

# H7-50

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



## Product Classification

<b>Product Type</b>	Air coaxial cable
<b>Product Brand</b>	HELIAX®

## General Specifications

<b>Flexibility</b>	Standard
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## Dimensions

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

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±0.5 ohm
<b>Capacitance</b>	72.507 pF/m   22.1 pF/ft
<b>dc Resistance, Inner Conductor</b>	0.722 ohms/km   0.22 ohms/kft
<b>dc Resistance, Outer Conductor</b>	0.328 ohms/km   0.1 ohms/kft
<b>dc Test Voltage</b>	11000 V
<b>Inductance</b>	1.87 µH/m   0.57 µH/ft
<b>Insulation Resistance</b>	100000 Mohms·km
<b>Jacket Spark Test Voltage (rms)</b>	10000 V
<b>Operating Frequency Band</b>	1 – 2700 MHz
<b>Peak Power</b>	305 kW
<b>Power Attenuation</b>	3.356

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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
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

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<b>1700.0</b>	3.112	0.948	3.54
<b>1794.0</b>	3.21	0.978	3.43
<b>1800.0</b>	3.216	0.98	3.42
<b>2000.0</b>	3.419	1.042	3.22
<b>2100.0</b>	3.518	1.072	3.13
<b>2200.0</b>	3.615	1.102	3.05
<b>2300.0</b>	3.711	1.131	2.97
<b>2500.0</b>	3.898	1.188	2.83
<b>2700.0</b>	4.08	1.243	2.7

## Material Specifications

<b>Dielectric Material</b>	PE
<b>Jacket Material</b>	Unjacketed
<b>Inner Conductor Material</b>	Copper tube
<b>Outer Conductor Material</b>	Corrugated copper

## Mechanical Specifications

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

## Environmental Specifications

<b>Installation temperature</b>	-40 °C to +60 °C (-40 °F to +140 °F)
<b>Operating Temperature</b>	-55 °C to +85 °C (-67 °F to +185 °F)
<b>Storage Temperature</b>	-70 °C to +85 °C (-94 °F to +185 °F)
<b>Attenuation, Ambient Temperature</b>	68 °F   20 °C
<b>Average Power, Ambient Temperature</b>	104 °F   40 °C
<b>Average Power, Inner Conductor Temperature</b>	212 °F   100 °C

## Packaging and Weights

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**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