



HELIFLEX® 1-5/8" low loss air dielectric cable

**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 RF/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.



1-5/8" HELIFLEX® Air Dielectric Coaxial Cable

**Technical features**

**APPLICATIONS**

<b>Applications</b>	Wireless Communication	TV & Radio	HF Defense	Mobile Radio	Cable Solutions
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**STRUCTURE**

<b>Cable Type</b>		Air-Dielectric, Corrugated
<b>Size</b>		1-5/8
<b>Jacket Option</b>		Black
<b>Inner Conductor</b>	mm (in)	18.6 (0.73)
<b>Dielectric</b>	mm (in)	39.8 (1.56)
<b>Outer Conductor</b>	mm (in)	46.6 (1.83)
<b>Jacket</b>	mm (in)	50.4 (1.984)

**TESTING AND ENVIRONMENTAL**

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



**ELECTRICAL SPECIFICATIONS**

Impedance, Ohm	Ω	50 +/- 0.5
Maximum Frequency	GHz	3
Velocity, percent	%	95
Capacitance	pF/m (pF/ft)	70 (21.3)
Inductance, uH/m (uH/ft)	μH/m (μH/ft)	0.175 (0.053)
Peak Power Rating	kW	270
RF Peak Voltage	Volts	5200
Jacket Spark	Volt RMS	8000
Inner Conductor dc Resistance, Ω/km (Ω/kft)	Ω/1000 m (Ω/1000 ft)	1.06 (0.33)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	Ω/1000 m (Ω/1000 ft)	0.39 (0.13)
Return Loss (VSWR) Performance		Standard
Min. Return Loss (Max. VSWR)	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, Nominal	kg/m (lb/ft)	1.3 (0.89)
Minimum Bending Radius, Single Bend	mm (in)	180 (7)
Minimum Bending Radius, Repeated Bends	mm (in)	550 (22)
Bending Moment, Nm (lb-ft)	Nm (lb*ft)	42 (31)
Tensile Strength	N (lb)	1500 (337)
Recommended / Maximum Clamp Spacing	m (ft)	0.8 / 1.2 (2.75 / 4)



**ATTENUATION AND POWER RATING**

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.04	0.01	270
1	0.06	0.02	196
1.5	0.08	0.02	160
2	0.09	0.03	138
10	0.20	0.06	61.40
20	0.28	0.09	43.40
30	0.34	0.10	35.40
50	0.44	0.14	27.30
88	0.59	0.18	20.50
100	0.63	0.19	19.20
108	0.66	0.20	18.40
150	0.78	0.24	15.60
174	0.84	0.26	14.40
200	0.90	0.28	13.50
300	1.11	0.34	11
400	1.29	0.39	9.44
450	1.38	0.42	8.83
500	1.45	0.44	8.41
512	1.47	0.45	8.30
600	1.60	0.49	7.64
700	1.74	0.53	7.03
800	1.86	0.57	6.59
824	1.89	0.58	6.49
894	1.98	0.60	6.20
900	1.98	0.61	6.20
925	2.01	0.61	6.11
960	2.05	0.63	6
1000	2.10	0.64	5.86
1250	2.37	0.72	5.21
1500	2.61	0.80	4.75
1700	2.80	0.85	4.44
1800	2.89	0.88	4.31
2000	3.06	0.93	4.08
2200	3.22	0.98	3.89
2300	3.30	1.01	3.81
3000	3.83	1.17	3.32

External Document Links

Notes