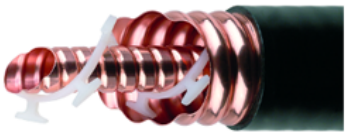
PRODUCT DATASHEET

HCA550-50J

5-1/2" HELIFLEX® Air-Dielectric Coaxial Cable



HELIFLEX® 5-1/2" low loss air dielectric cable

Feature / 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 & Radio	HF Defense	Cable Solutions

STRUCTURE

Cable Type	Air-Dielectric, Corrugated
Size	5-1/2
Jacket Option	Black
Inner Conductor Diameter	58mm (2.28in)
Inner Conductor Material	Corrugated Copper Tube
Dielectric Diameter	127mm (5in)
Dielectric Material	Helical Polyethylene Spacer
Outer Conductor Diameter	140.5mm (5.53in)
Outer Conductor Material	Corrugated Copper
Jacket Diameter	147.1mm (5.79in)
Jacket Material	Polyethylene, PE

TESTING AND ENVIRONMENTAL

Fire Performance	Halogene Free
Flame Retardant Jacket Specifications	Meets the requirements according to: IEC60754-1, IEC60754-2
Installation Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Operation Temperature	-50°C to 85°C (-58°F to 185°F)

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ELECTRICAL SPECIFICATIONS

Impedance	50 +/- 0.5 Ω
Maximum Frequency	0.86 GHz
Velocity	96 %
Capacitance	70pF/m (21.3pF/ft)
Inductance	0.175µH/m (0.053µH/ft)
Peak Power Rating	2250 kW
RF Peak Voltage	15000 Volts
Jacket Spark	8000 Volt RMS
Inner Conductor dc Resistance	0.2ohm/1000 m (0.06ohm/1000 ft)
Outer Conductor dc Resistance	0.057ohm/1000 m (0.017ohm/1000 ft)
Return Loss (VSWR) Performance	Standard
Phase Stabilized	Phase matched cables and assemblies are available upon request.

MECHANICAL SPECIFICATIONS

Cable Weight	7.5kg/m (5lb/ft)
Minimum Bending Radius	800mm (31in)
Minimum Bending Radius	1500mm (59in)
Bending Moment	580 (428)
Tensile Strength	4000N (900lb)
Recommended / Maximum Clamp Spacing	1 / 2 (3.3 / 6.6)

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

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.015	0.005	1890
1	0.021	0.006	1330
1.5	0.026	0.008	1090
2	0.03	0.009	940
10	0.067	0.021	418
20	0.096	0.029	294
30	0.118	0.036	239
50	0.153	0.047	184
88	0.205	0.062	138
100	0.219	0.067	129
108	0.228	0.069	124
150	0.27	0.082	105
174	0.292	0.089	97.7
200	0.314	0.096	91.1
300	0.39	0.119	74
400	0.455	0.139	64
450	0.485	0.148	60.3
500	0.513	0.156	57.2
512	0.52	0.158	56.5
600	0.567	0.173	52.2
700	0.616	0.188	48.5
800	0.663	0.202	45.4
824	0.674	0.206	44.7
894	0.706	0.215	43

External Document Links

Notes