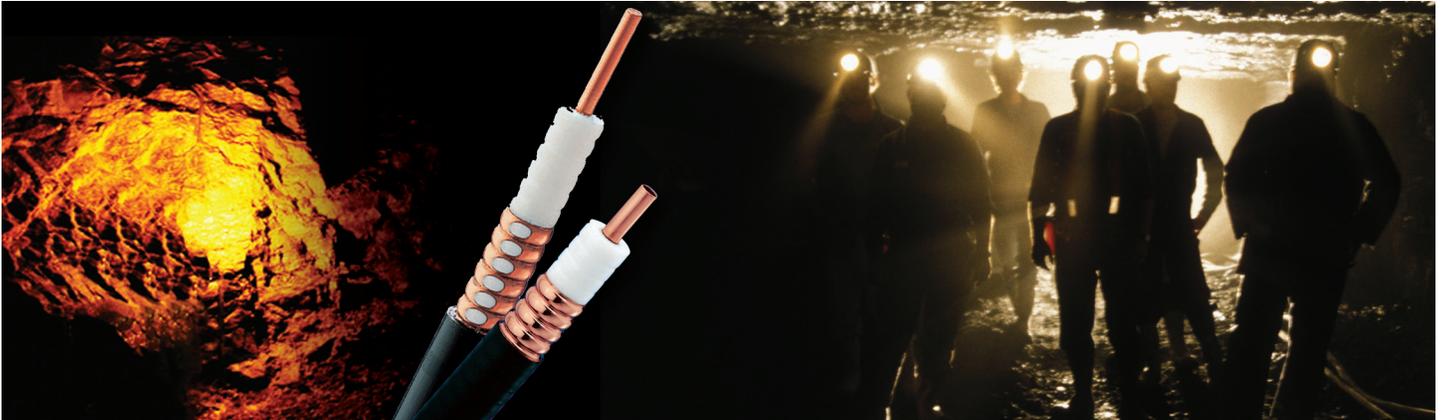




# MSHA Approved Mining Cables

RFS broadband CELLFLEX and RADIAFLEX cables are specially designed for underground mining applications



## RFS MSHA Approved Cables

These low loss foam dielectric cables combine excellent electrical characteristics with robust mechanical performance. They feature a remarkable flexibility with high strength and superior electrical performance. The cable construction allows easy handling and easy preparation for attachment of connectors together with high resistance to connector pull-off. All cables utilize a flame retardant jacket.

## Additionally, RFS RADIAFLEX Cables...

...function as distributed antennas to provide communications in tunnels, mines and large building complexes and is the solution for any application in confined areas.

Slots in the copper outer conductor allow a controlled portion of the internal RF energy to be radiated into the surrounding environment. Conversely, a signal transmitted near the cable will couple into the slots and be carried along the cable length. RADIAFLEX RCF cables are designed for low coupling loss with the benefit of no stop bands. This facilitates excellent underground signal radiation.

RADIAFLEX® is used for both one-way and two-way communication systems and, because of its broadband capability, a single radiating cable can handle multiple communication systems simultaneously.

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**RFS low attenuation cables enable greater distance between amplification points lowering total system costs**

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## Exclusive Features and Benefits

*Public Safety as a Top Priority*

- **Meets MSHA requirements approved for U.S. mining applications**
- **Broadband Communication from 30 to 6000MHz**  
*Supports FM, VHF, UHF, Cellular, PCS, WiFi, WiMAX, 3G and 4G technologies*
- **Typically deployed in mines, vehicles and buildings**  
*Designed for a broad range of applications*
- **Used for both one- and two-way communication systems**
- **Best combination of flexibility, high strength and excellent electrical performance**  
*Rugged for harsh environments*
- **Low bending radii**
- **Wide assortment of complimentary connectors, accessories and tools**



