

LINACOUSTIC® RC-IG FIBERGLASS DUCT LINER WITH REINFORCED COATING & PRE-APPLIED ADHESIVE DATA SHEET

DESCRIPTION

LinacouSTIC® RC-IG insulation is a premium, flexible, fiberglass duct liner made from strong glass fibers bonded with a thermosetting resin. The airstream surface is protected with JM's exclusive Reinforced Coating System, which combines our state of the art Permacote® acrylic coating with a flexible glass mat reinforcement to provide a smooth air stream surface. On the opposite side of the airstream surface, LinacouSTIC RC-IG contains InsulGrip® a non-toxic, water-reactivated adhesive layer. For HVAC duct lining applications, LinacouSTIC RC-IG can be applied to sheet metal duct work with existing coil lines, adhesive roll coating equipment and at hand-stations by replacing traditional duct liner adhesives with tap water application, allowing the product to self-adhere to the sheet metal.

ABOUT INSULGRIP

InsulGrip is factory-applied to LinacouSTIC RC-IG. It is a water-based, water-activated, non-flammable adhesive with no VOCs.

FACTORY-APPLIED EDGE COATING

Edge coating is factory applied to the edges of the liner core, ensuring coverage of the leading edges per NAIMA/SMACNA requirements. Shop fabrication cuts may be coated with SuperSeal® edge treatment (refer to publication AHS-202).

USES

LinacouSTIC RC-IG insulation is specifically designed for lining sheet metal ducts in air conditioning, heating and ventilating systems, providing superior acoustical and thermal performance.

STORAGE

LinacouSTIC RC-IG should be kept clean and dry during storage, transport, fabrication, installation, and system operation.

GENERAL PROPERTIES

Operating temperature (max.) – ASTM C411	250°F (121°C)
Water repellency – INDA IST 80.6	≥6
Fungi resistance – ASTM C1338	Does not breed or promote
Fungi resistance – ASTM G21	No growth
Air velocity (max.) – ASTM C1071	6,000 fpm (30.5 m/sec)
No evidence of erosion*	15,000 fpm (76.2 m/s)

*ASTM C1071 requires that the insulation is tested to 2.5x the rated velocity and requires that the insulation shall not break away, crack, peel, flake off, or show evidence of delamination or continued erosion when air is passed through typical duct sections at 15,000 fpm (76.2 m/s)

STANDARD THICKNESSES AND PACKAGING

Thickness		Roll Length		Roll Widths for All Thicknesses*	
in	mm	lineal feet	lineal meters	in	mm
½	13	100, 150, 200	31, 46, 61	34 to 72	864 to 1829
1	25	50, 100, 150, 200	15, 31, 46, 61	34 to 72	864 to 1829
1½	38	50, 100	15, 31	34 to 72	864 to 1829
2	51	50	15	34 to 72	864 to 1829
3	76.2	50	15	55 to 60	1422 to 1524

*Available in ¼" (6.4 mm) increment.

Contact your Regional Sales Office for stock items for all LinacouSTIC RC-IG products.

SURFACE BURNING CHARACTERISTICS

LinacouSTIC RC-IG duct liner meets the Surface Burning Characteristics and Limited Combustibility of the following standards/test methods:

- ASTM E84
- UL 723
- NFPA 255
- NFPA 90A and 90B
- NFPA 259
- CAN/ULC S102

Maximum Flame Spread Index	25
Maximum Smoke Developed Index	50



SPECIFICATION COMPLIANCE

- ASTM C1071, Type I
- ICC Compliant
- California Title 24
- MEA #353-93-M
- SMACNA Application Standards for Duct Liners
- Conforms to ASHRAE 62
- NAIMA Fibrous Glass Duct Liner Installation Standard
- Canada: CGSB 51-GP-11M and CAN/CGSB 51.11
- ASTM C916, Type I

ADVANTAGES

Expedites Installation Process. Using LinacouSTIC RC-IG eliminates the need for a paint-on adhesive and any subsequent cleanup the adhesive requires. The dry, pre-applied, InsulGrip adhesive layer on the insulation is activated by lightly wetting the adhesive side of the insulation before setting it in place on the duct panel. The LinacouSTIC RC-IG adheres securely to the duct panel within seconds.

Improves Indoor Building Environment. LinacouSTIC RC-IG duct liner improves indoor environmental quality by helping to control both temperature and sound.

Resistant to Dust and Dirt. The tough acrylic polymer Permacote coating helps guard against the incursion of dust or dirt into the substrate, minimizing the potential for biological growth.

Will Not Support Microbial Growth. Permacote coating is formulated with an immobilized EPA-registered protective agent to protect the coating from potential growth of fungi and bacteria. LinacouSTIC RC-IG duct liner meets all requirements for fungi and bacterial resistance. Tests were conducted in accordance with ASTM C1338 and ASTM G21 (fungi testing).

Note: As with any type of surface, microbial growth may occur in accumulated duct system dirt, given certain conditions. This risk is minimized with proper design, filtration, maintenance and operation of the HVAC system.

