1/2" - Hiflex

STANDARD

Cable type: ***5092***

Reference: ***EC4-50-HF***

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

CHARACTERISTICS

Construction

· Inner conductor	
Material	**copper clad aluminum wire**
Diameter *mm (in)*	**3.55 (0.14)**
· Dielectric	
Material	**gas-injected cellular polyethylene**
Diameter *mm (in)*	**9 (0.35)**
· Outer Conductor	
Material	**corrugated copper tube**
Diameter *mm (in)*	**12.1 (0.48)**
· Outer sheath	
Thickness *mm (in)*	**0.7 (0.03)**
Diameter *mm (in)*	**13.6 (0.54)**

Mechanical Characteristics

· Minimum bending radius	
a) single bending *cm (in)*	**3 (1.2)**
b) 15 repeated bends *cm (in)*	**3 (1.2)**
· Maximum pulling strength *daN (lb)*	**60 (135)**
· Recommeded 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)*	**0.5 (1.6)**
· Flat plate crush res. *kg/mm (lb/in)*	**2.1 (121)**
· Bending moment *Nm (lb-ft)*	**2 (1.5)**
· Approximate weight *kg/km (lb/ft)*	**183 (0.123)**

VSWR characteristics

VSWR [4] $_{max}$	***600 - 1000 MHz***	***< 1.20***
VSWR [4] $_{max}$	***1700 - 2700 MHz***	***< 1.20***
VSWR [4] $_{max}$	***3400 - 3800 MHz***	***< 1.20***
VSWR [4] $_{max}$	***5000 - 6000 MHz***	***< 1.25***

Electrical Characteristicss

· Characteristic impedance Ω	**50.3 ± 0.5**
· Nominal capacity *pF/m (pF/ft)*	**82 (25)**
· Relative propagation velocity *%*	**82**
· Inductance *µH/m (µH/ft)*	**0.204 (0.062)**
· DC-resistance at 20°C(68°F)	
- inner cond. *Ω/km (Ω/1000ft)*	**2.76 (0.84)**
- outer cond. *Ω/km (Ω/1000ft)*	**3.73 (1.14)**
· RF peak voltage *kV*	**1.59**
· RF peak power *kW*	**25**
· Cut-off frequency *GHz*	**13.2**
· 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	1.01	0.31	9.45
20	1.43	0.44	6.66
30	1.76	0.54	5.43
80	2.89	0.88	3.30
100	3.24	0.99	2.94
150	3.98	1.21	2.39
200	4.62	1.41	2.06
300	5.69	1.73	1.67
400	6.61	2.02	1.44
450	7.03	2.14	1.36
500	7.43	2.27	1.28
600	8.17	2.49	1.17
700	8.86	2.70	1.08
800	9.51	2.90	1.00
894	10.09	3.08	0.95
960	10.47	3.19	0.91
1000	10.70	3.26	0.89
1500	13.30	4.05	0.72
1700	14.23	4.34	0.67
1800	14.67	4.47	0.65
1880	15.02	4.58	0.63
2000	15.54	4.74	0.61
2170	16.24	4.95	0.59
2200	16.36	4.99	0.58
2300	16.77	5.11	0.57
2400	17.16	5.23	0.56
2500	17.55	5.35	0.54
2700	18.31	5.58	0.52
3000	19.40	5.91	0.49
4000	22.77	6.94	0.42
6000	28.63	8.73	0.33

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

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

A = 0.317
B = 0.00068

[2] Nominal values
[3] Ambient temperature = 40°C (104°F); temperature of inner conductor = 100°C (212°F); VSWR = 1.0; no solar loading
[4] Maximum VSWR value, measured on standard reel length