

## 1/2" Al Feeder/Flex Cable

P/N: AT1F12-2S



The 1/2" Aluminium feeder cable (**LDF-Low Density Foam**) is a low-loss, rugged, **50-ohm** coaxial hardline designed for minimal signal attenuation over long vertical and horizontal runs. It features a **corrugated Aluminium tube** as the outer conductor, which provides superior mechanical strength and **100% EMI shielding** compared to traditional braided cables. Its high-velocity foam dielectric and UV-resistant **Polyethylene (PE)** or **LSZH jacket** make it ideal for extreme outdoor environments. It is the primary choice for **cellular base station antennas (GSM/UMTS/LTE/5G), microwave links, In-Building Solutions (IBS), Distributed Antenna Systems (DAS) and broadcast systems** where **low Passive Intermodulation (PIM)** and high reliability are critical.

### Construction Specifications

Description	Material & Plating	Diameter (mm)
Inner Conductor	Copper-Clad Aluminum Wire	4.80±0.05
Dielectric	Foamed Polyethylene	12.30±0.4
Outer Conductor	Corrugated Aluminum Tube	13.90±0.5
Jacket	Low Smoke Halogen-free Fire-Retardant PE	15.70±0.5

### Electrical Specifications

Parameter	Value	Unit
Operating Frequency	≤ 9	GHz
Impedance	50±1	Ω
Propagation Velocity	88	%
Capacitance	76	pF/m
Screening Effectiveness	≥120	dB
Insulation Resistance	5000	MΩ-Km
Inner Conductor Resistance	≤ 1.55	Ω/km
Outer Conductor Resistance	≤ 2.20	Ω/km
RF Peak Voltage	1.6	kV
Dielectric Strength	6.0	kV
Peak Power Rating	40	kW
PIM	≤ -160	dBc@(2×43dBm)



## Technical Data Sheet

### Electrical Performance (VSWR)

Frequency Range	Typical VSWR Value
800~1000 MHz	≤ 1.15
1700~2200 MHz	≤ 1.15
2200~2700 MHz	≤ 1.15
3300~3800 MHz	≤ 1.15

### Mechanical Specifications

Parameter	Value	Unit
Weight	200	Kg/km
Single Bending Radius	≥ 50	mm
Repeated Bending Radius	≥ 125	mm
Tensile Strength	1000	N
Number of Bends	15	
Recommended Clamp Spacing	1.0	m

### Environmental Specifications

Parameter	Value	Unit
Storage Temperature	-55 ~ 85	°C
Installation Temperature	-40 ~ 60	°C
Operation Temperature	-55 ~ 85	°C

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## Technical Data Sheet

Attenuation & Power Rating vs Frequency			
Frequency (MHz)	Attenuation (dB/100m)	Attenuation (dB/100 ft)	Average Power Rating (kW)
100	2.4	0.73	3.58
200	3.45	1.05	2.5
450	5.25	1.6	1.64
800	7.15	2.18	1.21
900	7.65	2.33	1.14
1000	8.1	2.47	1.07
1500	10.1	3.08	0.86
1800	11.15	3.4	0.78
2000	11.85	3.61	0.74
2200	12.5	3.81	0.7
2400	13.05	3.98	0.68
2500	13.4	4.08	0.66
3000	14.8	4.51	0.59

### Standard Conditions

**For Attenuation:** VSWR: 1.0, Cable temperature: 20°C (68°F)

**For Average Power:** VSWR: 1.0, Ambient temperature: 40°C (104°F), Inner conductor temperature: 100°C (212°F)

**Note:** Maximum attenuation value shall be 105% off nominal attenuation value.