## Product Specifications

Click the Model Number below to access the datasheet

Model Number	RCF12-50JFN	LCF12-50JFN	RCF78-50JFNA	LCF78-50JFNA Series	RCF114-50JFN
Size	1/2"	1/2"	7/8"	7/8"	1-1/4"
Maximum Frequency, MHz	6000	8800	2700	5000	2750
Jacket	Flame Retardant				
Slot Design	Milled (Two-Row)	N/A	Milled (Two-Row)	N/A	Milled (Two-Row)
Impedance, ohm	50 +/-2	50 +/-1	50 +/-2	50 +/-1	50 +/-2
Velocity of Propagation, %	88	88	89	90	89
Inner Conductor dc Resistance, ohm/1000 m (1000 ft)	1.57 (0.48)	1.57 (0.48)	1.54 (0.47)	1.54 (0.47)	1.94 (0.59)
Outer Conductor dc Resistance, ohm/1000 m (1000 ft)	2.23 (0.68)	2.7 (0.82)	1.74 (0.53)	1.55 (0.47)	0.79 (0.24)
Outer Conductor Material	Annularly Corrugated Copper				
Inner Conductor Material	Copper-Clad Aluminum Wire	Copper-Clad Aluminum Wire	Copper Tube	Copper Tube	Copper Tube
Diameter over Jacket, mm (in)	16.2 (0.64)	15.8 (0.62)	27.8 (1.09)	27.8 (1.09)	39 (1.54)
Diameter Outer Conductor, mm (in)	13.8 (0.54)	13.8 (0.54)	25.2 (0.99)	25.2 (0.99)	35.9 (1.41)
Diameter Inner Conductor, mm (in)	4.8 (0.19)	4.8 (0.19)	9.3 (0.37)	9.32 (0.37)	13.6 (0.54)
Minimum Bending Radius, Single Bend, mm (in)	125 (5)	70 (3)	250 (10)	120 (5)	380 (15)
Cable Weight, kg/m (lb/ft)	0.25 (0.17)	0.23 (0.16)	0.6 (0.4)	0.48 (0.32)	0.9 (0.61)
Tensile Force, N (lb)	1000 (225)	1100 (247)	1440 (317)	1440 (324)	620 (137)
Indication of Slot Alignment	None	N/A	None	N/A	None
Storage Temperature, °C (°F)	-70 to +85 (-94 to +185)	-40 to +85 (-40 to +185)	-70 to 85 (-94 to 185 )	-70 to 85 (-94 to 185 )	-70 to 85 (-94 to 185 )
Installation Temperature, °C (°F)	-25 to +60 (-13 to +140)	-25 to +60 (-13 to +140)	-25 to 60 (-13 to 140 )	-25 to 60 (-13 to 140 )	-25 to 60 (-13 to 140 )
Operation Temperature, °C (°F)	-40 to +85 (-40 to +185)	-50 to +85 (-58 to +185)	-40 to +85 (-40 to +185)	-50 to 85 (-58 to 185 )	-40 to +85 (-40 to +185)
Stop bands, MHz	None	N/A	????	N/A	????
Recommended Clamp Spacing, m (ft)	0.6 (2.0)	0.6 (2.0)	0.9 (3)	0.8 (2.75)	1 (3.3)
Minimum Distance to Wall, mm (in)	50 (2)	N/A	50 (1.97)	N/A	50 (1.97)

## Connector Specifications

Model Number	Interface	Sealing Method	Plating Outer/Inner	Contact Attachment Inner	Contact Attachment Outer	Length mm (in)	Outer Dia. mm (in)	Weight kg (lb)
716F-LCF12-D01	7-16DIN Female	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	52.2 (2.05)	52.2 (2.05)	0.12 (0.25)
716M-LCF12-D01	7-16DIN Male	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	55.8 (2.20)	32.0 (1.26)	0.14 (0.32)
716MR-LCF12-D01	7-16DIN Male RA	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	64.6 (2.54)	41.3 (1.63)	0.22 (0.49)
NF-LCF12-D01	N Female	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	57.10 (2.25)	26.0 (1.02)	0.10 (0.26)
NM-LCF12-D01	N Male	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	64.05 (2.52)	29.0 (1.14)	0.11 (0.25)
NMR-LCF12-D01	N Male RA	Polymer Claw+Compression	NiTin/Silver	Basket	360° Clamping	64.6 (2.54)	52.3 (2.06)	0.10 (0.26)
78EIA-LCF12-002	7/8" EIA	O-ring	Brass/Silver	Basket	Self Flare	86.4 (3.4)	25.4 (1.0)	0.17 (0.38)
C-LCF12-002	Splice	O-ring	Brass/Silver	Basket	Self Flare	91.4 (3.6)	25.4 (1.0)	0.18 (0.40)