1/4" - Hiflex

STANDARD

Cable type : *5042*

Reference : *EC1-50-HF*

Cable with standard UV resistant PE jacket, halogen free according to IEC 60754

CHARACTERISTICS

Construction

• Inner conductor	
Material	**copper clad aluminium wire**
Diameter *(mm) (in)*	**1.9 (0.07)**
• Dielectric	
Material	**gas-injected cellular polyethylene**
Diameter *(mm) (in)*	**4.6 (0.18)**
• Outer conductor	
Material	**corrugated copper tube**
Diameter *(mm) (in)*	**6.4 (0.25)**
• Outer sheath	
Thickness *(mm) (in)*	**0.55 (0.02)**
Diameter *(mm) (in)*	**7.5 (0.3)**

Mechanical characteristics

• Minimum bending radius	
a) single bending *(cm) (in)*	**2.5 (1)**
b) 15 repeated bends *(cm) (in)*	**2.5 (1)**
• Maximum pulling strength *(daN) (lb)*	**30 (67)**
• Recommended temperature range	
- 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)**
• Max. length per hoisting grip *(m) (ft)*	**70 (230)**
• Maximum hanger spacing *(m) (ft)*	**-**
• Flat plate crush res. *(kg/mm) (lb/in)*	**1.8 (104)**
• Bending moment *(Nm) (lb-ft)*	**1.1 (0.8)**
• Approximate weight *(kg/km) (lb/ft)*	**83 (0.056)**

Electrical characteristics

• Characteristic impedance *(Ω)*	**50 ± 1.5**
• Nominal capacity *(pF/m) (pF/ft)*	**80 (24.4)**
• Relative propagation velocity *(%)*	**82**
• Inductance *(µH/m) (µH/ft)*	**0.203 (0.062)**
• DC-resistance at 20°C (68°F)	
- inner conductor *(Ω/km) (Ω/1000ft)*	**9.2 (2.8)**
- outer conductor *(Ω/km) (Ω/1000ft)*	**4.4 (1.34)**
• RF peak voltage *(kV)*	**0.6**
• RF peak power *(kW)*	**3.6**
• Cut-off-frequency *(GHz)*	**22.0**
• Insulation resistance *(MΩ.km)*	**>> 5000**

• Attenuation[1] and power rating

Frequency	Attenuation at 20°C (68° F) [2]		Mean power rating [3]
(MHz)	*(dB/100m)*	*(dB/100ft)*	*(kW)*
10	1.76	0.537	3.93
20	2.49	0.759	2.77
30	3.06	0.933	2.26
80	5.03	1.534	1.37
100	5.63	1.716	1.23
150	6.93	2.113	1.00
200	8.03	2.448	0.86
300	9.89	3.015	0.70
400	11.48	3.500	0.60
450	12.20	3.720	0.57
500	12.89	3.930	0.54
600	14.18	4.323	0.49
700	15.37	4.686	0.45
800	16.49	5.027	0.42
894	17.49	5.332	0.39
960	18.16	5.537	0.38
1000	18.56	5.659	0.37
1500	23.03	7.021	0.30
1700	24.63	7.509	0.28
1800	25.40	7.744	0.27
1880	26.00	7.927	0.27
2000	26.89	8.198	0.26
2170	28.10	8.567	0.25
2200	28.31	8.631	0.24
2300	29.00	8.841	0.24
2400	29.68	9.049	0.23
2500	30.35	9.253	0.23
2700	31.65	9.649	0.22
3000	33.53	10.223	0.21
4000	39.31	11.985	0.18
6000	49.36	15.049	0.14

[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 = 0.552
B = 0.0011

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