

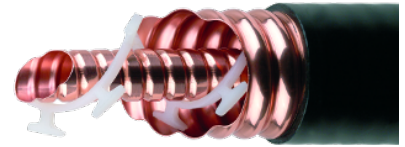


3" HELIFLEX® Air-Dielectric Coaxial Cable

Product Description

HELIFLEX® 3" low loss air dielectric cable

Application: TV, Broadcast



3" 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.

Technical Features

Structure

Inner conductor:	Corrugated Copper Tube	[mm (in)]	29.3 (1.15)
Dielectric:	Helical Polyethylene Spacer	[mm (in)]	63.5 (2.5)
Outer conductor:	Corrugated Copper	[mm (in)]	72.4 (2.85)
Jacket:	Polyethylene, PE	[mm (in)]	76 (2.992)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	2.6 (1.78)
Minimum bending radius, single bending	[mm (in)]	270 (11)
Minimum bending radius, repeated bending	[mm (in)]	760 (30)
Bending moment	[Nm (lb-ft)]	
Max. tensile force	[N (lb)]	1800 (405)
Recommended / maximum clamp spacing	[m (ft)]	0.8 / 1.2 (2.75 / 4)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 0.5
Relative propagation velocity	[%]	96
Capacitance	[pF/m (pF/ft)]	66.6 (20.3)
Inductance	[μ H/m (μ H/ft)]	0.167 (0.051)
Max. operating frequency	[GHz]	1.63
Jacket spark test RMS	[V]	8000
Peak power rating	[kW]	640
RF Peak voltage rating	[V]	8000
DC-resistance inner conductor	[Ω /km (Ω /1000ft)]	0.39 (0.12)
DC-resistance outer conductor	[Ω /km (Ω /1000ft)]	0.16 (0.05)

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)]

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.

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.

Frequency [MHz]	Attenuation		Power [kW]
	[dB/100m]	[dB/100ft]	
0.5	0.0280	0.0085	596
1.0	0.0397	0.0121	421
1.5	0.0487	0.0148	343
2.0	0.0563	0.0172	297
10	0.127	0.0388	132
20	0.181	0.0552	92.3
30	0.223	0.0680	74.9
50	0.291	0.0886	57.4
88	0.391	0.119	42.8
100	0.418	0.127	40.
108	0.436	0.133	38.4
150	0.519	0.158	32.2
174	0.561	0.171	29.8
200	0.605	0.184	27.7
300	0.754	0.230	22.2
400	0.883	0.269	19.0
450	0.943	0.287	17.8
500	1.0	0.305	16.8
512	1.01	0.309	16.6
600	1.11	0.338	15.2
700	1.21	0.368	13.9
800	1.30	0.398	13.0
824	1.33	0.404	12.7
894	1.39	0.424	12.1
900	1.40	0.425	12.1
925	1.42	0.432	11.9
960	1.45	0.441	11.6
1000	1.48	0.452	11.4
1250	1.69	0.515	10.0
1500	1.88	0.573	9.04
1700	2.03	0.618	8.39

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