1/2" flame-retardant C_{ca}

DESCRIPTION

Cable type : *5128-HLFRC*

Reference : *EC4-50-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, NF C 32070 cat. C1, UL-1685-FT4/IEEE 1202 and EN 50399 C_{ca}-s1,d2,a1. Compliant to EN 50575.

CHARACTERISTICS

Construction

• Inner conductor	
Material	**copper clad aluminium wire**
Diameter *(mm)*	**4.9**
• Dielectric	
Material	**gas-injected cellular polyethylene**
Diameter *(mm)*	**12.4**
• Outer conductor	
Material	**corrugated copper tube**
Diameter *(mm)*	**13.8**
• Outer sheath	
Material	**flame retardant polyolefin**
Thickness *(mm)*	**1.1**
Diameter *(mm)*	**16.0**

Mechanical characteristics

• Minimum bending radius	
a) single bending *(cm)*	**7**
b) 15 repeated bends	**12**
• Maximum pulling strength *(daN)*	**90**
• 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**
• Flat plate crush res. *(kg/mm)*	**1.2**
• Bending moment *(Nm)*	**3.3**
• Approximate weight *(kg/km)*	**247**

Electrical characteristics

• Characteristic impedance *(Ω)*	**50 ± 1**
• Nominal capacity *(pF/m)*	**76**
• Relative propagation velocity *(%)*	**88**
• Inductance *(µH/m)*	**0.189**
• DC-resistance at 20°C	
- inner conductor *(Ω/km)*	**1.48**
- outer conductor *(Ω/km)*	**2.3**
• RF peak voltage *(kV)*	**1.6**
• RF peak power *(kW)*	**25.6**
• Cut-off-frequency *(GHz)*	**9.8**
• Insulation resistance *(M Ω.km)*	**>> 5000**

• Attenuation[1] and power rating

Frequency	Attenuation at 20°C (68° F) [2]	Mean power rating [3]
(MHz)	*(dB/100m)*	*(kW)*
10	0.67	11.79
20	0.95	8.31
30	1.17	6.77
80	1.92	4.11
100	2.15	3.67
150	2.65	2.98
200	3.07	2.57
300	3.79	2.08
400	4.41	1.79
450	4.69	1.68
500	4.96	1.59
600	5.46	1.45
700	5.92	1.33
800	6.36	1.24
894	6.74	1.17
960	7.01	1.13
1000	7.16	1.10
1500	8.91	0.89
1700	9.54	0.83
1800	9.85	0.80
1880	10.08	0.78
2000	10.43	0.76
2170	10.91	0.72
2200	10.99	0.72
2300	11.27	0.70
2400	11.54	0.68
2500	11.80	0.67
2700	12.32	0.64
3000	13.06	0.60
4000	15.36	0.51
6000	19.39	0.41

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

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

A = 0.21

B = 0.00052

[2] Nominal values

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