

## 7/8" 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 ]	7/8"
Max. operating frequency:	[MHz]	600
Cable Type:	RLK	
Jacket	JFL	
Jacket Description	Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin + flame barrier tape above outer conductor for lowest cable loss 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	
Slot Design	Groups of vertical slots at short intervals	
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)]	1.74 (0.53)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	2.52 (0.77)
Outer Conductor Material	Overlapping Copper Foil	
Inner Conductor Material	Copper Tube	
Diameter over Jacket	[mm (in)]	28.5 (1.12)
Diameter Outer Conductor	[mm (in)]	23.8 (0.94)
Diameter Inner Conductor	[mm (in)]	9.3 (0.37)
Minimum Bending Radius, Single Bend	[mm (in)]	350 (13.8)
Cable Weight	[kg/m (lb/ft)]	0.55 (0.37)
Max. tensile force	[N (lb)]	2300 (507)
Indication of Slot Alignment	Bulge atop 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)]	0.9 (3)
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.

2013/10/15



RLK cable, A-series

PERFORMANCE			
Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
75	1.14 (0.35)	44 (47)	54 (57)
150	1.54 (0.47)	55 (58)	58 (62)
450	2.94 (0.88)	57 (60)	63 (66)
600	3.62 (1.10)	54 (57)	58 (61)

Standard conditions