Product Data Sheet **HCA38-50J**

3/8" HELIFLEX® Air-Dielectric Coaxial Cable

Product Description

HELIFLEX® 3/8" low loss air dielectric cable

Application: UHF, VHF

3/8" 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.

Frequency	Attenuation		Power
[MHz]	[dB/100m]	[dB/100ft]	[kW]
0.5	0.193	0.0587	16.9
1.0	0.272	0.0830	16.9
1.5	0.334	0.102	16.9
2.0	0.386	0.118	16.9
10	0.865	0.264	7.98
20	1.23	0.374	5.61
30	1.50	0.459	4.60
50	1.95	0.594	3.54
88	2.60	0.791	2.66
100	2.77	0.844	2.49
108	2.88	0.878	2.40
150	3.41	1.04	2.03
174	3.67	1.12	1.88
200	3.95	1.20	1.75
300	4.86	1.48	1.43
400	5.64	1.72	1.23
450	5.99	1.83	1.16
500	6.33	1.93	1.10
512	6.41	1.95	1.08
600	6.96	2.12	1.00
700	7.55	2.30	0.923
800	8.09	2.47	0.863
824	8.22	2.51	0.849
894	8.58	2.61	0.815
900	8.61	2.62	0.812
925	8.73	2.66	0.801
960	8.91	2.71	0.785
1000	9.10	2.77	0.769
1250	10.2	3.12	0.689
1500	11.3	3.44	0.624
1700	12.1	3.68	0.584
1800	12.4	3.79	0.571
2000	13.2	4.01	0.538
2200	13.9	4.22	0.512
2300	14.2	4.33	0.502
3000	16.4	5.0	0.439

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

Technical Features

Structure

Inner conductor:	Copper Wire	[mm (in)]	3.9 (0.154)
Dielectric:	Helical Polyethylene Spacer	[mm (in)]	8.6 (0.34)
Outer conductor:	Corrugated Copper	[mm (in)]	12.3 (0.484)
Jacket:	Polyethylene, PE	[mm (in)]	14.3 (0.563)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.3 (0.2)
Minimum bending radius, single bending	[mm (in)]	50 (2)
Minimum bending radius, repeated bending	[mm (in)]	150 (6)
Bending moment	[Nm (lb-ft)]	7 (5.2)
Max. tensile force	[N (lb)]	1000 (225)
Recommended / maximum clamp spacing	[m (ft)]	0.5 / 0.5 (1.8 / 1.8)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	89
Capacitance	[pF/m (pF/ft)]	74 (22.6)
Inductance	[µH/m (µH/ft)]	0.185 (0.056)
Max. operating frequency	[GHz]	3
Jacket spark test RMS	[V]	8000
Peak power rating	[kW]	16.9
RF Peak voltage rating	[V]	1300
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	1.44 (0.44)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	1.63 (0.5)

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.		