

# 35422-50

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Heat Treated LDF1-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/4 in, black PE jacket

## Product Classification

<b>Product Type</b>	Coaxial wireless cable
<b>Product Brand</b>	HELIAX®
<b>Product Series</b>	LDF1-50

## General Specifications

<b>Flexibility</b>	Standard
<b>Jacket Color</b>	Black
<b>Performance Note</b>	Attenuation values typical, guaranteed within 5%

## Dimensions

<b>Diameter Over Dielectric</b>	6.858 mm   0.27 in
<b>Diameter Over Jacket</b>	8.763 mm   0.345 in
<b>Inner Conductor OD</b>	2.54 mm   0.1 in
<b>Outer Conductor OD</b>	7.874 mm   0.31 in
<b>Nominal Size</b>	1/4 in

## Electrical Specifications

<b>Cable Impedance</b>	50 ohm ±1 ohm
<b>Capacitance</b>	76.8 pF/m   23.409 pF/ft
<b>dc Resistance, Inner Conductor</b>	5.151 ohms/km   1.57 ohms/kft
<b>dc Resistance, Outer Conductor</b>	4.003 ohms/km   1.22 ohms/kft
<b>dc Test Voltage</b>	2200 V
<b>Inductance</b>	0.194 µH/m   0.059 µH/ft
<b>Insulation Resistance</b>	100000 MOhms-km
<b>Jacket Spark Test Voltage (rms)</b>	5000 V
<b>Operating Frequency Band</b>	1 – 15800 MHz
<b>Peak Power</b>	12.1 kW

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**Velocity**

86 %

## VSWR/Return Loss

<b>Frequency Band</b>	<b>VSWR</b>	<b>Return Loss (dB)</b>
<b>806–960 MHz</b>	1.15	23.13
<b>1700–2000 MHz</b>	1.15	23.13

## Attenuation

<b>Frequency (MHz)</b>	<b>Attenuation (dB/100 m)</b>	<b>Attenuation (dB/100 ft)</b>	<b>Average Power (kW)</b>
<b>1.0</b>	0.394	0.12	12.1
<b>1.5</b>	0.483	0.147	12.1
<b>2.0</b>	0.558	0.17	12.1
<b>10.0</b>	1.254	0.382	5.83
<b>20.0</b>	1.781	0.543	4.11
<b>30.0</b>	2.188	0.667	3.34
<b>50.0</b>	2.838	0.865	2.58
<b>85.0</b>	3.724	1.135	1.96
<b>88.0</b>	3.791	1.156	1.93
<b>100.0</b>	4.049	1.234	1.81
<b>108.0</b>	4.213	1.284	1.74
<b>150.0</b>	4.993	1.522	1.47
<b>174.0</b>	5.392	1.644	1.36
<b>200.0</b>	5.798	1.767	1.26
<b>204.0</b>	5.858	1.785	1.25
<b>300.0</b>	7.168	2.185	1.02
<b>400.0</b>	8.342	2.543	0.88
<b>450.0</b>	8.88	2.706	0.82
<b>460.0</b>	8.984	2.738	0.81
<b>500.0</b>	9.391	2.862	0.78
<b>512.0</b>	9.511	2.899	0.77
<b>600.0</b>	10.351	3.155	0.71
<b>700.0</b>	11.244	3.427	0.65
<b>800.0</b>	12.084	3.683	0.61
<b>824.0</b>	12.278	3.742	0.6
<b>894.0</b>	12.833	3.911	0.57

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<b>960.0</b>	13.339	4.066	0.55
<b>1000.0</b>	13.639	4.157	0.54
<b>1218.0</b>	15.192	4.63	0.48
<b>1250.0</b>	15.41	4.697	0.47
<b>1500.0</b>	17.04	5.194	0.43
<b>1700.0</b>	18.266	5.567	0.4
<b>1794.0</b>	18.823	5.737	0.39
<b>1800.0</b>	18.858	5.748	0.39
<b>2000.0</b>	20.003	6.097	0.37
<b>2100.0</b>	20.559	6.266	0.36
<b>2200.0</b>	21.104	6.432	0.35
<b>2300.0</b>	21.64	6.596	0.34
<b>2500.0</b>	22.686	6.914	0.32
<b>2700.0</b>	23.701	7.224	0.31
<b>3000.0</b>	25.171	7.672	0.29
<b>3400.0</b>	27.048	8.244	0.27
<b>3600.0</b>	27.956	8.521	0.26
<b>3700.0</b>	28.403	8.657	0.26
<b>3800.0</b>	28.846	8.792	0.25
<b>3900.0</b>	29.284	8.925	0.25
<b>4000.0</b>	29.719	9.058	0.25
<b>4100.0</b>	30.149	9.189	0.24
<b>4200.0</b>	30.576	9.319	0.24
<b>4300.0</b>	30.999	9.448	0.24
<b>4400.0</b>	31.419	9.576	0.23
<b>4500.0</b>	31.835	9.703	0.23
<b>4600.0</b>	32.249	9.829	0.23
<b>4700.0</b>	32.659	9.954	0.22
<b>4800.0</b>	33.066	10.078	0.22
<b>4900.0</b>	33.47	10.201	0.22
<b>5000.0</b>	33.871	10.323	0.22
<b>6000.0</b>	37.742	11.503	0.19
<b>8000.0</b>	44.888	13.681	0.16
<b>8800.0</b>	47.579	14.501	0.15
<b>10000.0</b>	51.475	15.689	0.14

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<b>12000.0</b>	57.664	17.575	0.13
<b>14000.0</b>	63.552	19.37	0.12
<b>15800.0</b>	68.646	20.922	0.11

## Material Specifications

<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	PE
<b>Inner Conductor Material</b>	Copper-clad aluminum wire
<b>Outer Conductor Material</b>	Corrugated copper

## Mechanical Specifications

<b>Minimum Bend Radius, multiple Bends</b>	76.2 mm   3 in
<b>Minimum Bend Radius, single Bend</b>	38.1 mm   1.5 in
<b>Number of Bends, minimum</b>	15
<b>Number of Bends, typical</b>	30
<b>Tensile Strength</b>	91 kg   200.62 lb
<b>Bending Moment</b>	1.4 N-m   12.391 in lb
<b>Flat Plate Crush Strength</b>	1.4 kg/mm   78.396 lb/in

## 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

<b>Cable weight</b>	0.09 kg/m   0.06 lb/ft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system