Product Data Sheet **RLKL78-50JFNA**

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**

Table of Losses

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

Technical Specifications

Size:	[in]	7/8"
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)]	1.46 (0.44)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	2.16 (0.66)
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)]	0.60 (0.40)
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.**

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