



7/8" low loss air dielectric cable

FEATURES / BENEFITS

• Low Attenuation

The low attenuation of Air Dielectric Cable coaxial cable results in highly efficient signal transfer in your RF system.

• Complete Shielding

The solid outer conductor of Air Dielectric Cable coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.

• Low VSWR

Special low VSWR versions of Air Dielectric Cable coaxial cables contribute to low system noise.

• Outstanding Intermodulation Performance

Air Dielectric Cable 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 Technologies factory.

• High Power Rating

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, Air Dielectric Cable 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.



7/8" Air Dielectric Coaxial Cable

Technical features

APPLICATIONS

Applications		Wireless Communication	TV & Radio	HF Defense	Mobile Radio	Cable Solutions
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STRUCTURE

Size			7/8
Jacket Option			Black
Inner Conductor Diameter	mm (in)		9 (0.35)
Inner Conductor Material			Copper Tube
Dielectric Diameter	mm (in)		20.2 (0.79)
Dielectric Material			Helical Polyethylene Spacer
Outer Conductor Diameter	mm (in)		25.5 (1)
Outer Conductor Material			Corrugated Copper
Jacket Diameter	mm (in)		28 (1.103)
Jacket Material			Polyethylene, PE, Metalhydroxite Filling
Cable Type			Air-Dielectric, Corrugated



**TESTING AND ENVIRONMENTAL**

<b>Fire Performance</b>		Flame Retardant, LSOH
<b>Flame Retardant Jacket Specifications</b>		The jacketing meets the testing requirements of Underwriters Laboratories UL 1666, and qualifies for the NEC CATVR type rating code (NEC Section 820-51(b) Type CATVR- NEC 1996)as well as IEC 60332-1
<b>Installation Temperature</b>	°C(°F)	-40 to 60 (-40 to 140)
<b>Storage Temperature</b>	°C (°F)	-70 to 85 (-94 to 185)
<b>Operation Temperature</b>	°C(°F)	-50 to 85 (-58 to 185)

**ELECTRICAL SPECIFICATIONS**

<b>Impedance</b>	Ω	50 +/- 0.5
<b>Maximum Frequency</b>	GHz	3
<b>Velocity</b>	%	93
<b>Capacitance</b>	pF/m (pF/ft)	71 (21.6)
<b>Inductance</b>	uH/m (uH/ft)	0.178 (0.054)
<b>Peak Power Rating</b>	kW	73
<b>RF Peak Voltage</b>	Volts	2700
<b>Jacket Spark</b>	Volt RMS	8000
<b>Inner Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	1.1 (0.34)
<b>Outer Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	0.88 (0.27)
<b>Return Loss (VSWR) Performance</b>		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)	0.68 (0.46)
<b>Minimum Bending Radius, Single Bend</b>	mm (in)	100 (4)
<b>Minimum Bending Radius, Repeated Bends</b>	mm (in)	250 (10)
<b>Bending Moment</b>	Nm (lb-ft)	27 (20)
<b>Tensile Strength</b>	N (lb)	1600 (360)
<b>Recommended / Maximum Clamp Spacing</b>	m (ft)	0.5 / 0.9 (1.8 / 3)



HCA78-50JFN

7/8" Air Dielectric Cable, flame retardant/ halogen free jacket

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

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.08	0.03	73
1	0.12	0.04	73
1.5	0.14	0.04	70.90
2	0.16	0.05	61.40
10	0.37	0.11	27.30
20	0.52	0.16	19.20
30	0.64	0.19	15.70
50	0.83	0.25	12.10
88	1.10	0.34	9.11
100	1.18	0.36	8.49
108	1.23	0.37	8.15
150	1.45	0.44	6.92
174	1.57	0.48	6.39
200	1.69	0.51	5.94
300	2.08	0.63	4.84
400	2.42	0.74	4.17
450	2.57	0.79	3.93
500	2.72	0.83	3.71
512	2.76	0.84	3.66
600	3	0.91	3.37
700	3.25	0.99	3.12
800	3.49	1.07	2.91
824	3.55	1.08	2.86
894	3.71	1.13	2.74
900	3.72	1.13	2.74
925	3.78	1.15	2.69
960	3.85	1.17	2.65
1000	3.94	1.20	2.59
1250	4.45	1.36	2.30
1500	4.91	1.50	2.10
1700	5.26	1.60	1.97
1800	5.43	1.65	1.91
2000	5.75	1.75	1.81
2200	6.07	1.85	1.72
2300	6.22	1.90	1.68
3000	7.22	2.20	1.47



External Document Links

Notes