

# Product Specifications

LDF7-50A

LDF7-50A, HELIAX<sup>®</sup> Low Density Foam Coaxial Cable, corrugated copper, 1-5/8 in, black PE jacket

**OBSOLETE**



## CHARACTERISTICS

### Construction Materials

|                          |                        |
|--------------------------|------------------------|
| Jacket Material          | PE                     |
| Outer Conductor Material | Corrugated copper      |
| Dielectric Material      | Foam PE                |
| Flexibility              | Standard               |
| Inner Conductor Material | Corrugated copper tube |
| Jacket Color             | Black                  |

### Dimensions

|                          |                        |
|--------------------------|------------------------|
| Nominal Size             | 1-5/8 in               |
| Cable Weight             | 0.82 lb/ft   1.22 kg/m |
| Diameter Over Dielectric | 44.196 mm   1.740 in   |
| Diameter Over Jacket     | 49.784 mm   1.960 in   |
| Inner Conductor OD       | 17.2720 mm   0.6800 in |
| Outer Conductor OD       | 46.482 mm   1.830 in   |

### Electrical Specifications

|                                 |                                    |
|---------------------------------|------------------------------------|
| Cable Impedance                 | 50 ohm $\pm$ 1 ohm                 |
| Capacitance                     | 23.1 pF/ft   75.8 pF/m             |
| dc Resistance, Inner Conductor  | 0.250 ohms/kft   0.820 ohms/km     |
| dc Resistance, Outer Conductor  | 0.160 ohms/kft   0.525 ohms/km     |
| dc Test Voltage                 | 11000 V                            |
| Inductance                      | 0.190 $\mu$ H/m   0.058 $\mu$ H/ft |
| Insulation Resistance           | 100000 MOhm                        |
| Jacket Spark Test Voltage (rms) | 10000 V                            |
| Operating Frequency Band        | 1 – 2700 MHz                       |

# Product Specifications



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|                  |          |
|------------------|----------|
| Peak Power       | 315.0 kW |
| Pulse Reflection | 0.5%     |
| Velocity         | 88%      |

## 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 +60 °C (-94 °F to +140 °F) |

## General Specifications

|       |         |
|-------|---------|
| Brand | HELIAX® |
|-------|---------|

## Mechanical Specifications

|                                     |                         |
|-------------------------------------|-------------------------|
| Bending Moment                      | 54.2 N-m   40.0 ft lb   |
| Flat Plate Crush Strength           | 120.0 lb/in   2.1 kg/mm |
| Minimum Bend Radius, Multiple Bends | 508.00 mm   20.00 in    |
| Minimum Bend Radius, Single Bend    | 203.20 mm   8.00 in     |
| Number of Bends, minimum            | 15                      |
| Number of Bends, typical            | 50                      |
| Tensile Strength                    | 318 kg   700 lb         |

## Standard Conditions

|                                            |                 |
|--------------------------------------------|-----------------|
| Attenuation, Ambient Temperature           | 20 °C   68 °F   |
| Average Power, Ambient Temperature         | 40 °C   104 °F  |
| Average Power, Inner Conductor Temperature | 100 °C   212 °F |

## Return Loss

| Frequency Band | VSWR | Return Loss (dB) |
|----------------|------|------------------|
| 806–960 MHz    | 1.13 | 24.30            |
| 1700–2000 MHz  | 1.13 | 24.30            |

## Attenuation

| Frequency (MHz) | Attenuation (dB/100 m) | Attenuation (dB/100 ft) | Average Power (kW) |
|-----------------|------------------------|-------------------------|--------------------|
| 0.5             | 0.044                  | 0.014                   | 247.25             |
| 1               | 0.063                  | 0.019                   | 174.46             |
| 1.5             | 0.077                  | 0.024                   | 142.22             |
| 2               | 0.089                  | 0.027                   | 122.99             |
| 10              | 0.202                  | 0.062                   | 54.32              |
| 20              | 0.289                  | 0.088                   | 38.05              |
| 30              | 0.356                  | 0.109                   | 30.85              |
| 50              | 0.465                  | 0.142                   | 23.63              |
| 88              | 0.627                  | 0.191                   | 17.53              |
| 100             | 0.671                  | 0.205                   | 16.38              |
| 108             | 0.699                  | 0.213                   | 15.72              |

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|      |       |       |       |
|------|-------|-------|-------|
| 150  | 0.834 | 0.254 | 13.17 |
| 174  | 0.904 | 0.276 | 12.15 |
| 200  | 0.976 | 0.297 | 11.26 |
| 300  | 1.22  | 0.372 | 9.01  |
| 400  | 1.433 | 0.437 | 7.67  |
| 450  | 1.532 | 0.467 | 7.17  |
| 500  | 1.627 | 0.496 | 6.76  |
| 512  | 1.649 | 0.503 | 6.67  |
| 600  | 1.806 | 0.55  | 6.09  |
| 700  | 1.974 | 0.602 | 5.57  |
| 800  | 2.134 | 0.65  | 5.15  |
| 824  | 2.171 | 0.662 | 5.06  |
| 894  | 2.278 | 0.694 | 4.83  |
| 960  | 2.376 | 0.724 | 4.63  |
| 1000 | 2.434 | 0.742 | 4.52  |
| 1250 | 2.781 | 0.848 | 3.95  |
| 1500 | 3.106 | 0.947 | 3.54  |
| 1700 | 3.354 | 1.022 | 3.28  |
| 1800 | 3.474 | 1.059 | 3.16  |
| 2000 | 3.709 | 1.131 | 2.96  |
| 2100 | 3.824 | 1.165 | 2.87  |
| 2200 | 3.937 | 1.2   | 2.79  |
| 2300 | 4.049 | 1.234 | 2.71  |
| 2500 | 4.267 | 1.301 | 2.58  |
| 2700 | 4.481 | 1.366 | 2.45  |

## Regulatory Compliance/Certifications

### Agency

RoHS 2002/95/EC

China RoHS SJ/T 11364-2006

### Classification

Compliant

Below Maximum Concentration Value (MCV)

