

# RadioFlex™

## Flexible Antenna Feeder Cables

RadioFlex cable uses a low loss polyethylene foam with very low dielectric losses resulting in low attenuation of RF power. Used as antenna feeders, cabling of antenna arrays, radio equipment interconnects, jumper assemblies solution for many wireless applications.

### Electrical Data

<b>Maximum Frequency:</b>	D19, D24:	18.0 GHz
	D30, D40:	12.4 GHz
	D60:	8.0 GHz
	D90:	4.5 GHz
<b>Impedance:</b>	50 $\Omega$ nominal	
<b>Propagation Velocity:</b>	D19:	80% nominal
	D24:	84% nominal
	D30, D40:	85% nominal
	D60, D90:	87% nominal
<b>Time Delay:</b>	D19:	1.27 ns/ft (4.16 ns/m)
	D24:	1.21 ns/ft (3.96 ns/m)
	D30:	1.20 ns/ft (3.94 ns/m)
	D40:	1.19 ns/ft (3.92 ns/m)
	D60, D90:	1.17 ns/ft (3.83 ns/m)
<b>Shielding Effectiveness:</b>	-90 dB minimum (cable only)	
<b>Dielectric Withstanding Voltage:</b>	D19:	1.0 kV at 60 Hz
	D24:	1.5 kV at 60 Hz
	D30:	2.0 kV at 60 Hz
	D40:	2.5 kV at 60 Hz
	D60:	4.0 kV at 60 Hz
	D90:	5.0 kV at 60 Hz
<b>Capacitance:</b>	D19:	25.4 pF/ft (83.3 pF/m)
	D24:	24.2 pF/ft (79.4 pF/m)
	D30, D40:	23.9 pF/ft (78.4 pF/m)
	D60, D90:	23.4 pF/ft (76.8 pF/m)

### Mechanical Data

<b>Finished Outer Diameter:</b>	D19:	0.195 in (0.495 cm)
	D24:	0.240 in (0.610 cm)
	D30:	0.300 in (0.762 cm)
	D40:	0.405 in (1.029 cm)
	D60:	0.590 in (1.499 cm)
	D90:	0.870 in (2.210 cm)
<b>Static Bend Radius:</b>	D19:	0.50 in (1.270 cm)
	D24:	0.75 in (1.905 cm)
	D30:	0.88 in (2.235 cm)
	D40:	1.00 in (2.540 cm)
	D60:	1.50 in (3.810 cm)
	D90:	3.00 in (7.620 cm)
<b>Weight with Standard Jacket/Armor:</b>	D19:	0.02 lbs/ft (0.031 kg/m)
	D24:	0.03 lbs/ft (0.051 kg/m)
	D30:	0.06 lbs/ft (0.082 kg/m)
	D40:	0.07 lbs/ft (0.101 kg/m)
	D60:	0.13 lbs/ft (0.195 kg/m)
	D90:	0.27 lbs/ft (0.396 kg/m)

### Operating Temp. Range:

-40 to 185° F (-40 to 85° C)

### Cable Construction

#### Inner Conductor:

D19, D24, D30:	Solid Cu
D40, D60:	Solid Cu-clad Al
D90:	Bare Cu Tube

**Dielectric:** Foam Polyethylene

**Outer Conductor:** Al Strip/Sn-plated  
Cu Round Braid

**Standard Finish:** Polyethylene

(a wide variety of other protective finishes and armors available)

### Available Connectors

BNC, SMA, TNC, Type N

(maximum frequency dependent on cable; other connectors available)



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# RadioFlex™ (cont'd)

