

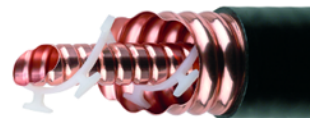


## 3" HELIFLEX® Air-Dielectric Coaxial Cable

HELIFLEX® 3" 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.



3" HELIFLEX® Air Dielectric Coaxial Cable

### Technical Features

#### APPLICATIONS

Applications	TV, Broadcast
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#### STRUCTURE

Cable Type		Air-Dielectric, Corrugated
Size		3"
Jacket Option		Black
Inner Conductor	mm (in)	29.3 (1.15) Corrugated Copper Tube
Dielectric	mm (in)	63.5 (2.5) Helical Polyethylene Spacer
Outer Conductor	mm (in)	72.4 (2.85) Corrugated Copper
Jacket	mm (in)	76 (2.992) Polyethylene, PE

#### ELECTRICAL SPECIFICATIONS

Impedance	Ω	50 +/- 0.5
Maximum Frequency	GHz	1.63
Velocity	%	96.0
Capacitance	pF/m (pF/ft)	66.6 (20.3)
Inductance	μH/m (μH/ft)	0.167 (0.051)
Peak Power Rating	kW	640.0
RF Peak Voltage	Volts	8000.0
Jacket Spark	Volt RMS	8000.0
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.39 (0.12)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.16 (0.05)
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	kg/m (lb/ft)	2.1 (1.41)
Minimum Bending Radius, Single Bend	mm (in)	270 (11)
Minimum Bending Radius, Repeated Bends	mm (in)	760 (30)
Bending Moment	Nm (lb*ft)	145
Tensile Strength	N (lb)	1800 (405)
Recommended / Maximum Clamp Spacing	m (ft)	0.8 / 1.2 (2.75 / 4)



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### ATTENUATION AND POWER RATING

Frequency MHz	Attenuation		Power kW
	dB/100m	dB/100ft	
0.5	0.03	0.009	596.00
1	0.04	0.012	421.00
1.5	0.05	0.015	343.00
2	0.06	0.017	297.00
10	0.13	0.039	132.00
20	0.18	0.055	92.30
30	0.22	0.068	74.90
50	0.29	0.089	57.40
88	0.39	0.119	42.80
100	0.42	0.127	40.00
108	0.44	0.133	38.40
150	0.52	0.158	32.20
174	0.56	0.171	29.80
200	0.60	0.184	27.70
300	0.75	0.23	22.20
400	0.88	0.269	19.00
450	0.94	0.287	17.80
500	1.00	0.305	16.80
512	1.01	0.309	16.60
600	1.11	0.338	15.20
700	1.21	0.368	13.90
800	1.30	0.398	13.00
824	1.33	0.404	12.70
894	1.39	0.424	12.10
900	1.40	0.425	12.10
925	1.42	0.432	11.90
960	1.45	0.441	11.60
1000	1.48	0.452	11.40
1250	1.69	0.515	10.00
1500	1.88	0.573	9.04
1700	2.03	0.618	8.39

Attenuation at 20°C (68°F) cable temperature;  
tolerance +/- 5% max.; Mean power rating at  
40°C (104°F) ambient temperature

### 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>	-40 to 60 (-40 to 140) °C(°F)
<b>Storage Temperature</b>	-70 to 85 (-94 to 185) °C(°F)
<b>Operation Temperature</b>	-50 to 85 (-58 to 185) °C(°F)

### External Document Links

### Notes