



- 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

- Wideband from 30 MHz to 2400 MHz
- Heavy duty multiuse, for tunnel applications of all kind
- Easy system planning
- Insensitive to environmental influences

Technical features

GENERAL SPECIFICATIONS

Size		7/8
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ELECTRICAL SPECIFICATIONS

Max. Operating Frequency	MHz	2400
Cable Type		RLFU
Impedance	Ohm	50 +/- 2
Velocity, percent	%	89
Capacitance	pF/m (pF/ft)	75 (22.9)
Inductance, uH/m (uH/ft)	µH/m (µH/ft)	0.188 (0.057)
DC-resistance inner conductor, ohm/km (ohm/1000ft)	Ω/km (Ω/1000ft)	1.74 (0.53)
DC-resistance outer conductor, ohm/km (ohm/1000ft)	Ω/km (Ω/1000ft)	2.52 (0.77)
Stop bands	MHz	None
Frequency Selection	MHz	600, 900, 1800/1900, 2200, 2400



MECHANICAL SPECIFICATIONS

Jacket		JFN
Jacket Color		Standard Black, other colors on request
Jacket Description		Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin
Slot Design		Groups of slots at large intervals
Inner Conductor Material		Copper Tube
Outer Conductor Material		Overlapping Copper Foil
Diameter Inner Conductor	mm (in)	9.3 (0.37)
Diameter Outer Conductor	mm (in)	23.8 (0.94)
Diameter over Jacket Nominal	mm (in)	28.5 (1.12)
Minimum Bending Radius, Single Bend	mm (in)	350 (13.8)
Cable Weight	kg/m (lb/ft)	0.55 (0.37)
Tensile Force	N (lb)	2300 (507)
Indication of Slot Alignment		Bulge atop slots
Recommended / Maximum Clamp Spacing	m (ft)	0.9 (3)
Minimum Distance to Wall	mm (in)	50 (1.97)

TESTING AND ENVIRONMENTAL

Jacket Testing Methods		<p>Test methods for fire behaviour of cable :</p> <p>IEC 60754-1/-2 smoke emission, halogen free, non corrosive</p> <p>IEC 61034 low smoke</p> <p>IEC 60332-1 flame retardant</p> <p>IEC 60332-3-24 fire retardant</p> <p>UL1666, ASTM E 662, NES711 and NES713</p>
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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)

ATTENUATION AND POWER RATING

Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
75	1.02 (0.31)	62 (63)	72 (73)
150	1.48 (0.45)	60 (62)	70 (75)
450	2.76 (0.84)	66 (66)	78 (78)
800	3.93 (1.20)	66 (67)	77 (77)
870	4.10 (1.25)	62 (62)	72 (74)
900	4.29 (1.31)	64 (64)	75 (74)
960	4.37 (1.33)	64 (66)	75 (77)
1800	8.07 (2.46)	57 (58)	69 (70)
1900	8.81 (2.69)	58 (59)	69 (70)
2000	9.28 (2.83)	57 (59)	69 (70)
2200	10.72 (3.27)	57 (58)	69 (69)
2400	12.52 (3.82)	54 (60)	66 (71)



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 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.
- As with any radiating cable, the performance in building or tunnel environments may deviate from figures based on free space method.
- Due to the cable design, single lengths should not be less than 80m (262ft).