PRODUCT DATASHEET

RE60-JFN

RADIAFLEX® Elliptical Waveguide, RE-series

- RADIAFLEX® series 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 waveguide can handle multiple communication systems simultaneously.
- This RADIAFLEX® radiating waveguide is constructed of longitudinally continuous seam welded, highly conductive copper tube, corrugated and precision formed into an elliptical cross section. It is manufactured in continuous lengths using a special seam welding process developed by the RFS organization. The product offers a superior electrical performance together with good bending properties.

Feature / Benefits

- Optimized for ultra high frequency applications from 4.9 GHz to 6.0 GHz
- Best-in-class, RF wideband radiating waveguide with technology agnostic performance
- Designed for a variety of in-tunnel applications
- Lowest insertion loss and excellent coupling performance to minimize count of active equipment; low coupling loss variations
- Maintains functionality even in case of a fire

Technical features

GENERAL SPECIFICATIONS

Size	RE60

ELECTRICAL SPECIFICATIONS

Max. Operating Frequency	6000 MHz
Cable Type	RE
Frequency Selection	4.9 - 6.0GHz

MECHANICAL SPECIFICATIONS

Jacket Description	Halogen free, non corrosive, flame and fire retardant, low smoke, polyolefin
Slot Design	Milled
Outer Conductor Material	Corrugated Copper Tube
Min. Bending Radius E Plane w/o rebending	200mm (8in)
Min. Bending Radius H Plane w/o rebending	550mm (22in)
Min. Bending Radius E Plane with rebending	300mm (12in)
Min. Bending Radius H Plane with rebending	800mm (31in)
Cable Weight	1.1kg/m (0.74lb/ft)
Indication of Slot Alignment	Printing on jacket
Recommended / Maximum Clamp Spacing	2m (5ft)
Minimum Distance to Wall	50mm (2in)

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

TEMPERATURE SPECIFICATIONS

Storage Temperature	-70°C to 85°C (-94°F to 185°F)
Installation Temperature	-25°C to 60°C (-13°F to 140°F)
Operation Temperature	-40°C to 85°C (-40°F to 185°F)

ATTENUATION AND POWER RATING

Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%, dB	Coupling Loss 95%, dB
4900	5.0 (1.52)	74	78
5000	4.90 (1.49)	74	80
5100	4.90 (1.49)	74	80
5200	4.80 (1.46)	74	80
5300	4.80 (1.46)	74	80
5400	4.80 (1.46)	74	80
5500	4.80 (1.46)	74	80
5600	4.80 (1.46)	74	80
5700	4.80 (1.46)	74	80
5800	4.80 (1.46)	74	80
5900	4.80 (1.46)	74	80
6000	4.80 (1.46)	74	80

NOTES

- Coupling loss as well as longitudinal attenuation of RADIAFLEX® elliptical waveguides is measured by the free space method according to IEC 61196-4.
- Coupling loss values are measured with a log-periodic antenna with gain of approx. 6 dBi in specified frequency range.
- The coupling loss values are average values of the three spatial orientations (radial, parallel and orthogonal) of log-periodic antenna.
- Coupling loss values are given with a tolerance of ±6 dB and longitudinal loss values with a tolerance of ±5%.
- As with any radiating element, the performance in building or tunnel enviorments may deviate from figures based on free space mthod.

Related Documents

WINS Value Proposition
Value Propositions