



1 5/8"-A flame-retardant

C_{ca}

DESCRIPTION

Cable type : *5438 A-HLFR*

Reference : *EC7-50-A-FRC*

Cable with UV resistant, halogen free, low smoke, flame retardant jacket according to IEC 60754, IEC 60332-1, IEC 60332-3 cat. C, IEC 61034, UL-1685-FT4/IEEE 1202 and EN 50399 C_{ca}-s1,d2,a1.

Compliant to EN 50575.

CHARACTERISTICS

Construction

• Inner conductor		
Material	corrugated copper tube	
Diameter (mm)		17.7
• Dielectric		
Material	gas-injected cellular polyethylene	
Diameter (mm)		43.0
• Outer conductor		
Material	corrugated copper tube	
Diameter (mm)		46.6
• Outer sheath		
Material	flame retardant polyolefin	
Thickness (mm)		1.7
Diameter (mm)		50.0

Mechanical characteristics

• Minimum bending radius	
a) single bending (cm)	20
b) 15 repeated bends	40
• Maximum pulling strength (daN)	
	250
• Recommended temperature range	
- Storage	-70 to +85 °C
- Installation	-40 to +60 °C
- Operation	-55 to +85 °C
• Max. length per hoisting grip (m)	
	70
• Maximum hanger spacing (m)	
	1.5
• Flat plate crush res. (kg/mm)	
	2.4
• Bending moment (Nm)	
	38
• Approximate weight (kg/km)	
	1190

Electrical characteristics

• Characteristic impedance (Ω)	50 ± 1
• Nominal capacity (pF/m)	75
• Relative propagation velocity (%)	89
• Inductance (μH/m)	0.187
• DC-resistance at 20°C	
- inner conductor (Ω/km)	1.44
- outer conductor (Ω/km)	0.5
• RF peak voltage (kV)	5.5
• RF peak power (kW)	302
• Cut-off-frequency (GHz)	2.8
• Insulation resistance (MΩ.km)	>> 5000
• Attenuation^[1] and power rating	

Frequency (MHz)	Attenuation at 20°C (68° F) ^[2]		Mean power rating ^[3] (kW)
	(dB/100m)	(dB/100m)	
10	0.20	49.42	
20	0.29	34.76	
30	0.36	28.27	
80	0.59	17.09	
100	0.67	15.22	
150	0.82	12.32	
200	0.96	10.60	
300	1.18	8.55	
400	1.38	7.33	
450	1.47	6.88	
500	1.56	6.50	
600	1.72	5.89	
700	1.87	5.41	
800	2.01	5.03	
894	2.14	4.73	
960	2.23	4.55	
1000	2.28	4.45	
1500	2.86	3.54	
1700	3.07	3.30	
1800	3.17	3.19	
1880	3.25	3.12	
2000	3.37	3.01	
2170	3.53	2.87	
2200	3.56	2.85	
2300	3.65	2.77	
2400	3.74	2.71	
2500	3.83	2.64	
2700	4.01	2.53	
3000	-	-	
4000	-	-	
6000	-	-	

[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 = 0.064
B = 0.000253

[2] Nominal values

[3] Ambient temperature = 40°C; temperature of inner conductor = 100°C;
VSWR = 1.0; no solar loading