



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

Product Description

HELIFLEX® 2-1/4" low loss air dielectric cable

Application: TV, Broadcast



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

Frequency [MHz]	Attenuation		Power [kW]
	[dB/100m]	[dB/100ft]	
0.5	0.0374	0.0114	340
1.0	0.0529	0.0161	240
1.5	0.0649	0.0198	196
2.0	0.0750	0.0229	169
10	0.169	0.0516	75.2
20	0.241	0.0734	52.7
30	0.296	0.0903	42.9
50	0.385	0.117	33.0
88	0.517	0.158	24.6
100	0.553	0.168	23.0
108	0.576	0.175	22.1
150	0.684	0.209	18.6
174	0.740	0.226	17.2
200	0.797	0.243	16.0
300	0.991	0.302	12.8
400	1.16	0.353	11.0
450	1.24	0.377	10.3
500	1.31	0.399	9.73
512	1.33	0.404	9.59
600	1.45	0.441	8.80
700	1.58	0.481	8.08
800	1.70	0.518	7.52
824	1.73	0.527	7.39
894	1.81	0.552	7.07
900	1.82	0.554	7.03
925	1.84	0.562	6.95
960	1.88	0.574	6.81
1000	1.93	0.588	6.63
1250	2.19	0.668	5.86
1500	2.43	0.742	5.29
1700	2.62	0.798	4.91
1800	2.71	0.825	4.75
2000	2.88	0.878	4.48
2200	3.05	0.929	4.24
2300	3.13	0.954	4.13

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature

Technical Features

Structure

Inner conductor:	Corrugated Copper Tube	[mm (in)]	22.7 (0.893)
Dielectric:	Helical Polyethylene Spacer	[mm (in)]	49.9 (1.964)
Outer conductor:	Corrugated Copper	[mm (in)]	56.6 (2.23)
Jacket:	Polyethylene, PE	[mm (in)]	60.2 (2.37)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	1.7 (1.15)
Minimum bending radius, single bending	[mm (in)]	210 (8)
Minimum bending radius, repeated bending	[mm (in)]	560 (22)
Bending moment	[Nm (lb-ft)]	
Max. tensile force	[N (lb)]	1900 (427)
Recommended / maximum clamp spacing	[m (ft)]	0.8 / 1 (2.75 / 3.25)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 0.5
Relative propagation velocity	[%]	95
Capacitance	[pF/m (pF/ft)]	66.6 (20.3)
Inductance	[μH/m (μH/ft)]	0.167 (0.051)
Max. operating frequency	[GHz]	2.3
Jacket spark test RMS	[V]	8000
Peak power rating	[kW]	425
RF Peak voltage rating	[V]	6500
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	0.32 (0.16)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	0.23 (0.07)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-70 to 85 (-94 to 185)
Installation temperature	[°C (°F)]	-40 to 60 (-40 to 140)
Operation temperature	[°C (°F)]	-50 to 85 (-58 to 185)

Other Characteristics

Fire Performance:	Halogene Free	
VSWR Performance:	Standard	[dB (VSWR)]
Other Options:	Phase stabilized and phase matched cables and assemblies are available upon request.	

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.

All information contained in the present datasheet is subject to confirmation at time of ordering