



1/2" CELLFLEX® Superflexible Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 1/2" superflexible cable; flame retardant/ halogen free jacket

Application: In Building, Wireless Communication, In Tunnel/HF Defense, Microwave, Mobile Radio

Features/Benefits

• Low Attenuation

The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transfer in your RF system.

• Complete Shielding

The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RF/EMI shield that minimizes system interference.

• Low VSWR

Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.

• Outstanding Intermodulation Performance

CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.

• High Power Rating

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.

• Wide Range of Application

Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	3.6 (0.14)
Dielectric:		[mm (in)]	8.3 (0.33)
Outer conductor:	Corrugated Copper	[mm (in)]	12.3 (0.48)
Jacket:	Polyethylene, PE, Metalhydroxite Filling	[mm (in)]	13.7 (0.54)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.21 (0.14)
Minimum bending radius, single bending	[mm (in)]	
Minimum bending radius, repeated bending	[mm (in)]	42 (1.3)
Bending moment	[Nm (lb-ft)]	1.8 (1.33)
Flat plate crush strength	[N/mm (lb/in)]	40 (228)
Max. tensile force	[N (lb)]	650 (146)
Recommended / maximum clamp spacing	[m (ft)]	0.30 / 0.30 (1.00 / 1.00)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	82
Capacitance	[pF/m (pF/ft)]	82.0 (25.0)
Inductance	[μH/m (μH/ft)]	0.207 (0.063)
Max. operating frequency	[GHz]	11.7
Jacket spark test RMS	[V]	5000
Peak power rating	[kW]	20.4
RF Peak voltage rating	[V]	1430
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	2.9 (0.88)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	4.1 (1.25)

Recommended Temperature Range

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)

Other Characteristics

Fire Performance: Flame Retardant, LSOH

VSWR Performance: Standard [dB (VSWR)]

Contact RFS for your VSWR performance specification for your required frequency band.

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.



Frequency [MHz]	Attenuation		Power [kW]
	[dB/100m]	[dB/100ft]	
0.5	0.229	0.0697	20.5
1.0	0.324	0.0986	20.5
1.5	0.397	0.121	20.5
2.0	0.458	0.140	18.8
10	1.03	0.314	8.37
20	1.46	0.446	5.90
30	1.80	0.548	4.80
50	2.33	0.710	3.70
88	3.11	0.949	2.77
100	3.33	1.01	2.59
108	3.46	1.05	2.49
150	4.10	1.25	2.10
174	4.43	1.35	1.95
200	4.76	1.45	1.81
300	5.89	1.79	1.46
400	6.85	2.09	1.26
450	7.29	2.22	1.18
500	7.71	2.35	1.12
512	7.81	2.38	1.10
600	8.50	2.59	1.01
700	9.23	2.81	0.934
800	9.92	3.02	0.869
824	10.1	3.07	0.855
894	10.5	3.21	0.818
900	10.6	3.22	0.815
925	10.7	3.27	0.803
960	11.0	3.34	0.787
1000	11.2	3.41	0.770
1250	12.7	3.86	0.682
1500	14.0	4.26	0.616
1700	15.0	4.57	0.575
1800	15.5	4.72	0.557
2000	16.4	5.01	0.525
2100	16.9	5.15	0.511
2200	17.3	5.28	0.498
2400	18.2	5.55	0.474
3000	20.7	6.30	0.417
3500	22.6	6.88	0.382
4000	24.4	7.4	0.353
5000	27.8	8.5	0.310
6000	31.0	9.4	0.278
7000	34.0	10.4	0.254
8000	36.8	11.2	0.234
9000	39.6	12.1	0.218
10000	42.3	12.9	0.204
11700	46.6	14.2	0.185

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature

All information contained in the present datasheet is subject to confirmation at time of ordering