

**RLK12-50JFNA**

1/2" RADIAFLEX® RLK Cable, A-series

- RADIAFLEX® functions as a distributed antenna 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® 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.
- This RADIAFLEX® radiating cable utilize a low-loss cellular polyethylene foam dielectric and a smooth copper outer conductor which offers a superior electrical performance together with good bending properties.

**FEATURES / BENEFITS**

- Wideband from 30 MHz to 980 MHz
- For applications in tunnels and buildings
- Low coupling loss variations



RLK12-50JFNA

**Technical features****GENERAL SPECIFICATIONS**

Size		1/2
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**ELECTRICAL SPECIFICATIONS**

Max. Operating Frequency	MHz	980
Cable Type		RLK
Impedance	Ohm	50 +/- 2
Velocity, percent	%	87
Capacitance	pF/m (pF/ft)	75 (22.9)
Inductance, uH/m (uH/ft)	μH/m (μH/ft)	0.188 (0.057)
DC-resistance inner conductor, ohm/km (ohm/1000ft)	Ω/km (Ω/1000ft)	1.97 (0.6)
DC-resistance outer conductor, ohm/km (ohm/1000ft)	Ω/km (Ω/1000ft)	4.84 (1.48)
Stop bands	MHz	300-375, 675-685
Frequency Selection	MHz	600, 900

**MECHANICAL SPECIFICATIONS**

<b>Jacket</b>		JFN
<b>Jacket Description</b>		Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin
<b>Slot Design</b>		Groups of vertical slots at short intervals
<b>Inner Conductor Material</b>		Copper Clad Aluminum Wire
<b>Outer Conductor Material</b>		Overlapping Copper Strip
<b>Diameter Inner Conductor</b>	mm (in)	4.4 (0.17)
<b>Diameter Outer Conductor</b>	mm (in)	11.4 (0.45)
<b>Diameter over Jacket Nominal</b>	mm (in)	14.7 (0.58)
<b>Minimum Bending Radius, Single Bend</b>	mm (in)	200 (7.9)
<b>Cable Weight</b>	kg/m (lb/ft)	0.23 (0.16)
<b>Tensile Force</b>	N (lb)	1300 (292)
<b>Indication of Slot Alignment</b>		Bulge atop slots
<b>Recommended / Maximum Clamp Spacing</b>	m (ft)	0.5 (1.6)
<b>Minimum Distance to Wall</b>	mm (in)	80 (3.15)

**TESTING AND ENVIRONMENTAL**

<b>Jacket Testing Methods</b>		Test methods for fire behaviour of cable : IEC 60754-1/-2 smoke emission: halogen free, non corrosive IEC 61034 low smoke IEC 60332-1 flame retardant IEC 60332-3-24 fire retardant UL1666, ASTM E 662, NES711 and NES713
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**TEMPERATURE SPECIFICATIONS**

<b>Storage Temperature</b>	°C(°F)	-70 to 85 (-94 to 185 )
<b>Installation Temperature</b>	°C(°F)	-25 to 60 (-13 to 140 )
<b>Operation Temperature</b>	°C(°F)	-40 to 85 (-40 to 185 )

**ATTENUATION AND POWER RATING**

Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
<b>75</b>	2,17 (0,66)	46(50)	58(60)
<b>150</b>	3,11 (0,95)	54(58)	66(69)
<b>400</b>	5,59 (1,70)	53(55)	57(59)
<b>450</b>	5,88 (1,79)	52(55)	56(59)
<b>470</b>	6,01 (1,83)	52(55)	56(59)
<b>500</b>	6,20 (1,89)	52(55)	56(59)
<b>800</b>	8,50 (2,59)	55(58)	59(62)
<b>870</b>	9,07 (2,76)	56(59)	61(64)
<b>900</b>	9,41 (2,87)	57(60)	62(65)
<b>960</b>	10,51(3,20)	57(60)	62(65)



## External Document Links

## Notes

- Coupling loss as well as longitudinal attenuation of RADIAFLEX® cables are measured by the free space method according to IEC 61196-4.
- Coupling loss values are measured with a radial (below 470 MHz) or parallel (above 470 MHz) orientated dipole antenna.
- The coupling loss values given in brackets are average values of all three spatial orientations (radial, parallel and orthogonal) of dipole antenna.
- Coupling loss values are given with a tolerance of +10 dB and longitudinal loss values with a tolerance of +5%. Note: Measured values below nominal are better. They are not limited by any tolerance-range.
- In case of a conflict of operational and stop band, please contact RFS for further assistance.
- As with any radiating cable, the performance in building or tunnel environments may deviate from figures based on free space method.;