



## 7/8" HELIFLEX® Air-Dielectric Coaxial Cable

HELIFLEX® 7/8" low loss air dielectric cable; standard, self-healing jacket

### FEATURES / 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.



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### Technical Features

#### APPLICATIONS

Applications	UHF, VHF
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#### STRUCTURE

Cable Type		Air-Dielectric, Corrugated
Size		7/8"
Jacket Option		Black Self healing
Inner Conductor	mm (in)	9 (0.35) Copper Tube
Dielectric	mm (in)	20.2 (0.79) Helical Polyethylene Spacer
Outer Conductor	mm (in)	25.5 (1) Corrugated Copper
Jacket	mm (in)	28 (1.103) Polyethylene, PE, Bitumen Filling

#### ELECTRICAL SPECIFICATIONS

Impedance	Ω	50 +/- 0.5
Maximum Frequency	GHz	3
Velocity	%	93
Capacitance	pF/m (pF/ft)	71 (21.6)
Inductance	μH/m (μH/ft)	0.178 (0.054)
Peak Power Rating	kW	73
RF Peak Voltage	Volts	2700
Jacket Spark	Volt RMS	8000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	1.1 (0.34)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.88 (0.27)
Return Loss (VSWR) Performance		Standard
Maximum Return Loss	dB (VSWR)	Typical 20.8dB (1.2 VSWR) or better within the operation bands of most global frequency ranges. Premium also available. Contact factory for options in your specific frequency band.
Phase Stabilized		Phase stabilized and phase matched cables and assemblies are available upon request.
Temperature & Power		Standard

#### MECHANICAL SPECIFICATIONS

Cable Weight	kg/m (lb/ft)	0.68 (0.46)
Minimum Bending Radius, Single Bend	mm (in)	100 (4)
Minimum Bending Radius, Repeated Bends	mm (in)	250 (10)
Bending Moment	Nm (lb*ft)	27 (20)
Tensile Strength	N (lb)	1600 (360)
Recommended / Maximum Clamp Spacing	m (ft)	0.5 / 0.9 (1.8 / 3)



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### ATTENUATION AND POWER RATING

Frequency MHz	Attenuation		Power kW
	dB/100m	dB/100ft	
0.5	0.08	0.025	73.00
1	0.12	0.035	73.00
1.5	0.14	0.043	70.90
2	0.16	0.05	61.40
10	0.37	0.112	27.30
20	0.52	0.158	19.20
30	0.64	0.194	15.70
50	0.83	0.252	12.10
88	1.10	0.337	9.11
100	1.18	0.359	8.49
108	1.23	0.374	8.15
150	1.45	0.443	6.92
174	1.57	0.478	6.39
200	1.69	0.514	5.94
300	2.08	0.634	4.84
400	2.42	0.738	4.17
450	2.57	0.785	3.93
500	2.72	0.83	3.71
512	2.76	0.84	3.66
600	3.00	0.914	3.37
700	3.25	0.992	3.12
800	3.49	1.07	2.91
824	3.55	1.08	2.86
894	3.71	1.13	2.74
900	3.72	1.13	2.74
925	3.78	1.15	2.69
960	3.85	1.17	2.65
1000	3.94	1.20	2.59
1250	4.45	1.36	2.30
1500	4.91	1.50	2.10
1700	5.26	1.60	1.97
1800	5.43	1.65	1.91
2000	5.75	1.75	1.81
2200	6.07	1.85	1.72
2300	6.22	1.90	1.68
3000	7.22	2.20	1.47

Attenuation at 20°C (68°F) cable temperature;  
tolerance +/- 5% max.; Mean power rating at  
40°C (104°F) ambient temperature

### TESTING AND ENVIRONMENTAL

Fire Performance	Halogene Free
Installation Temperature	-25 to 60 (13 to 140) °C(°F)
Storage Temperature	-70 to 85 (-94 to 185) °C(°F)
Operation Temperature	-50 to 85 (-58 to 185) °C(°F)

### External Document Links

### Notes