

# LDF2RK-50

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LDF2-50, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 3/8 in, black non-halogenated, fire retardant polyolefin jacket, B2ca s1a d1 a1 Compliant

## Product Classification

|                       |                        |
|-----------------------|------------------------|
| <b>Product Type</b>   | Coaxial wireless cable |
| <b>Product Brand</b>  | HELIAX®   SureFlex®    |
| <b>Product Series</b> | LDF2-50                |

## General Specifications

|                         |  |
|-------------------------|--|
| <b>Product Number</b>   | 520098902/00                                     |
| <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> | 8.636 mm   0.34 in  |
| <b>Diameter Over Jacket</b>     | 11.176 mm   0.44 in |
| <b>Inner Conductor OD</b>       | 3.048 mm   0.12 in  |
| <b>Outer Conductor OD</b>       | 9.652 mm   0.38 in  |
| <b>Nominal Size</b>             | 3/8 in              |

## Electrical Specifications

|  |                               |
|--|-------------------------------|
| <b>Cable Impedance</b>                 | 50 ohm ±1 ohm                 |
| <b>Capacitance</b>                     | 75 pF/m   22.86 pF/ft         |
| <b>dc Resistance, Inner Conductor</b>  | 3.478 ohms/km   1.06 ohms/kft |
| <b>dc Resistance, Outer Conductor</b>  | 2.854 ohms/km   0.87 ohms/kft |
| <b>dc Test Voltage</b>                 | 2500 V                        |
| <b>Inductance</b>                      | 0.19 µH/m   0.058 µH/ft       |
| <b>Insulation Resistance</b>           | 100000 MOhms-km               |
| <b>Jacket Spark Test Voltage (rms)</b> | 6000 V                        |
| <b>Operating Frequency Band</b>        | 1 – 13000 MHz                 |

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|                   |         |
|-------------------|---------|
| <b>Peak Power</b> | 16.6 kW |
| <b>Velocity</b>   | 85 %    |

## VSWR/Return Loss

| <b>Frequency Band</b> | <b>VSWR</b> | <b>Return Loss (dB)</b> |
|-----------------------|-------------|-------------------------|
| <b>680–960 MHz</b>    | 1.201       | 20.79                   |
| <b>1700–2200 MHz</b>  | 1.201       | 20.79                   |
| <b>2200–2700 MHz</b>  | 1.433       | 14.99                   |

## 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>             | 0.332                         | 0.101                          | 16.6                      |
| <b>1.5</b>             | 0.407                         | 0.124                          | 16.6                      |
| <b>2.0</b>             | 0.471                         | 0.143                          | 16.38                     |
| <b>10.0</b>            | 1.059                         | 0.323                          | 7.28                      |
| <b>20.0</b>            | 1.503                         | 0.458                          | 5.13                      |
| <b>30.0</b>            | 1.847                         | 0.563                          | 4.17                      |
| <b>50.0</b>            | 2.397                         | 0.73                           | 3.22                      |
| <b>85.0</b>            | 3.146                         | 0.959                          | 2.45                      |
| <b>88.0</b>            | 3.203                         | 0.976                          | 2.41                      |
| <b>100.0</b>           | 3.421                         | 1.043                          | 2.25                      |
| <b>108.0</b>           | 3.559                         | 1.085                          | 2.17                      |
| <b>150.0</b>           | 4.219                         | 1.286                          | 1.83                      |
| <b>174.0</b>           | 4.558                         | 1.389                          | 1.69                      |
| <b>200.0</b>           | 4.901                         | 1.494                          | 1.57                      |
| <b>204.0</b>           | 4.952                         | 1.509                          | 1.56                      |
| <b>300.0</b>           | 6.062                         | 1.847                          | 1.27                      |
| <b>400.0</b>           | 7.057                         | 2.151                          | 1.09                      |
| <b>450.0</b>           | 7.513                         | 2.29                           | 1.03                      |
| <b>460.0</b>           | 7.601                         | 2.317                          | 1.01                      |
| <b>500.0</b>           | 7.947                         | 2.422                          | 0.97                      |
| <b>512.0</b>           | 8.048                         | 2.453                          | 0.96                      |
| <b>600.0</b>           | 8.761                         | 2.67                           | 0.88                      |
| <b>700.0</b>           | 9.519                         | 2.901                          | 0.81                      |
| <b>800.0</b>           | 10.232                        | 3.119                          | 0.75                      |

