

## RLKW78-50JFN RADIAFLEX 7/8"

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.



### Product Specifications

Size	7/8"
Maximum Frequency, MHz	1800/1900
Cable Type	RLK
Jacket	Flame Retardant
Slot Design	Groups of vertical slots at short intervals
Previous Model Number	RLK9/23CuH
Impedance, ohm	50 +/-2
Velocity, %	88
Inner Conductor dc Resistance, ohm/1000 m (1000 ft)	0.77 (0.24)
Outer Conductor dc Resistance, ohm/1000 m (1000 ft)	1.8 (0.55)
Outer Conductor Material	Overlapping Copper Foil
Inner Conductor Material	Copper Tube
Diameter over Jacket, mm (in)	28.7
Diameter Outer Conductor, mm (in)	23.5 (0.93)

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## Product Data Sheet for RLKW78-50JFN (Cont.)

### RLKW78-50JFN RADIAFLEX 7/8"

Diameter Inner Conductor, mm (in)	9.1 (0.36)
Minimum Bending Radius, Single Bend, mm (in)	350 (14.0)
Cable Weight, kg/m (lb/ft)	0.77 (0.52)
Tensile Force, N (lb)	2300 (518)
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)
Longitudinal loss @ 75 MHz, dB/100 m (dB/100 ft)	1.1 (0.33)
Longitudinal loss @ 150 MHz, dB/100 m (dB/100 ft)	1.60 (0.49)
Longitudinal loss @ 450 MHz, dB/100 m (dB/100 ft)	3.20 (0.98)
Longitudinal loss @ 800 MHz, dB/100 m (dB/100 ft)	5.0 (1.52)
Longitudinal loss @ 900 MHz, dB/100 m (dB/100 ft)	5.6 (1.71)
Longitudinal loss @ 1800 MHz, dB/100 m (dB/100 ft)	20.8 (6.34)
Longitudinal loss @ 1900 MHz, dB/100 m (dB/100 ft)	24.0 (7.36)
Coupling loss @ 75 MHz, 50%/95% dB	56/67
Coupling loss @ 150 MHz, 50%/95% dB	62/70
Coupling loss @ 450 MHz, 50%/95%, dB	63/70
Coupling loss @ 800 MHz, 50%/95% dB	61/68
Coupling loss @ 900 MHz, 50%/95%, dB	59/66
Coupling loss @ 1800 MHz, 50%/95%, dB	54/66
Coupling loss @ 1900 MHz, 50%/95%, dB	53/65
Stop bands	at approx. 123 MHz and its multiples, clear between 1700 MHz and 1900 MHz
Recommended Clamp Spacing, m (ft)	0.9 (3)
Minimum Distance to Wall, mm (in)	80 (3.15)

### Features/Benefits

Wideband from 30 MHz to 1900 MHz, for applications in tunnels and buildings, low coupling loss variations

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