

**LCF12-50J-ECO**

1/2" CELLFLEX® ECO Low-Loss Foam-Dielectric Coaxial Cable



The CELLFLEX® LCF12-50J-ECO cable family is a high-performance, low-loss coaxial solution designed for modern broadcast and telecom applications. It features a robust, corrugated copper outer conductor and a foam PE dielectric for excellent electrical performance. The ECO version uses a jacket made with partially recycled PE, supporting sustainability initiatives without compromising quality. Its outstanding attenuation characteristics and mechanical flexibility make it ideal for feeder and jumper cable installations. The cable is engineered for long service life, maintaining stable performance even under harsh environmental conditions. Designed for use with ECO connectors, but also fully compatible with E01 and C03 connectors when using the appropriate preparation tool.

Feature / Benefits

- **Ultra Low Attenuation**
The reduced attenuation of CELLFLEX® coaxial cable results in extremely efficient signal transfer in your RF system, especially at high frequencies.
- **Complete Shielding**
The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects
- **Sustainable Performance:**

Environmentally conscious jacket with recycled PE

Technical features**APPLICATIONS**

| | |
|--------------|--|
| Applications | OEM jumpers, Main feed transitions to equipment, GPS lines, intended for outdoor usage |
|--------------|--|

STRUCTURE

| | |
|--------------------------|-----------------------------|
| Cable Type | Foam-Dielectric, Corrugated |
| Size | 1/2 |
| Jacket Option | Black |
| Inner Conductor Diameter | 4.8mm (0.189in) |
| Inner Conductor Material | Copper-Clad Aluminum Wire |
| Dielectric Diameter | 11.3mm (0.445in) |
| Dielectric Material | Foam Polyethylene |
| Outer Conductor Diameter | 13.8mm (0.543in) |
| Outer Conductor Material | Corrugated Copper |
| Jacket Diameter | 15.8mm (0.622in) |
| Jacket Material | Black Polyethylene |



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TESTING AND ENVIRONMENTAL

| | |
|--------------------------|--|
| Fire Performance | Halogen free, outdoor-rated |
| Installation Temperature | -40°C to 60°C (-40°F to 140°F) |
| Storage Temperature | -70°C to 85°C (-94°F to 185°F) |
| Operation Temperature | -50°C to 85°C (-58°F to 185°F) |
| Compliance | DIN EN ISO 9001:2015 |
| | ISO 14001:2015 |
| | RoHS 2011/65/EU - China RoHS SJ/T 11364-2006 |
| | REACH (EC 1907/2006) |

ELECTRICAL SPECIFICATIONS

| | |
|--------------------------------|--|
| Impedance | 50 +/- 1 Ω |
| Maximum Frequency | 8.8 GHz |
| Velocity | 87 % |
| Capacitance | 76pF/m (23.2pF/ft) |
| Inductance | 0.19μH/m (0.058μH/ft) |
| Peak Power Rating | 38 kW |
| RF Peak Voltage | 1950 Volts |
| Jacket Spark | 8000 Volt RMS |
| Inner Conductor dc Resistance | 1.62ohm/1000 m (0.5ohm/1000 ft) |
| Outer Conductor dc Resistance | 3.55ohm/1000 m (1.08ohm/1000 ft) |
| Return Loss (VSWR) Performance | Standard 20dB (1.222) / Premium 23/24dB (1.152/1.135) on specified frequencies |

MECHANICAL SPECIFICATIONS

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|-------------------------------------|-----------------------|
| Cable Weight | 0.18kg/m (0.125lb/ft) |
| Minimum Bending Radius | 70mm (2.756in) |
| Minimum Bending Radius | 125mm (4.921in) |
| Bending Moment | 6.5 (4.79) |
| Tensile Strength | 1050N (236lb) |
| Recommended / Maximum Clamp Spacing | 0.6 / 1 (2 / 3.25) |



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ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
| 100 | 2.18 | 0.66 | 3.45 |
| 200 | 3.12 | 0.95 | 2.41 |
| 450 | 4.77 | 1.45 | 1.57 |
| 700 | 6.03 | 1.83 | 1.24 |
| 800 | 6.48 | 1.97 | 1.16 |
| 900 | 6.91 | 2.1 | 1.09 |
| 1800 | 10.09 | 3.07 | 0.74 |
| 2000 | 10.7 | 3.26 | 0.7 |
| 2200 | 11.28 | 3.44 | 0.67 |
| 2400 | 11.84 | 3.61 | 0.63 |
| 2700 | 12.66 | 3.86 | 0.59 |
| 3000 | 13.43 | 4.01 | 0.56 |
| 3500 | 14.67 | 4.47 | 0.51 |
| 4000 | 15.84 | 4.83 | 0.47 |
| 5000 | 18.03 | 5.51 | 0.42 |
| 6000 | 20.07 | 6.14 | 0.37 |
| 7000 | 22 | 6.73 | 0.34 |
| 8800 | 25,24 | 7.73 | 0.3 |

External Document Links
[CELLFLEX Drum Selection Guide](#)

Notes