



1/2" RADIAFLEX® RLKW 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.



RLK cable, A-series

FEATURES / BENEFITS

- ➔ Wideband from 30 MHz to 1950 MHz
- ➔ For applications in tunnels and buildings
- ➔ Low coupling loss variations

Technical Features

GENERAL SPECIFICATIONS

| | |
|------|------|
| Size | 1/2" |
|------|------|

ELECTRICAL SPECIFICATIONS

| | | |
|-------------------------------|-----------------|--|
| Max. Operating Frequency | MHz | 1950 |
| Cable Type | | RLKW |
| Impedance | Ohm | 50 +/- 2 |
| Velocity | % | 88 |
| Capacitance | pF/m (pF/ft) | 76 (23.2) |
| Inductance | μH/m (μH/ft) | 0.19 (0.058) |
| DC-resistance inner conductor | Ω/km (Ω/1000ft) | 1.97 (0.6) |
| DC-resistance outer conductor | Ω/km (Ω/1000ft) | 4.84 (1.48) |
| Stop bands | MHz | 115-135, 235-255, 360-375, 475-505, 600-630, 720-750, 970-1075, 1340-1460, 1590-1700 |

MECHANICAL SPECIFICATIONS

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

TEMPERATURE SPECIFICATIONS

| | | |
|--------------------------|--------|-------------------------|
| 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) |



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ATTENUATION AND POWER RATING

| Frequency MHz | Longitudinal loss dB/100m (dB/100ft) | Coupling Loss | |
|------------------|---|---------------|---------|
| | | 50%, dB | 95%, dB |
| 75 | 2,17 (0,66) | 45 (49) | 56 (60) |
| 150 | 3,10 (0,94) | 58 (58) | 64 (67) |
| 450 | 5,74 (1,75) | 58 (62) | 62 (66) |
| 800 | 7,89 (2,40) | 61 (62) | 63 (66) |
| 870 | 8,33 (2,54) | 59 (62) | 66 (69) |
| 900 | 8,63 (2,63) | 59 (62) | 66 (69) |
| 960 | 8,92 (2,72) | 59 (62) | 66 (69) |
| 1800 | 20,60 (6,28) | 51 (54) | 63 (66) |
| 1900 | 21,62 (6,59) | 50 (53) | 62 (65) |

TESTING AND ENVIRONMENTAL

Jacket Testing Methods

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

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 or parallel (125-800 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%. 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.