



**ClearFill®Line Plenum-Rated 5/8" Air Dielectric Cable**

RFS Technologies' 5/8" air dielectric cable is specifically engineered to meet stringent plenum requirements in both the United States and Canada, ensuring compliance with NEC and NFPA safety standards for use in air-handling spaces. Designed for exceptional RF performance and low loss, this cable is widely used in Distributed Antenna System (DAS) projects for in-building communication, including commercial buildings, airports, hospitals, and other high-density venues. Its flexible construction allows for easy routing in tight plenum spaces, while its robust shielding ensures minimal signal interference. Ideal for applications requiring high signal integrity and regulatory compliance.



**FEATURES / BENEFITS**

- **Optimized for Plenum-Space Installations.** Engineered to meet plenum-rated safety standards in the U.S. and Canada, this cable is ideal for indoor DAS applications in office buildings, hospitals, airports, and other public venues requiring strict fire safety compliance.
- **Improved Attenuation and Power Rating vs 1/2" Cables.** Its larger size delivers superior electrical performance, enabling lower signal loss and higher power capacity—ideal for longer cable runs in large or complex venues.
- **Easier to Install Than 7/8" Cables.** With a smaller bend radius and reduced bending moment, the cable offers greater flexibility and ease of installation—especially in tight spaces or high-density pathways..
- **High-Frequency Performance up to 6 GHz.** Engineered to support RF signals across a broad frequency range—including up to 6 GHz—this cable meets the demands of today's advanced wireless communication systems, including 5G and future-ready networks.
- **Low PIM contribution.** With solid inner and outer conductors, the cable offers a minimized risk of PIM (Passive InterModulation) contribution, supporting clean and reliable signal transmission in demanding RF environments
- **Superior Shielding for Maximum Interference Protection.** The solid outer conductor provides complete 360° RFI/EMI shielding, significantly reducing signal leakage and minimizing system interference in high-density RF environments.

**Technical features**

**APPLICATIONS**

<b>Applications</b>		DAS (Distributed Antenna System)	Public Safety	Inbuilding Communication
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**STRUCTURE**

<b>Size</b>		5/8
<b>Inner Conductor Diameter</b>	mm (in)	6.7 (0.264)
<b>Inner Conductor Material</b>		Copper-Clad Aluminum Wire
<b>Dielectric Diameter</b>	mm (in)	16 (0.63)
<b>Dielectric Material</b>		Extruded Polyethylene
<b>Outer Conductor Diameter</b>	mm (in)	18.45 (0.726)
<b>Outer Conductor Material</b>		Corrugated Copper
<b>Jacket Diameter</b>	mm (in)	21 (0.827)
<b>Jacket Material</b>		PVC, Plenum Rated, Red
<b>Cable Type</b>		Air-Dielectric, Corrugated

**TESTING AND ENVIRONMENTAL**

<b>Fire Performance</b>		Flame Retardant, Plenum Rated
<b>Flame Retardant Jacket Specifications</b>		CMP (Communications Multipurpose Plenum)
<b>Regulatory Compliance</b>		NFPA 262 (UL910) / CATVP / CMP / UL444 / Canadian CSA C.22.2/FT6
<b>Installation Temperature</b>	°C(°F)	-20 to 60 (-4 to 140)
<b>Storage Temperature</b>	°C (°F)	-40 to 85 (-40 to 185)
<b>Operation Temperature</b>	°C(°F)	-40 to 85 (-40 to 185)

**ELECTRICAL SPECIFICATIONS**

<b>Impedance</b>	Ω	50 +/- 1
<b>Maximum Frequency</b>	GHz	6
<b>Velocity</b>	%	90
<b>Capacitance</b>	pF/m (pF/ft)	76 (23.2)
<b>Inductance</b>	uH/m (uH/ft)	0.19 (0.058)
<b>Peak Power Rating</b>	kW	55.6
<b>RF Peak Voltage</b>	Volts	2360
<b>Jacket Spark</b>	Volt RMS	11000
<b>Inner Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	0.75 (0.23)
<b>Outer Conductor dc Resistance</b>	Ω/1000 m (Ω/1000 ft)	1.43 (0.44)
<b>Return Loss (VSWR) Performance</b>		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

**MECHANICAL SPECIFICATIONS**

<b>Cable Weight, Nominal</b>	kg/m (lb/ft)	0.44 (0.25)
<b>Minimum Bending Radius, Single Bend</b>	mm (in)	75 (3)
<b>Minimum Bending Radius, Repeated Bends</b>	mm (in)	178 (7)
<b>Bending Moment</b>	Nm (lb-ft)	7.4 (5.5)
<b>Tensile Strength</b>	N (lb)	1150 (259)
<b>Recommended / Maximum Clamp Spacing</b>	m (ft)	0.7 / 1 (2.3 / 3.3)
<b>Crush Strength</b>	kg/mm (lb/in)	2.14 (120)



### ICA58-50JPLR

5/8" Plenum-Rated Corrugated Coaxial Cable, 50 Ω, 6 GHz, Red Color

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

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.11	0.03	55.60
1	0.16	0.05	47.68
1.5	0.19	0.06	38.78
2	0.22	0.07	33.64
10	0.50	0.15	14.87
20	0.72	0.22	10.50
30	0.88	0.27	8.55
50	1.14	0.35	6.59
88	1.53	0.47	4.91
100	1.64	0.50	4.59
108	1.70	0.52	4.41
150	2.02	0.62	3.71
174	2.18	0.67	3.43
200	2.35	0.72	3.20
300	2.91	0.89	2.57
400	3.39	1.03	2.21
450	3.62	1.10	2.07
500	3.83	1.17	1.96
512	3.88	1.18	1.93
600	4.22	1.29	1.78
700	4.59	1.40	1.63
750	4.77	1.45	1.57
800	4.94	1.51	1.52
824	5.02	1.53	1.49
894	5.25	1.60	1.42
900	5.27	1.61	1.42
925	5.35	1.63	1.40
960	5.47	1.67	1.38
1000	5.59	1.70	1.33
1250	6.33	1.93	1.18
1400	6.75	2.06	1.11
1500	7.01	2.14	1.07
1700	7.53	2.30	0.99
1800	7.78	2.37	0.96
2000	8.26	2.52	0.90
2100	8.49	2.59	0.88



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2200	8.73	2.66	0.86
2300	8.96	2.73	0.83
2400	9.18	2.80	0.82
2500	9.40	2.86	0.81
2600	9.62	2.93	0.78
2700	9.83	3.00	0.77
3000	10.46	3.19	0.72
3500	11.45	3.49	0.65
3600	11.65	3.55	0.65
4000	12.40	3.78	0.61
4500	13.31	4.06	0.57
5000	14.19	4.32	0.53
5500	15.03	4.58	0.50
6000	15.86	4.83	0.47

#### Related Products

Standard C03 Connector		
Interface	Connector Model Number	Toolkit
N Male	NM-ICA58-C03	TRIM-ICA58-C03
N Female	NF-ICA58-C03	
4.3-10 Male	43M-ICA58-C03	
4.3-10 Female	43F-ICA58-C03	

Other connector types may be available upon request.

#### External Document Links

[LINK TO VEX FILE](#)

#### Notes

The cable is IP68 and the jacket is UV resistant.