Cleanability. If HVAC system cleaning is required, the Reinforced Coating airstream surface may be cleaned with industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems."

Highly Resistant to Water. The reinforced coating surface provides superior resistance to penetration of incidental water into the fiber glass wool core.

SUSTAINABLE BUILDING CERTIFICATIONS

GREENGUARD®
GREENGUARD® GOLD

Certified
Certified

GREENGUARD® Certified products have been screened for more than 10,000 volatile organic compounds (VOCs) and meet stringent standards for low chemical emissions based on established criteria from key public health agencies



Duct liner is UL Classified for E84
Duct Liner UL file: R3711

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THERMAL PERFORMANCE

Thickness		R-value		Conductance	
in	mm	(hr•ft ² •°F)/Btu	m ² •°C/W	Btu/(hr•ft ² •°F)	W/m ² •°C
½	13	2.2	0.39	0.46	2.61
1	25	4.2	0.74	0.24	1.36
1½	38	6.3	1.11	0.16	0.91
2	51	8.0	1.41	0.13	0.74
3	76.2	12.0	2.11	0.08	0.47

R-value and conductance are calculated from the material thermal conductivity tested in accordance with ASTM C518 at 75°F (24°C) mean temperature.

SOUND ABSORPTION COEFFICIENTS (TYPE "A" MOUNTING)

Thickness		Sound Absorption Coefficient at Frequency (cycles/sec of)						
in	mm	125	250	500	1000	2000	4000	NRC
½	13	0.07	0.20	0.44	0.66	0.84	0.93	0.55
1	25	0.08	0.31	0.64	0.84	0.97	1.03	0.70
1½	38	0.10	0.47	0.85	1.01	1.02	0.99	0.85
2	51	0.25	0.66	1.00	1.05	1.02	1.01	0.95
3	76.2	0.47	0.96	1.17	1.10	1.02	1.05	1.05

Coefficients were tested in accordance with ASTM C423 and ASTM E795.

ISO 9000 CERTIFICATION

Johns Manville mechanical insulation products are designed, manufactured and tested in our own facilities, which are certified and registered to stringent ISO 9000 (ANSI/ASQC 90) series quality standards. This certification, along with regular, independent third-party auditing for compliance, is your assurance that Johns Manville products deliver consistent high quality.

INSTALLATION

LinacouSTIC RC-IG duct liner installation must be performed in accordance with the requirements of the NAIMA Fibrous Glass Duct Liner Standards or SMACNA HVAC Duct Construction Standard. All transverse edges, or any edges exposed to airflow, must be coated with an approved duct liner coating material, such as Johns Manville SuperSeal products.

Minimizes Pre-installation Damage. LinacouSTIC RC-IG duct liner's Reinforced Coating System is highly resistant to damage that can occur during in-shop handling, fabrication, jobsite shipping and installation.

Easy to Fabricate. LinacouSTIC RC-IG duct liner is lightweight and easy to handle. Clean, even edges can be accurately cut with regular shop tools.

INSULGRIP ADHESIVE ACTIVATION

The InsulGrip on the adhesive side of LinacouSTIC RC-IG is reactivated by water. Installers can simply wet the dried adhesive on the metal-facing side of the liner with a water mist or a roll-coater. Once moistened, the adhesive will become tacky, and the insulation should be applied to the metal duct surface within 30 seconds. The adhesive will form a secure bond to the metal within seconds, so the material should be carefully placed and repositioning should be avoided if possible. After the insulation has been adhered to the duct, it must be pinned in place per NAIMA/SMACNA guidelines. See the next page for more information about pinning LinacouSTIC RC-IG.

WATER APPLICATION

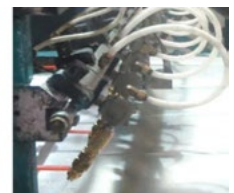
Typically, very minimal or no retrofit to existing equipment will be required to apply water. When reactivating the insulation with water, installers should target 11 + 3 - 1 grams/sq. ft. of insulation surface. This is the optimal amount needed to quickly activate the insulation adhesive layer and allow for good initial tack with fast dry time.

- Using too much water will result in poor tack and long dry time.

- Using too little water will not allow the adhesive to activate fully resulting in poor tack and poor adhesion.
- Water can be applied to the adhesive directly or to the sheet metal. Both application options require weld pinning.
- The InsulGrip Adhesive and activating water must be above 40°F for best results
- Drying time will depend on the amount of water applied to activate the adhesive layer and on local air temperature and humidity conditions. The drying time will be similar to most commonly used water-based adhesive.

COIL LINE APPLICATION

For coil line application, replace the existing adhesive spray nozzles with fine-mist water spray nozzles. The number of nozzles required will depend on the type of spray nozzle used, the width of the sheet metal to be coated, and the water pressure delivered to the spray nozzles. Some trial-and-error testing may be necessary to determine the nozzle configuration required along with angle setting and nozzle height.



