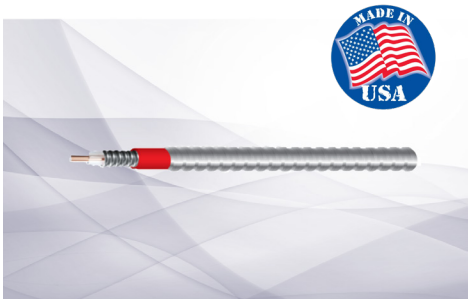
RFS Technologies
an Amphenol Company

PLENUMSHIELD™ ICA12-50JPLLR-ARMR PLENUM-RATED AIR-DIELECTRIC COAXIAL CABLE

WHY CHOOSE PLENUMSHIELD™?
Achieve Pathway Survivability Level 1 per NFPA72 with lower installation cost and Total Cost of Ownership (TCO) compared to metal conduits while maintaining superior electrical performance.

OVERVIEW
RFS Technologies' **PlenumShield™** combines our renowned ICA12 plenum-rated coaxial cable with a high-performance metal sheathing to create an all-in-one solution that enables a simpler installation process. PlenumShield™ is an approved alternative to additional metal raceways and conduits in ERRCS systems, while simultaneously delivering enhanced electrical performance for Public Safety, DAS/BDA, and commercial wireless networks up to 6GHz.



OVERALL BENEFITS

- **Made in USA:** Ensures the highest level of quality and performance for public safety and critical communication infrastructure. Short lead times with in-stock availability.
- **Cost-Effective Mechanical Protection:** Metal sheathing provides Pathway Survivability Level 1 in an all-in-one solution without the need for installing metal raceway
- **Best-in-class RF and Electrical Performance:** Achieve better coverage with less risk of dropped signal
- **Wide Application Base:** Suitable for use in Distributed Antenna Systems (DAS) and Bi-Directional Amplifiers (BDA) , making it ideal for emergency communication systems and other wireless systems up to 6GHz offering maximum future-proofness.
- **Certified Performance:** Meets/Exceeds UL 444, UL 910, NEC 820-53 (a) CMP, CSA C.22.2/FT6, NFPA-262, and NFPA72 Section 12.4.2 Pathway Survivability Level 1.

INSTALLATION AND MECHANICAL BENEFITS

- **Ease of Installation:** Lightweight and easy to handle, simplifying installation in complex and tight environments
- **Flexible Design:** Built for tight bends without compromising durability
- **High-Performance Materials:** Ensures long-term durability, environmental protection, and performance
- **One Step Solution:** One step installation without needing to install a separate metal raceway

TECHNICAL SPECIFICATIONS

PlenumShield™ cable features plenum-rated air dielectric coaxial cable with additional high-performance mechanical protection for enhanced fire resistance and compliance, an operating temperature range of -40 C to +85 C, unmatched RF & electrical performance and robustness for system performance and safety. These specifications make it a reliable solution for installations in fire-resistant and plenum-rated environments.

APPLICATIONS

PlenumShield™ is an ideal solution for a variety of applications, especially in installations where cost-effective plenum-rating and/or fire-resistant performance is desired. The flexibility of our cable also makes it ideal for DAS/BDA installations and commercial applications where there are complex and tight installation spaces.

CERTIFICATIONS

PlenumShield™ meets/exceeds the highest safety and performance standards, UL 444, UL 910, NEC 820-53 (a) CMP, CSA C.22.2/FT6, NFPA-262, including compliance with NFPA 1221, NFPA 72, and other relevant fire codes. Additionally, it is endorsed by fire marshals around the country for critical infrastructure installations.

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TECHNICAL FEATURES

Applications		Indoor Emergency Communication	Indoor Security and Surveillance	Indoor Commercial up to 6 GHz
STRUCTURE				
Cable Type		Air-Dielectric, Corrugated, Armored Cable		
Size		1/2”		
Inner Conductor Diameter	in (mm)	0.19 (4.8)		
Inner Conductor Material		Copper-Clad Aluminum Wire		
Dielectric Diameter	in (mm)	0.464 (11.8)		
Dielectric Material		Extruded Polyethylene		
Outer Conductor Diameter	in (mm)	0.54 (13.8)		
Outer Conductor Material		Corrugated Aluminum		
Jacket Diameter	in (mm)	0.627 (15.93)		
Jacket Material		PVC, Plenum Rated / Water-resistant		
TESTING AND ENVIRONMENTAL				
Fire Performance		Flame Retardant, Plenum-rated, CMP		
Regulatory Compliance		NEC Article 800 Communication Circuits		
Installation Temperature	F° (C°)	-4 to 140 (-20 to 60)		
Storage Temperature	F° (C°)	-40 to 185 (-40 to 85)		
Operation Temperature	F° (C°)	-40 to 185 (-40 to 85)		
ELECTRICAL SPECIFICATIONS				
Impedance	Ω	50 +/- 1		
Maximum Frequency	GHz	6		
Velocity	%	88		
Capacitance	pF/ft (pF/m)	22.86 (75)		
Inductance	uH/ft (uH/m)	0.0583 (0.19)		
Peak Power Rating	kW	40		
RF Peak Voltage	Volts	2000		
Jacket Spark	Volt RMS	8000		
Inner Conductor dc Resistance	Ω/1000 ft (Ω/1000 m)	0.45 (1.48)		
Outer Conductor dc Resistance	Ω/1000 ft (Ω/1000 m)	0.7 (2.29)		
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	(lb/ft)kg/m	0.23 (0.34)		
Minimum Bending Radius, Single Bend	in (mm)	12 (304.801)		
Tensile Strength	lb (N)	150 (549)		
Recommended / Maximum Clamp Spacing	ft (m)	1.8/3 (0.5 / 0.9)		

