



# 7/8"-A - HLFRU

## FLAME RETARDANT

Cable type : *5228 A-HLFRU*

Reference : *EC5-50-A-FRU*

CATV-rated coaxial cable (UL-1655), compliant to NFPA130 for flame spread and smoke release.

### Fire behaviour

Flame retardant acc. to UL-1685-FT4/IEEE1202, IEC 60332-1, IEC 60332-3 cat. C

Low smoke emission acc. to UL-1685-LS, IEC 61034

Low corrosive gas emission acc. to IEC 60754

## CHARACTERISTICS

### Construction

<b>• Inner conductor</b>	
Material	smooth copper tube
Diameter (mm) (in)	9.25 (0.36)
<b>• Dielectric</b>	
Material	gas-injected cellular polyethylene
Diameter (mm) (in)	23.5 (0.93)
<b>• Outer conductor</b>	
Material	corrugated copper tube
Diameter (mm) (in)	25 (0.98)
<b>• Outer sheath</b>	
Thickness (mm) (in)	1.4 (0.06)
Diameter (mm) (in)	27.8 (1.09)

### Mechanical characteristics

<b>• Minimum bending radius</b>	
a) single bending (cm) (in)	10 (3.9)
b) 15 repeated bends (cm)	25 (9.8)
<b>• Maximum pulling strength (daN) (lb)</b>	
	130 (292)
<b>• Recommended temperature range</b>	
- Storage	-70 to +85 °C (-94 to +185 °F)
- Installation	-40 to +60 °C (-40 to +140 °F)
- Operation	-55 to +85 °C (-67 to +185 °F)
<b>• Max. length per hoisting grip (m) (ft)</b>	
	70 (230)
<b>• Maximum hanger spacing (m) (ft)</b>	
	1.2 (3.9)
<b>• Flat plate crush res. (kg/mm) (lb/in)</b>	
	1.5 (87)
<b>• Bending moment (Nm) (lb-ft)</b>	
	10 (7.3)
<b>• Approximate weight (kg/m) (lb/ft)</b>	
	0.48( 0.3&, )

### Electrical characteristics

• Characteristic impedance ( $\Omega$ )	50 ± 1
• Nominal capacity (pF/m) (pF/ft)	75 (22.9)
• Relative propagation velocity (%)	89
• Inductance ( $\mu$ H/m) ( $\mu$ H/ft)	0.187 (0.057)
• DC-resistance at 20°C (68°F)	
- inner conductor ( $\Omega$ /km) ( $\Omega$ /1000ft)	1.65 (0.5)
- outer conductor ( $\Omega$ /km) ( $\Omega$ /1000ft)	1.31 (0.4)
• RF peak voltage (kV)	2.9
• RF peak power (kW)	86
• Cut-off-frequency (GHz)	5.1
• Insulation resistance (M $\Omega$ .km)	>> 5000

### • Attenuation<sup>[1]</sup> and power rating

Frequency (MHz)	Attenuation at 20°C (68°F) <sup>[2]</sup>		Mean power rating <sup>[3]</sup> (kW)
	(dB/100m)	(dB/100ft)	
10	0.35	0.107	25.86
20	0.49	0.149	18.22
30	0.61	0.186	14.83
80	1.00	0.305	8.99
100	1.12	0.341	8.02
150	1.38	0.421	6.51
200	1.61	0.491	5.60
300	1.98	0.60	4.54
400	2.31	0.70	3.90
450	2.46	0.75	3.66
500	2.60	0.79	3.46
600	2.86	0.87	3.14
700	3.11	0.95	2.90
800	3.34	1.02	2.69
894	3.55	1.08	2.54
960	3.68	1.12	2.44
1000	3.77	1.15	2.39
1500	4.70	1.43	1.91
1700	5.04	1.54	1.79
1800	5.2	1.59	1.73
1880	5.3	1.63	1.69
2000	5.5	1.68	1.63
2170	5.8	1.76	1.56
2200	5.8	1.77	1.55
2300	6.0	1.82	1.51
2400	6.1	1.86	1.47
2500	6.3	1.91	1.44
2700	6.5	1.99	1.38
3000	6.9	2.11	1.30
4000	8.2	2.49	1.10
6000	-	#WERT!	-

[1] The attenuation can be approximated by the formula:

$$\alpha(f[\text{MHz}]) = A \cdot \sqrt{f[\text{MHz}]} + B \cdot f[\text{MHz}] \quad (\text{dB}/100\text{m})$$

A = 0.109  
B = 0.00032

[2] Nominal values

[3] Ambient temperature = 40°C (104°F); temperature of inner conductor = 100°C (212°F); VSWR = 1.0; no solar loading