Water Spray Tip Assembly

Existing Quick-Connect Fitting

Installed Water Spray Nozzle

Suggested Water Spray Nozzle Configurations

Spray Systems Co. Spray Tip & Nozzle
Body for 1/8" NPT Quick Connects



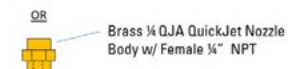
Brass 1/8" QJJA QuickJet Nozzle
Body w/ Male 1/8" NPT



Spray Systems Co. Spray Tip & Nozzle
Body for 1/4" NPT Quick Connects

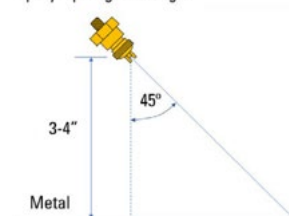


Brass 1/4" QJJA QuickJet Nozzle
Body w/ Male 1/4" NPT



Suggested Water Spray Nozzle Placement

Spray Tip Angle & Height



Most coil line adhesive systems have water flush capability to clean the adhesive lines and nozzles after each use. The water flush system can also be used to supply clean water to the water spray nozzles if the water pressure is between 40 to 80 psi. If the pressure is below 40 psi, a separate water supply system will be needed, with the possibility of requiring a pump to increase pressure. Note that most cities supply water to customers between 40 to 80 psi.

It also may be necessary to adjust the cycle time of the spray system (On-Off spray time) to ensure complete water coating of the sheet metal while minimizing overspray. Consult the equipment manufacturer for proper cycle time adjustment.

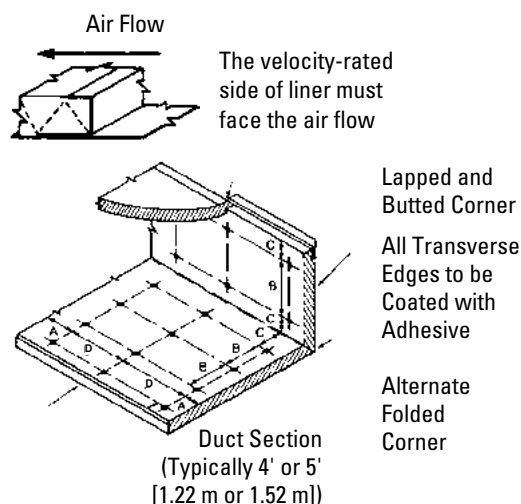
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HAND STATION APPLICATION

For hand station application, any manual pump sprayer, powered sprayer or garden hose spray attachment can be used as long as a fine mist is produced for application.

DUCT LINER INSTALLATION

When velocity exceeds 4000 fpm (20.3 m/sec), use metal nosing on every leading edge. Nosing may be formed on duct or be channel or zee attached by screws, rivets or welds. A metal nosing shall also be installed at the fan discharge and at any point where lined duct is preceded by unlined duct.



Maximum spacing for fasteners. Actual intervals are approximate.

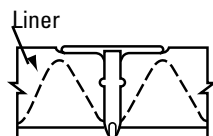
Velocity*	Dimensions							
	A		B		C		D	
	in	mm	in	mm	in	mm	in	mm
0-2500 fpm (0-12.7 m/sec)	3	76	12	305	4	102	18	457
2501-6000 fpm (12.7-30.5 m/sec)	3	76	6	152	4	102	16	406

*Unless a lower level is set by the listing agency.

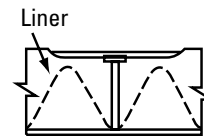
Liner adhered to the duct with 90% minimum area coverage of activated InsulGrip adhesive. Adhesive shall conform to ASTM C 916.

Shop or field cuts shall be liberally coated with SuperSeal Edge Treatment or approved adhesive.

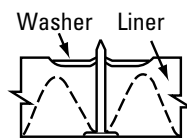
LINER FASTENERS



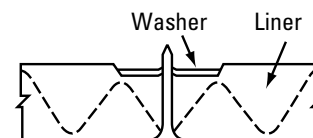
Type 1
Clinched Pin: Integral Head (Impact Applied)



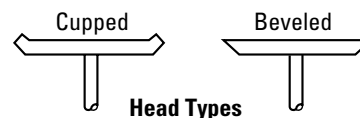
Type 2
Welded Pin: Integral Head



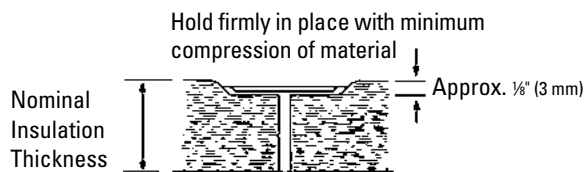
Type 3
Welded Pin: Press-on Head



Type 4
Adhered Pin: Press-on Head



Head Types



717 17th St.
Denver, CO 80202
800-654-3103
www.JM.com

North American Sales Offices, Insulation Systems

Eastern Region & Canada
P.O. Box 158
Defiance, OH 43512
800-334-2399
Fax: 419-784-7866

**Western Region & Outside
North America**
P.O. Box 5108
Denver, CO 80217
800-368-4431
Fax: 303-978-4661

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of LinacouSTIC RC-IG listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville thermal insulation and systems, visit www.jm.com/terms-conditions or call (800)654-3103.