RADIO FREQUENCY SYSTEMS
The Clear Choice®

5/8" HELIFLEX® Air-Dielectric Coaxial Cable, flame retardant/ halogen free jacket

HELIFLEX® 5/8" low loss air dielectric cable

5/8" 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 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.

Technical Features

APPLICATIONS		
Applications		TV, Broadcast, Riser-rated inbuilding
STRUCTURE		
Cable Type		Air-Dielectric, Corrugated
Size		5/8"
Jacket Option		Black
Inner Conductor	mm (in)	6.3 (0.248) Copper Wire
Dielectric	mm (in)	13.7 (0.54) Helical Polyethylene Spacer
Outer Conductor	mm (in)	19 (0.75) Corrugated Copper
Jacket	mm (in)	21.4 (0.84) Polyethylene, PE, Metalhydroxite Filling
ELECTRICAL SPECIFICATIONS		
Impedance	Ω	50 +/- 0.5
Maximum Frequency	GHz	3
Velocity	%	92
Capacitance	pF/m (pF/ft)	72 (21.9)
Inductance	µH/m (µH/ft)	0.18 (0.055)
Peak Power Rating	kW	32
RF Peak Voltage	Volts	1800
Jacket Spark	Volt RMS	8000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.58 (0.177)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	0.93 (0.284)
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)	0.65 (0.44)
Minimum Bending Radius, Single Bend	mm (in)	80 (3)
Minimum Bending Radius, Repeated Bends	mm (in)	250 (10)
Bending Moment	Nm (lb*ft)	13 (9.6)
Tensile Strength	N (lb)	2400 (540)
Recommended / Maximum Clamp Spacing	m (ft)	0.5 / 0.9 (1.8 / 3)

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ATTENUATION AND POWER RATING

Frequency MHz	Attenuation dB/100m	Attenuation dB/100ft	Power kW
0.5	0.12	0.037	32.00
1	0.17	0.052	32.00
1.5	0.21	0.063	32.00
2	0.24	0.073	32.00
10	0.54	0.164	15.20
20	0.76	0.233	10.70
30	0.94	0.286	8.75
50	1.21	0.37	6.78
88	1.62	0.493	5.07
100	1.72	0.526	4.77
108	1.79	0.547	4.59
150	2.12	0.646	3.88
174	2.29	0.697	3.59
200	2.46	0.749	3.34
300	3.03	0.922	2.72
400	3.51	1.07	2.35
450	3.73	1.14	2.21
500	3.94	1.20	2.09
512	3.99	1.22	2.07
600	4.33	1.32	1.91
700	4.69	1.43	1.76
800	5.03	1.53	1.65
824	5.11	1.56	1.62
894	5.34	1.63	1.55
900	5.35	1.63	1.55
925	5.43	1.66	1.53
960	5.54	1.69	1.50
1000	5.66	1.73	1.47
1250	6.37	1.94	1.31
1500	7.01	2.14	1.19
1700	7.50	2.29	1.12
1800	7.73	2.36	1.08
2000	8.18	2.49	1.03
2200	8.61	2.62	0.978
2300	8.82	2.69	0.956
3000	10.20	3.10	0.833

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

TESTING AND ENVIRONMENTAL

Fire Performance	Flame Retardant, LS0H
Flame Retardant Jacket Specifications	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
Installation Temperature	-40 to 60 (-40 to 140) °C(°F)
Storage Temperature	-70 to 85 (-94 to 185) °C(°F)
Operation Temperature	-50 to 85 (-58 to 185) °C(°F)

External Document Links

Notes