



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



FEATURES / BENEFITS

• **Supports Multiple RF Signals**

• **Complete Shielding**

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

• **Outstanding Intermodulation Performance**

RFS Technologies 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 Technologies factory.

• **Wide Range of Applications**

Typical areas of application are feedlines for plenum-space installations within occupied buildings or structures.

Technical features

APPLICATIONS

| | | | | | | | |
|---------------------|--|------------------------|------------|------------|--------------|-----------------|-------------|
| Applications | | Wireless Communication | TV & Radio | HF Defense | Mobile Radio | Cable Solutions | In Building |
|---------------------|--|------------------------|------------|------------|--------------|-----------------|-------------|

STRUCTURE

| | | |
|---------------------------------|---------|--|
| Size | | 1/2 |
| Inner Conductor Diameter | mm (in) | 4.8 (0.19) |
| Inner Conductor Material | | Copper-Clad Aluminum Wire |
| Dielectric Diameter | mm (in) | 11.8 (0.464) |
| Dielectric Material | | Extruded Polyethylene |
| Outer Conductor Diameter | mm (in) | 13.8 (0.54) |
| Outer Conductor Material | | Corrugated Aluminum |
| Jacket Diameter | mm (in) | 15.93 (0.627) |
| Jacket Material | | PVC, Plenum Rated / Color Black Water-resistant |
| Cable Type | | Air-Dielectric, Corrugated |

TESTING AND ENVIRONMENTAL

| | | |
|--|---------|--|
| Fire Performance | | Flame Retardant, Plenum-rated, CMP |
| Flame Retardant Jacket Specifications | | Meets/Exceeds Steiner Tunnel Test Method UL 910, NEC 820-53 (a) CMP, NFPA-262. |
| Regulatory Compliance | | NEC Article 800 Communication Circuits ETL Listed to UL444 Canadian CSA C.22.2/FT6 |
| Installation Temperature | °C(°F) | -20 to 60 (-4 to 140) |
| Storage Temperature | °C (°F) | -40 to 85 (-40 to 185) |
| Operation Temperature | °C(°F) | -40 to 85 (-40 to 185) |



ELECTRICAL SPECIFICATIONS

| | | |
|---------------------------------------|-------------------------|--|
| Impedance | Ω | 50 +/- 1 |
| Maximum Frequency | GHz | 6 |
| Velocity | % | 88 |
| Capacitance | pF/m (pF/ft) | 75 (22.86) |
| Inductance | uH/m (uH/ft) | 0.19 (0.058) |
| Peak Power Rating | kW | 40 |
| RF Peak Voltage | Volts | 2000 |
| Jacket Spark | Volt RMS | 8000 |
| Inner Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 1.48 (0.45) |
| Outer Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 2.29 (0.7) |
| Return Loss (VSWR) Performance | | 24 (1.13) @ 698-960 MHz 24 (1.13) @ 1395-1432 MHz 24 (1.13) @ 1700-2155 MHz 20 (1.22) @ 2300-2700 MHz 18 (1.29) @ 3550-4200 MHz 18 (1.29) @ 5150-6000 MHz |
| Temperature & Power | | High Power Rating |

MECHANICAL SPECIFICATIONS

| | | |
|---|---------------|---------------------|
| Cable Weight, Nominal | kg/m (lb/ft) | 0.238 (0.16) |
| Minimum Bending Radius, Single Bend | mm (in) | 76 (3) |
| Minimum Bending Radius, Repeated Bends | mm (in) | 127 (5) |
| Bending Moment | Nm (lb-ft) | 5.4 (4) |
| Tensile Strength | N (lb) | 549 (150) |
| Recommended / Maximum Clamp Spacing | m (ft) | 0.5 / 0.9 (1.8 / 3) |
| Crush Strength | kg/mm (lb/in) | 1.25 (70) |



ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 0.5 | 0.16 | 0.05 | 40 |
| 1 | 0.23 | 0.07 | 32.80 |
| 1.5 | 0.29 | 0.09 | 26.80 |
| 2 | 0.33 | 0.10 | 23.20 |
| 10 | 0.74 | 0.23 | 10.30 |
| 20 | 1.06 | 0.32 | 7.22 |
| 30 | 1.30 | 0.40 | 5.89 |
| 50 | 1.68 | 0.51 | 4.55 |
| 88 | 2.25 | 0.69 | 3.40 |
| 100 | 2.41 | 0.73 | 3.18 |
| 108 | 2.51 | 0.76 | 3.05 |
| 150 | 2.98 | 0.91 | 2.57 |
| 174 | 3.22 | 0.98 | 2.38 |
| 200 | 3.46 | 1.05 | 2.21 |
| 300 | 4.29 | 1.31 | 1.79 |
| 400 | 5 | 1.52 | 1.53 |
| 450 | 5.32 | 1.62 | 1.44 |
| 500 | 5.63 | 1.72 | 1.36 |
| 512 | 5.71 | 1.74 | 1.34 |
| 600 | 6.22 | 1.90 | 1.23 |
| 700 | 6.76 | 2.06 | 1.14 |
| 750 | 7.02 | 2.14 | 1.09 |
| 800 | 7.28 | 2.22 | 1.06 |
| 824 | 7.40 | 2.25 | 1.04 |
| 894 | 7.74 | 2.36 | 0.99 |
| 900 | 7.76 | 2.37 | 0.99 |
| 925 | 7.88 | 2.40 | 0.98 |
| 960 | 8.05 | 2.45 | 0.96 |
| 1000 | 8.23 | 2.51 | 0.93 |
| 1250 | 9.32 | 2.84 | 0.83 |
| 1400 | 9.93 | 3.03 | 0.78 |
| 1500 | 10.30 | 3.15 | 0.75 |
| 1700 | 11.10 | 3.38 | 0.70 |
| 1800 | 11.50 | 3.49 | 0.67 |
| 2000 | 12.20 | 3.71 | 0.63 |
| 2100 | 12.50 | 3.81 | 0.62 |



| | | | |
|-------------|-------|------|------|
| 2200 | 12.80 | 3.92 | 0.61 |
| 2300 | 13.20 | 4.02 | 0.59 |
| 2400 | 13.50 | 4.12 | 0.57 |
| 2500 | 13.80 | 4.22 | 0.56 |
| 2600 | 14.20 | 4.31 | 0.55 |
| 2700 | 14.50 | 4.41 | 0.54 |
| 3000 | 15.40 | 4.69 | 0.51 |
| 3500 | 16.90 | 5.14 | 0.46 |
| 3600 | 17.10 | 5.22 | 0.46 |
| 4000 | 18.30 | 5.56 | 0.43 |
| 4500 | 19.60 | 5.97 | 0.40 |
| 5000 | 20.90 | 6.36 | 0.38 |
| 5500 | 22.10 | 6.74 | 0.36 |
| 6000 | 23.30 | 7.11 | 0.34 |

External Document Links

[LINK TO VEX FILE](#)

Notes