Technical Data Sheet **ALFU12-50JA**

1/2" RADIAFLEX® ALFU 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

- **Ultra wideband from 30 MHz to 2.65 GHz**
- **Heavy duty multiuse, for tunnel applications of all kind**
- **Easy system planning**
- **Insensitive to environmental influencesp**

Technical Features

Size	1/2"
Frequency Selection, MHz	600, 900, 1800/1900, 2200 and above
Maximum Frequency, MHz	2650

1/2" RADIAFLEX® ALFU Cable, A-series

Cable Type	ALF/RLF
Jacket	Standard
Slot Design	Groups of slots at large intervals
Previous Model Number	ALFU12-50J
Impedance, ohm	50 +/-2
Velocity, %	88
Inner Conductor dc Resistance, ohm/1000 m (1000 ft)	2.0 (0.61)
Outer Conductor dc Resistance, ohm/1000 m (1000 ft)	4.1 (1.25)
Outer Conductor Material	Overlapping Copper Foil
Inner Conductor Material	Copper Clad Aluminum wire
Diameter over Jacket, mm (in)	14.7 (0.58)
Diameter Outer Conductor, mm (in)	11.4 (0.45)
Diameter Inner Conductor, mm (in)	4.4 (0.17)
Minimum Bending Radius, Single Bend, mm (in)	200 (7.9)
Cable Weight, kg/m (lb/ft)	0.29 (0.20)
Tensile Force, N (lb)	1300 (292)
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)	-50 to +85 (-58 to +185)
Stop bands, MHz	None
Recommended Clamp Spacing, m (ft)	0.5 (1.6)
Minimum Distance to Wall, mm (in)	50 (2)

Note

• Coupling loss as well as longitudinal attenuation of RADIAFLEX® cables are measured by the free space method according to IEC 61 196-4.

• Coupling loss values are given with a tolerance of 5 dB and longitudinal loss values with a tolerance of 5%.

• Due to the cable design single lengths should not be less than 80 m (262 ft).

ALFU12-50JA/JFNA/JFLA

PERFORMANCE

Frequency, MHz	Longitudinal Loss, dB/100 m (dB/100 ft)	Coupling Loss 50%/95%, dB
75	1.95 (0.59)	70/82
150	2.85 (0.87)	70/82
450	5.15 (1.57)	75/87
800	7.05 (2.15)	75/87
900	7.60 (2.32)	75/87
1800	11.0 (3.34)	80/92
1900	11.4 (3.46)	80/92
2000	11.7 (3.57)	80/92
2200	12.4 (3.78)	80/92
2400	13.0 (3.95)	80/92
2600	13.5 (4.11)	80/92