

1/2" ClearFill®Line Plenum-Rated Air-Dielectric Coaxial Cable for In-Building Applications

Product Description

ClearFill®Line 1/2" low loss air dielectric cable, Plenum-rated, CMP

Application: Plenum In-Building



1/2" Plenum-Rated In-Building Cable

Features/Benefits

- **Supports Multiple RF Signals**
- **Complete Shielding**
The solid outer conductor of the ClearFill®Line coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Outstanding Intermodulation Performance**
RFS 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.
- **Wide Range of Applications**
Typical areas of application are: feedlines for plenum-space installations within occupied buildings or structures.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	4.8 (0.19)
Dielectric:	Extruded Polyethylene	[mm (in)]	11.8 (0.464)
Outer conductor:	Corrugated Copper	[mm (in)]	13.8 (0.54)
Jacket:	Plenum Rated / color blue	[mm (in)]	15.93 (0.627)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.37 (0.25)
Minimum bending radius, single bending	[mm (in)]	125 (5)
Minimum bending radius, repeated bending	[mm (in)]	254 (10)
Bending moment	[Nm (lb-ft)]	4.1 (3)
Max. tensile force	[N (lb)]	1112 (250)
Recommended / maximum clamp spacing	[m (ft)]	0.5 / 0.9 (1.8 / 3)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	91
Capacitance	[pF/m (pF/ft)]	76 (23.2)
Inductance	[μH/m (μH/ft)]	0.19 (0.058)
Max. operating frequency	[GHz]	6
Jacket spark test RMS	[V]	8000
Peak power rating	[kW]	40
RF Peak voltage rating	[V]	2000
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	1.48 (0.45)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	1.9 (0.58)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-40 to 85 (-40 to 185)
Installation temperature	[°C (°F)]	-20 to 60 (-4 to 140)
Operation temperature	[°C (°F)]	-40 to 85 (-40 to 185)

Other Characteristics

Fire Performance: Flame Retardant, Plenum Rated
Regulatory: NEC Article 800 Communication Circuits
Compliance: ETL Listed to UL444
Canadian CSA C.22.2/FT6

VSWR Performance: 24.3 (1.13) @ 698-960 MHz
 >24.3 (1.13) 18 (1.228) in other specified bands
@ 1700-2155 MHz

Other Options:

Frequency [MHz]	Attenuation [dB/100m] [dB/100ft]		Power [kW]
0.5	0.148	0.0452	40.0
1.0	0.210	0.0641	34.3
1.5	0.258	0.0785	27.9
2.0	0.298	0.0908	24.2
10	0.671	0.204	10.7
20	0.954	0.291	7.55
30	1.17	0.358	6.15
50	1.52	0.465	4.74
88	2.04	0.622	3.53
100	2.18	0.665	3.30
108	2.27	0.692	3.17
150	2.70	0.822	2.67
174	2.92	0.889	2.47
200	3.14	0.957	2.30
300	3.89	1.19	1.85
400	4.54	1.39	1.59
450	4.84	1.48	1.49
500	5.13	1.56	1.41
512	5.19	1.58	1.39
600	5.66	1.73	1.28
700	6.16	1.88	1.17
750	6.40	1.95	1.13
800	6.64	2.02	1.09
824	6.75	2.06	1.07
894	7.06	2.15	1.02
900	7.08	2.16	1.02
925	7.19	2.19	1.01
960	7.34	2.24	0.986
1000	7.51	2.29	0.964
1250	8.52	2.60	0.851
1400	9.08	2.77	0.799
1500	9.45	2.88	0.768
1700	10.2	3.09	0.713
1800	10.5	3.20	0.693
2000	11.2	3.40	0.650
2100	11.5	3.50	0.633
2200	11.8	3.59	0.618
2300	12.1	3.69	0.603
2400	12.4	3.78	0.588
2500	12.7	3.87	0.575
2600	13.0	3.96	0.562
2700	13.3	4.05	0.549
3000	14.1	4.31	0.519
3500	15.5	4.73	0.474
3600	15.8	4.81	0.465
4000	16.8	5.13	0.438
4500	18.1	5.51	0.408
5000	19.3	5.88	0.383
5500	20.4	6.23	0.364
6000	21.6	6.58	0.344

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