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|               |        |        |      |
|---------------|--------|--------|------|
| <b>824.0</b>  | 10.398 | 3.169  | 0.74 |
| <b>894.0</b>  | 10.869 | 3.313  | 0.71 |
| <b>960.0</b>  | 11.299 | 3.444  | 0.68 |
| <b>1000.0</b> | 11.554 | 3.521  | 0.67 |
| <b>1218.0</b> | 12.874 | 3.924  | 0.6  |
| <b>1250.0</b> | 13.059 | 3.98   | 0.59 |
| <b>1500.0</b> | 14.446 | 4.403  | 0.53 |
| <b>1700.0</b> | 15.49  | 4.721  | 0.5  |
| <b>1794.0</b> | 15.964 | 4.866  | 0.48 |
| <b>1800.0</b> | 15.994 | 4.875  | 0.48 |
| <b>2000.0</b> | 16.97  | 5.172  | 0.45 |
| <b>2100.0</b> | 17.443 | 5.316  | 0.44 |
| <b>2200.0</b> | 17.908 | 5.458  | 0.43 |
| <b>2300.0</b> | 18.365 | 5.597  | 0.42 |
| <b>2500.0</b> | 19.257 | 5.869  | 0.4  |
| <b>2700.0</b> | 20.122 | 6.133  | 0.38 |
| <b>3000.0</b> | 21.376 | 6.515  | 0.36 |
| <b>3400.0</b> | 22.978 | 7.003  | 0.34 |
| <b>3600.0</b> | 23.754 | 7.24   | 0.32 |
| <b>3700.0</b> | 24.136 | 7.356  | 0.32 |
| <b>3800.0</b> | 24.514 | 7.471  | 0.31 |
| <b>3900.0</b> | 24.888 | 7.586  | 0.31 |
| <b>4000.0</b> | 25.26  | 7.699  | 0.31 |
| <b>4100.0</b> | 25.627 | 7.811  | 0.3  |
| <b>4200.0</b> | 25.992 | 7.922  | 0.3  |
| <b>4300.0</b> | 26.354 | 8.032  | 0.29 |
| <b>4400.0</b> | 26.713 | 8.142  | 0.29 |
| <b>4500.0</b> | 27.069 | 8.25   | 0.28 |
| <b>4600.0</b> | 27.422 | 8.358  | 0.28 |
| <b>4700.0</b> | 27.773 | 8.465  | 0.28 |
| <b>4800.0</b> | 28.12  | 8.571  | 0.27 |
| <b>4900.0</b> | 28.466 | 8.676  | 0.27 |
| <b>5000.0</b> | 28.809 | 8.781  | 0.27 |
| <b>6000.0</b> | 32.121 | 9.79   | 0.24 |
| <b>8000.0</b> | 38.244 | 11.656 | 0.2  |

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|                |        |        |      |
|----------------|--------|--------|------|
| <b>8800.0</b>  | 40.551 | 12.359 | 0.19 |
| <b>10000.0</b> | 43.894 | 13.378 | 0.18 |
| <b>12000.0</b> | 49.209 | 14.998 | 0.16 |

## Material Specifications

|                                 |  |
|---------------------------------|--|
| <b>Dielectric Material</b>      | Foam PE                                    |
| <b>Jacket Material</b>          | Non-halogenated, fire retardant polyolefin |
| <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> | 95.25 mm   3.75 in      |
| <b>Minimum Bend Radius, single Bend</b>    | 40.64 mm   1.6 in       |
| <b>Number of Bends, minimum</b>            | 15                      |
| <b>Number of Bends, typical</b>            | 50                      |
| <b>Tensile Strength</b>                    | 113 kg   249.122 lb     |
| <b>Bending Moment</b>                      | 1.9 N-m   16.816 in lb  |
| <b>Flat Plate Crush Strength</b>           | 2 kg/mm   111.995 lb/in |

## Environmental Specifications

|   |  |
|---|--|
| <b>Installation temperature</b>                     | -40 °C to +60 °C (-40 °F to +140 °F)   |
| <b>Operating Temperature</b>                        | -40 °C to +60 °C (-40 °F to +140 °F)   |
| <b>Storage Temperature</b>                          | -40 °C to +60 °C (-40 °F to +140 °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  |
| <b>EN50575 CPR Cable EuroClass Fire Performance</b> | B2ca   |
| <b>EN50575 CPR Cable EuroClass Smoke Rating</b>     | s1a  |
| <b>EN50575 CPR Cable EuroClass Droplets Rating</b>  | d1   |
| <b>EN50575 CPR Cable EuroClass Acidity Rating</b>   | a1   |
| <b>Fire Retardancy Test Method</b>                  | IEC 60332-1-2   IEC 60332-3C-24   NFPA 130-2010   UL 1666 /CATVR/CMR   UL 1685 |
| <b>Smoke Index Test Method</b>                      | IEC 61034  |
| <b>Toxicity Index Test Method</b>                   | IEC 60754-1   IEC 60754-2  |

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## Packaging and Weights

### Cable weight

0.12 kg/m | 0.081 lb/ft

## Regulatory Compliance/Certifications

### Agency

### Classification

CENELEC

EN 50575 compliant, Declaration of Performance (DoP) available

CHINA-ROHS

Below maximum concentration value

ISO 9001:2015

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

REACH-SVHC

Compliant as per SVHC revision on [www.commscope.com/ProductCompliance](http://www.commscope.com/ProductCompliance)

ROHS

Compliant

UK-ROHS

Compliant

