	Standard	67.0	66.2	58.2	52.2	38.2	32.2	30.2	24.2	na
	<i>Typical</i>	98.1	96.5	94.5	92.2	82.0	73.9	70.6	57.0	54.6

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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 AC6S/FTP-HF1 Cat6A IEC 60332-1-2 NVP 0.80 Made in the 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
AC6S/FTP-HF1-500VT [†]	7.0	48.4	400 x 390	26.7	12
AC6S/FTP-1000VT [‡]	7.0	48.4	600 x 405	54.8	4
AC6S/FTP-HF1-D500VT [§]	7.1 x 14.3	100.0	600 x 405	113.0	4
AC6S/FTP-HF1-D1000VT	7.1 x 14.3	100.0	750 x 405	109.3	2
AC6S/FTP-HF3-500BU	7.2	52.7	400 x 390	28.9	12
AC6S/FTP-HF3-1000BU	7.2	52.7	600 x 405	59.2	4

[†] 500 = 500m length

[‡] 1000 = 1000m length

[§] '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.