

1-1/4" RADIAFLEX® RLKL Cable, A-series

Product Description

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

- Optimised for frequencies of 30 to 600 MHz
- For applications in tunnels and buildings
- Low coupling loss variations

Technical Specifications

Size:	[in]	1-1/4"
Max. operating frequency:	[MHz]	600
Cable Type:	RLK	
Jacket	JFN: halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin 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	
Slot Design	Groups of vertical slots at short intervals	
Previous Model Number		
Impedance	[Ω]	50 +/-2
Relative propagation velocity	[%]	89
Capacitance	[pF/m (pF/ft)]	75 (22.9)
Inductance	[μH/m (μH/ft)]	0.1875 (0.057)
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	0.80 (0.24)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	1.75 (0.53)
Outer Conductor Material	Overlapping Copper Foil	
Inner Conductor Material	Copper Tube	
Diameter over Jacket	[mm (in.)]	38.1 (1.50)
Diameter Outer Conductor	[mm (in.)]	34.0 (1.34)
Diameter Inner Conductor	[mm (in.)]	13.1 (0.52)
Minimum Bending Radius, Single Bend	[mm (in.)]	500 (20.0)
Cable Weight	[kg/m (lb/ft)]	0.90 (0.60)
Max. tensile force	[N (lb)]	2000 (440)
Indication of Slot Alignment	Guides opposite to slots	
Storage temperature	[°C (°F)]	-70 to +85 (-94 to +185)
Installation temperature	[°C (°F)]	-25 to +60 (-13 to +140)
Operation temperature	[°C (°F)]	-40 to +85 (-40 to +185)
Stop bands	[MHz]	55-65, 115-130, 175-190, 235-250, 295-310, 355-375, 535-555
Recommended / maximum clamp spacing	[m (ft)]	1.3 (4.25)
Minimum Distance to Wall	[mm (in.)]	80 (3.15)
Length	[m (ft)]	

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 or parallel (125-300 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 ±5 dB and longitudinal loss values with a tolerance of ±5%.
- 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.

Rev.

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Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
75	0.72 (0.22)	53 (57)	65 (68)
150	1.07 (0.33)	59 (61)	62 (66)
450	1.95 (0.59)	64 (65)	69 (70)
600	2.39 (0.73)	58 (62)	62 (66)

Standard conditions