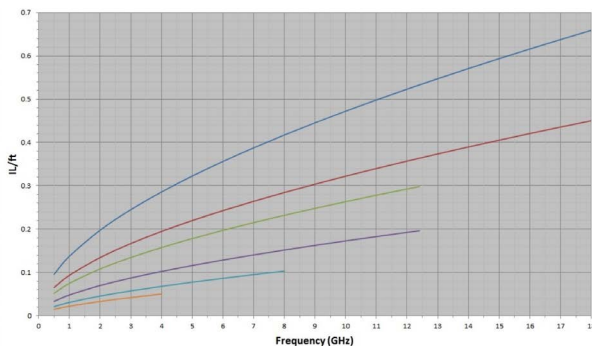
## Specifications

Frequency		D19 Series		D24 Series		D30 Series		D40 Series		D60 Series		D90 Series		Conn. Loss dB	VSWR
		Attenuation		Attenuation		Attenuation		Attenuation		Attenuation		Attenuation			
GHz	Band	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m		
0.3	UHF	0.074	0.243	0.050	0.165	0.040	0.131	0.026	0.084	0.016	0.053	0.011	0.036	0.006	1.10
0.5		0.096	0.315	0.065	0.214	0.052	0.171	0.033	0.110	0.021	0.070	0.015	0.048	0.009	
0.8		0.122	0.402	0.083	0.273	0.067	0.219	0.043	0.141	0.027	0.090	0.019	0.061	0.012	
1.0	L	0.138	0.451	0.094	0.307	0.075	0.246	0.048	0.158	0.031	0.102	0.021	0.069	0.014	
2.0	S	0.198	0.649	0.135	0.441	0.108	0.355	0.070	0.229	0.046	0.150	0.031	0.102	0.024	1.15
2.4		0.218	0.714	0.148	0.486	0.119	0.392	0.077	0.253	0.051	0.166	0.034	0.113	0.027	
3.0		0.245	0.804	0.167	0.548	0.135	0.442	0.087	0.286	0.057	0.189	0.039	0.128	0.032	
4.0	C	0.286	0.938	0.195	0.639	0.158	0.517	0.102	0.336	0.068	0.223	0.046	0.151	0.040	1.20
6.0		0.356	1.169	0.243	0.797	0.197	0.647	0.129	0.422	0.087	0.284	-	-	0.055	
8.0	X	0.417	1.369	0.285	0.934	0.232	0.761	0.152	0.498	0.103	0.339	-	-	0.070	1.25
10.0		0.472	1.550	0.322	1.058	0.264	0.865	0.173	0.597	-	-	-	-	0.084	
12.4		0.533	1.749	0.364	1.194	0.298	0.979	0.196	0.644	-	-	-	-	0.101	
15.0	Ku	0.594	1.948	0.406	1.330	-	-	-	-	-	-	-	-	0.118	1.30
18.0		0.659	2.162	0.450	1.477	-	-	-	-	-	-	-	-	0.139	

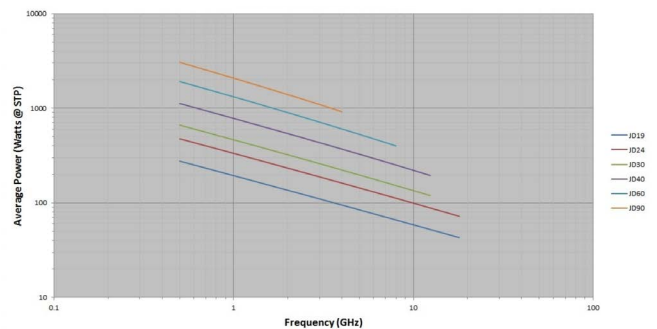
Note: Typical Insertion Loss dB = (Attenuation)(Length) + 2(Conn. Loss)

Attenuation at any frequency = D19:  $(0.13200 \times \sqrt{\text{freq GHz}}) + (0.00550 \times \text{freq GHz})$ , D24:  $(0.08960 \times \sqrt{\text{freq GHz}}) + (0.00390 \times \text{freq GHz})$ , D30:  $(0.07100 \times \sqrt{\text{freq GHz}}) + (0.00390 \times \text{freq GHz})$ ; D40:  $(0.04520 \times \sqrt{\text{freq GHz}}) + (0.00300 \times \text{freq GHz})$ , D60:  $(0.02800 \times \sqrt{\text{freq GHz}}) + (0.00300 \times \text{freq GHz})$ , D90:  $(0.01920 \times \sqrt{\text{freq GHz}}) + (0.00190 \times \text{freq GHz})$

### Insertion Loss



### Cable CW Power Handling



Note: Data at ambient temperature and sea level. Power handling of a cable assembly is also connector dependent and includes variables such as altitude, temperature and system VSWR. See website for connector power handling standards, including altitude, temperature and VSWR derating.