

H7-50

H7-50, HELIAX® Standard Air Dielectric Coaxial Cable, corrugated copper, 1-5/8 in, unjacketed



OBSOLETE

Product Classification

Product Type	Air coaxial cable
Product Brand	HELIAX®
Product Series	H7-50

General Specifications

Flexibility	Standard
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Dimensions

Diameter Over Jacket	50.292 mm 1.98 in
Inner Conductor OD	18.034 mm 0.71 in
Outer Conductor OD	46.482 mm 1.83 in
Nominal Size	1-5/8 in
Cable Volume	1,300.642 L/km 14 ft³/kft

Electrical Specifications

Cable Impedance	50 ohm \pm 0.5 ohm
Capacitance	72.507 pF/m 22.1 pF/ft
dc Resistance, Inner Conductor	0.722 ohms/km 0.22 ohms/kft
dc Resistance, Outer Conductor	0.328 ohms/km 0.1 ohms/kft
dc Test Voltage	11000 V
Inductance	1.87 μ H/m 0.57 μ H/ft
Insulation Resistance	100000 MOhms-km

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Jacket Spark Test Voltage (rms)	10000 V
Operating Frequency Band	1 – 2700 MHz
Peak Power	305 kW
Power Attenuation	3.356
Velocity	92 %

Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
1.0	0.064	0.02	171.93
1.5	0.079	0.024	140.24
2.0	0.091	0.028	121.35
10.0	0.204	0.062	53.85
20.0	0.291	0.089	37.86
30.0	0.358	0.109	30.78
50.0	0.465	0.142	23.68
85.0	0.612	0.187	17.99
88.0	0.623	0.19	17.67
100.0	0.666	0.203	16.53
108.0	0.693	0.211	15.88
150.0	0.824	0.251	13.37
174.0	0.89	0.271	12.37
200.0	0.959	0.292	11.49
204.0	0.969	0.295	11.37
300.0	1.19	0.363	9.26
400.0	1.389	0.423	7.93
450.0	1.48	0.451	7.44
460.0	1.498	0.457	7.35
500.0	1.568	0.478	7.02
512.0	1.588	0.484	6.93
600.0	1.732	0.528	6.36
700.0	1.886	0.575	5.84
800.0	2.031	0.619	5.42
824.0	2.064	0.629	5.33
894.0	2.16	0.658	5.1
960.0	2.248	0.685	4.9

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1000.0	2.3	0.701	4.79
1218.0	2.571	0.784	4.28
1250.0	2.609	0.795	4.22
1500.0	2.895	0.882	3.8
1700.0	3.112	0.948	3.54
1794.0	3.21	0.978	3.43
1800.0	3.216	0.98	3.42
2000.0	3.419	1.042	3.22
2100.0	3.518	1.072	3.13
2200.0	3.615	1.102	3.05
2300.0	3.711	1.131	2.97
2500.0	3.898	1.188	2.83
2700.0	4.08	1.243	2.7

Material Specifications

Dielectric Material	PE
Jacket Material	Unjacketed
Inner Conductor Material	Copper tube
Outer Conductor Material	Corrugated copper

Mechanical Specifications

Minimum Bend Radius, multiple Bends	508 mm 20 in
Number of Bends, minimum	15
Number of Bends, typical	30
Tensile Strength	340 kg 749.571 lb
Bending Moment	30 ft lb 40.675 N-m
Flat Plate Crush Strength	3.125 kg/mm 175 lb/in
Pressurization, maximum	0.207 N/mm ² 30 psi

Environmental Specifications

Installation temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)
Attenuation, Ambient Temperature	68 °F 20 °C

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Average Power, Ambient Temperature 104 °F | 40 °C

Average Power, Inner Conductor Temperature 212 °F | 100 °C

Packaging and Weights

Cable weight 1.548 kg/m | 1.04 lb/ft

Regulatory Compliance/Certifications

Agency

ISO 9001:2015

Classification

Designed, manufactured and/or distributed under this quality management system

