



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

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 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.



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

Technical Features

APPLICATIONS

Applications	UHF, VHF, Broadcast; intended for outdoor usage
--------------	---

STRUCTURE

Cable Type		Air-Dielectric, Corrugated
Size		1-5/8"
Jacket Option		Black
Inner Conductor	mm (in)	18.6 (0.73) Corrugated Copper Tube
Dielectric	mm (in)	39.8 (1.56) Helical Polyethylene Spacer
Outer Conductor	mm (in)	46.6 (1.83) Corrugated Copper
Jacket	mm (in)	50.4 (1.984) Polyethylene, PE

ELECTRICAL SPECIFICATIONS

Impedance	Ω	50 +/- 0.5
Maximum Frequency	GHz	3.0
Velocity	%	95.0
Capacitance	pF/m (pF/ft)	70 (21.3)
Inductance	μH/m (μH/ft)	0.175 (0.053)
Peak Power Rating	kW	270.0
RF Peak Voltage	Volts	5200.0
Jacket Spark	Volt RMS	8000.0
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	1.06 (0.33)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.39 (0.13)
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, 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)	42
Tensile Strength	N (lb)	1500 (337)
Recommended / Maximum Clamp Spacing	m (ft)	0.8 / 1.2 (2.75 / 4)



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

ATTENUATION AND POWER RATING

Frequency MHz	Attenuation		Power kW
	dB/100m	dB/100ft	
0.5	0.04	0.013	270.00
1	0.06	0.019	196.00
1.5	0.08	0.023	160.00
2	0.09	0.027	138.00
10	0.20	0.06	61.40
20	0.28	0.085	43.40
30	0.34	0.104	35.40
50	0.44	0.135	27.30
88	0.59	0.18	20.50
100	0.63	0.193	19.20
108	0.66	0.20	18.40
150	0.78	0.237	15.60
174	0.84	0.256	14.40
200	0.90	0.275	13.50
300	1.11	0.339	11.00
400	1.29	0.394	9.44
450	1.38	0.419	8.83
500	1.45	0.443	8.41
512	1.47	0.449	8.30
600	1.60	0.488	7.64
700	1.74	0.529	7.03
800	1.86	0.568	6.59
824	1.89	0.577	6.49
894	1.98	0.603	6.20
900	1.98	0.605	6.20
925	2.01	0.614	6.11
960	2.05	0.626	6.00
1000	2.10	0.64	5.86
1250	2.37	0.722	5.21
1500	2.61	0.797	4.75
1700	2.80	0.853	4.44
1800	2.89	0.88	4.31
2000	3.06	0.932	4.08
2200	3.22	0.982	3.89
2300	3.30	1.01	3.81
3000	3.83	1.17	3.32

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
Flame Retardant Jacket Specifications	Meets the requirements according to: IEC60754-1, IEC60754-2
Installation Temperature	-40 to 60 (-40 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