



HELIFLEX® 2-1/4" 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.



2-1/4" HELIFLEX® Air Dielectric Coaxial Cable

**Technical features**

**APPLICATIONS**

Applications		TV & Radio	HF Defense	Cable Solutions
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**STRUCTURE**

Size			2-1/4
Jacket Option			Black
Inner Conductor Diameter	mm (in)		22.7 (0.893)
Inner Conductor Material			Corrugated Copper Tube
Dielectric Diameter	mm (in)		49.9 (1.964)
Dielectric Material			Helical Polyethylene Spacer
Outer Conductor Diameter	mm (in)		56.6 (2.23)
Outer Conductor Material			Corrugated Copper
Jacket Diameter	mm (in)		60.2 (2.37)
Jacket Material			Polyethylene, PE
Cable Type			Air-Dielectric, Corrugated

**TESTING AND ENVIRONMENTAL**

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



**ELECTRICAL SPECIFICATIONS**

<b>Impedance</b>	Ω	50 +/- 0.5
<b>Maximum Frequency</b>	GHz	2.3
<b>Velocity</b>	%	95
<b>Capacitance</b>	pF/m (pF/ft)	66.6 (20.3)
<b>Inductance</b>	uH/m (uH/ft)	0.167 (0.051)
<b>Peak Power Rating</b>	kW	425
<b>RF Peak Voltage</b>	Volts	6500
<b>Jacket Spark</b>	Volt RMS	8000
<b>Inner Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	0.32 (0.16)
<b>Outer Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	0.23 (0.07)
<b>Return Loss (VSWR) Performance</b>		Standard
<b>Min. Return Loss (Max. VSWR)</b>	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.
<b>Phase Stabilized</b>		Phase stabilized and phase matched cables and assemblies are available upon request.
<b>Temperature &amp; Power</b>		Standard

**MECHANICAL SPECIFICATIONS**

<b>Cable Weight, Nominal</b>	kg/m (lb/ft)	1.7 (1.15)
<b>Minimum Bending Radius, Single Bend</b>	mm (in)	210 (8)
<b>Minimum Bending Radius, Repeated Bends</b>	mm (in)	560 (22)
<b>Tensile Strength</b>	N (lb)	1900 (427)
<b>Recommended / Maximum Clamp Spacing</b>	m (ft)	0.8 / 1 (2.75 / 3.25)



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

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.04	0.01	340
1	0.05	0.02	240
1.5	0.07	0.02	196
2	0.08	0.02	169
10	0.17	0.05	75.20
20	0.24	0.07	52.70
30	0.30	0.09	42.90
50	0.39	0.12	33
88	0.52	0.16	24.60
100	0.55	0.17	23
108	0.58	0.18	22.10
150	0.68	0.21	18.60
174	0.74	0.23	17.20
200	0.80	0.24	16
300	0.99	0.30	12.80
400	1.16	0.35	11
450	1.24	0.38	10.30
500	1.31	0.40	9.73
512	1.33	0.40	9.59
600	1.45	0.44	8.80
700	1.58	0.48	8.08
800	1.70	0.52	7.52
824	1.73	0.53	7.39
894	1.81	0.55	7.07
900	1.82	0.55	7.03
925	1.84	0.56	6.95
960	1.88	0.57	6.81
1000	1.93	0.59	6.63
1250	2.19	0.67	5.86
1500	2.43	0.74	5.29
1700	2.62	0.80	4.91
1800	2.71	0.83	4.75
2000	2.88	0.88	4.48
2200	3.05	0.93	4.24
2300	3.13	0.95	4.13

External Document Links

Notes