



7/8" HELIFLEX® Air-Dielectric Coaxial Cable

Product Description

HELIFLEX® 7/8" 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' 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

Cable Type	Air-Dielectric, Corrugated
Size	7/8"
Jacket	Standard
Return Loss (VSWR) Performance	Standard
Maximum Return Loss, dB (VSWR)	Typical 20.8dB (1.2:1 VSWR) or better within the operation bands of most global frequency ranges. Premium also available. Contact factory for options in your specific frequency band.
Impedance, Ohm	50 +/- 0.5
Maximum Frequency, GHz	3
Velocity, percent	93
Peak Power Rating, kW	73
Inner Conductor dc Resistance, ohm/1000 m (ohm/1000 ft)	1.02 (0.31)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	0.66 (0.20)
RF Peak Voltage, Volts	2700
Jacket Spark, Volt RMS	8000
Capacitance, pF/m (pF/ft)	71.0 (21.6)
Inductance, µH/m (µH/ft)	0.178 (0.054)
Outer Conductor Material	Corrugated Copper
Inner Conductor Material	Copper Tube
Diameter over Jacket Nominal, mm (in)	28.3 (1.11)



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Diameter Outer Conductor, mm (in)	25.5 (1.00)
Diameter Inner Conductor, mm (in)	9.0 (0.35)
Diameter Dielectric, mm (in)	20.2 (0.79)
Minimum Bending Radius, Single Bend, mm (in)	100 (4)
Minimum Bending Radius, Repeated Bends, mm (in)	250 (10)
Cable Weight, kg/m (lb/ft)	0.68 (0.46)
Tensile Strength, N (lb)	1600 (360)
Recommended / Maximum Clamp Spacing, m (ft)	0.5 / 0.9 (1.8 / 3.0)
Installation Temperature, °C(°F)	-40 to +60 (-40 to +140)
Storage Temperature, °C (°F)	-70 to +85 (-94 to +185)
Operation Temperature, °C(°F)	-50 to +85 (-58 to +185)
Phase Stabilized	Phase stabilized and phase matched cables and assemblies are available upon request.
Applications	UHF, VHF
Notes	
See Installation, Operation and Storage Temperatures on page xx.	



HCA78-50J/JB/JPL

ATTENUATION AND AVERAGE POWER

Frequency MHz	Attenuation dB/100 m	Attenuation dB/100 ft.	Average Power kW
0.5	0.081	0.025	73.0
1.0	0.115	0.035	73.0
1.5	0.141	0.043	70.7
2.0	0.163	0.050	61.2
10	0.366	0.112	27.3
20	0.520	0.159	19.2
30	0.638	0.195	15.7
50	0.827	0.253	12.1
88	1.10	0.337	9.06
100	1.18	0.360	8.49
108	1.23	0.375	8.16
150	1.45	0.443	6.90
174	1.57	0.479	6.39
200	1.69	0.514	5.95
300	2.08	0.635	4.83
400	2.42	0.738	4.17
450	2.57	0.785	3.92
500	2.72	0.830	3.71
512	2.76	0.840	3.67
600	3.00	0.914	3.38
700	3.25	0.992	3.12
800	3.49	1.06	2.91
824	3.55	1.08	2.87
894	3.71	1.13	2.75
900	3.72	1.13	2.74
925	3.78	1.15	2.70
960	3.85	1.17	2.65
1000	3.94	1.20	2.59
1250	4.45	1.35	2.31
1500	4.91	1.49	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	1.84	1.73
2300	6.22	1.89	1.69
3000	7.22	2.19	1.47

Standard Conditions:

For attenuation: VSWR 1.0, cable temperature 20° C (68° F).

For average power: VSWR 1.0, ambient temperature 40° C (104°F),
inner conductor temperature 115° C (239° F). No solar loading.