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

Frequency, MHz	dB per 100ft (dB per 100m)	Power, kW
450	1.62(5.32)	1.4
500	1.72 (5.63)	1.4
512	1.74 (5.71)	1.3
600	1.9 (6.22)	1.2
700	2.06 (6.76)	1.1
750	2.14 (7.02)	1.1
800	2.22 (7.28)	1.1
824	2.25 (7.4)	1
894	2.36 (7.74)	1
900	2.37 (7.76)	1
925	2.4 (7.88)	1
960	2.45 (8.05)	1
1000	2.51 (8.23)	0.9
1250	2.84 (9.32)	0.8
1400	3.03 (9.93)	0.8
1500	3.15 (10.3)	0.8
1700	3.38 (11.1)	0.7
1800	3.49 (11.5)	0.7
2000	3.71 (12.2)	0.6
2100	3.81 (12.5)	0.6
2200	3.92 (12.8)	0.6
2300	4.02 (13.2)	0.6
2400	4.12 (13.5)	0.6
2500	4.22 (13.8)	0.6
2600	4.31 (14.2)	0.5
2700	4.41 (14.5)	0.5
3000	4.69 (15.4)	0.5
3500	5.14 (16.9)	0.5
3600	5.22 (17.1)	0.5
4000	5.56 (18.3)	0.4
4500	5.97 (19.6)	0.4
5000	6.36 (20.9)	0.4
5500	6.74 (22.1)	0.4
6000	7.11 (23.3)	0.3

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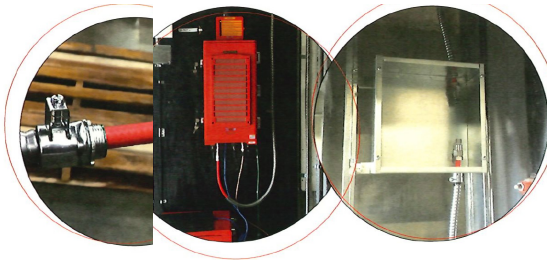
CONNECTOR COMPATIBILITY GUIDE

MODEL NUMBER	DESCRIPTION	INSTALLATION PREPARATION TOOLS
NM-LCF12-C02-6	CONN NM LCF12-50 J+L OS OR 6GHZ	TRIM-SET-L12-C02
NF-LCF12-C02-6	CONN NF LCF12-50 J+L OS OR 6GHZ	TRIM-SET-L12-C02
NM-LCF12-D01	CONN NM LCF12-50 J+L OP OR	TRIM-SET-L12-D01
NF-LCF12-D01	CONN NF LCF12-50 J+L OP OR	TRIM-SET-L12-D01
43M-LCF12-D01	CONN 43M LCF12-50 J+L OP OR	TRIM-SET-L12-D01
43F-LCF12-D01	CONN 43F LCF12-50 J+L OP OR	TRIM-SET-L12-D01
NM-LCF12-C03	CONN NM LCF12-50 OS OR	TRIM-SET-L12-C02
NF-LCF12-C03	CONN NF LCF12-50 OS OR	TRIM-SET-L12-C02
43M-LCF12-C03	CONN 43M LCF12-50 OS OR	TRIM-SET-L12-C02
43F-LCF12-C03	CONN 43F LCF12-50 OS OR	TRIM-SET-L12-C02
NM-LCF12-CP01	COMP NM CONN FOR LCF, ICA, RCF & RCA12	TRIM-L12-AFBXD05-2
NF-LCF12-CP01	COMP NF CONN FOR LCF, ICA, RCF & RCA12	TRIM-L12-AFBXD05-2

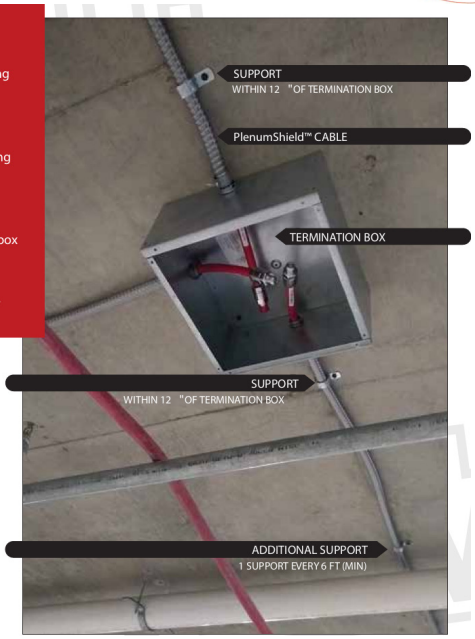
AVAILABLE ACCESSORIES

- PlenumS-CONN-DB75IC: Steel Saddle Connector to connect PlenumShield™ to JBOX.
- PlenumS-OHSTRAP-75: ¾" One Hole Strap.
- PlenumS-CUTT-170-WW: Cutting Tool.



1. REMOVE lock nut
2. LOOSEN UP the screw on top of the locking double bite piece
3. INSERT the PlenumShield™ cable
4. TIGHTEN UP the screw on top of the locking double bite piece to secure the cable
5. INSERT fitting into the box
6. INSERT lock nut to fitting to secure to the box

NOTE *Angle Connectors are not recommended.



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