

**HCA118-50J****1-1/8" HELIFLEX® Air-Dielectric Coaxial Cable**

HELIFLEX® 1-1/8" low loss air dielectric cable

Feature / Benefits

- **Low Attenuation**
The low attenuation of HELIFLEX® coaxial cable results in highly efficient signal transfer in your RF system.
- **Complete Shielding**
The solid outer conductor of HELIFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
Special low VSWR versions of HELIFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
HELIFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, HELIFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical features**APPLICATIONS**

Applications	Wireless Communication	TV & Radio	HF Defense	Mobile Radio	Cable Solutions
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STRUCTURE

Cable Type	Air-Dielectric, Corrugated
Size	1-1/8
Jacket Option	Black
Inner Conductor Diameter	12mm (0.47in)
Inner Conductor Material	Copper Tube
Dielectric Diameter	27.2mm (1.069in)
Dielectric Material	Helical Polyethylene Spacer
Outer Conductor Diameter	33.2mm (1.3in)
Outer Conductor Material	Corrugated Copper
Jacket Diameter	36.4mm (1.43in)
Jacket Material	Polyethylene, PE

TESTING AND ENVIRONMENTAL

Fire Performance	Halogene Free
Flame Retardant Jacket Specifications	Meets the requirements according to: IEC60754-1, IEC60754-2
Installation Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Operation Temperature	-50°C to 85°C (-58°F to 185°F)



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ELECTRICAL SPECIFICATIONS

Impedance	50 +/- 0.5 Ω
Maximum Frequency	3 GHz
Velocity	92 %
Capacitance	73pF/m (22.3pF/ft)
Inductance	0.183μH/m (0.056μH/ft)
Peak Power Rating	137 kW
RF Peak Voltage	3700 Volts
Jacket Spark	8000 Volt RMS
Inner Conductor dc Resistance	0.64ohm/1000 m (0.195ohm/1000 ft)
Outer Conductor dc Resistance	0.5ohm/1000 m (0.152ohm/1000 ft)
Return Loss (VSWR) Performance	Standard
Phase Stabilized	Phase stabilized and phase matched cables and assemblies are available upon request.

MECHANICAL SPECIFICATIONS

Cable Weight	1.1kg/m (0.74lb/ft)
Minimum Bending Radius	130mm (5in)
Minimum Bending Radius	400mm (16in)
Bending Moment	42 (31)
Tensile Strength	2200N (495lb)
Recommended / Maximum Clamp Spacing	0.5 / 0.9 (1.8 / 3)



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ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.062	0.019	137
1	0.088	0.027	125
1.5	0.108	0.033	102
2	0.125	0.038	88
10	0.281	0.086	39.2
20	0.399	0.122	27.6
30	0.491	0.15	22.4
50	0.637	0.194	17.3
88	0.852	0.26	13
100	0.91	0.277	12.1
108	0.947	0.289	11.7
150	1.12	0.342	9.89
174	1.21	0.37	9.16
200	1.31	0.398	8.47
300	1.62	0.492	6.88
400	1.88	0.574	5.96
450	2	0.611	5.61
500	2.12	0.646	5.31
512	2.15	0.655	5.24
600	2.34	0.713	4.83
700	2.54	0.775	4.47
800	2.73	0.833	4.18
824	2.78	0.847	4.11
894	2.91	0.886	3.93
900	2.92	0.889	3.92
925	2.96	0.902	3.87
960	3.02	0.921	3.8
1000	3.09	0.942	3.72
1250	3.5	1.07	3.32
1500	3.87	1.18	3.04
1700	4.15	1.27	2.86
1800	4.29	1.31	2.77
2000	4.55	1.39	2.64
2200	4.81	1.46	2.52
2300	4.93	1.5	2.46
3000	5.75	1.75	2.17

External Document Links

Notes