

#### DESCRIPTION

Linacoustic® R-300 is a rigid fiber glass board that meets or exceeds all ASTM C1071 Type II duct liner requirements. The airstream surface and the long edges are coated with the tough, smooth, state-of-the-art acrylic polymer, Permacote®. R-300 offers exceptional durability and superior acoustical and thermal performance.

#### USES

R-300 is specifically designed for use as an extended performance lining insulation for HVAC plenums and air distribution ductwork.

#### STORAGE

Linacoustic R-300 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                 |
| Bacteria resistance – ASTM G22           | No growth                 |
| Air velocity (max.) – ASTM C1071         | 6000 fpm (30.5 m/sec)     |
| No evidence of erosion*                  | 15,000 fpm (76.2 m/sec)   |

\*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 |       | Width |      | Length |      |
|-----------|-------|-------|------|--------|------|
| in        | mm    | in    | mm   | in     | mm   |
| 1         | 25    | 48    | 1219 | 96     | 2438 |
| 1½        | 38    | 48    | 1219 | 96     | 2438 |
| 2         | 51    | 48    | 1219 | 96     | 2438 |
| 3         | 76.2  | 48    | 1219 | 96     | 2438 |
| 4         | 101.6 | 48    | 1219 | 96     | 2438 |

Non-standard sizes up to 4" (102 mm) thickness and 120" (3.1 m) lengths available on special request.

#### SURFACE BURNING CHARACTERISTICS

Linacoustic R-300 meets the Surface Burning Characteristics and Limited Combustibility of the following standards:

Standard/Test Method

- 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 |

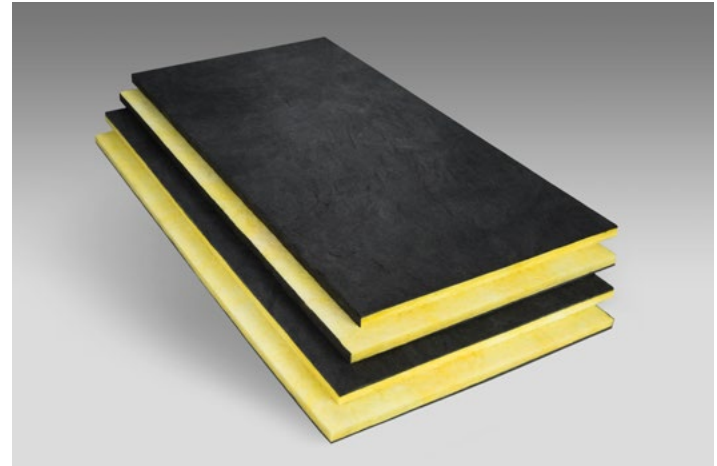
UL labels supplied on packages when requested on order.

#### SPECIFICATION COMPLIANCE

- ASTM C1071, Type II
- ASHRAE 62.1
- MEA# 353-93-M
- SMACNA Application Standards for Duct Liners
- NAIMA Fibrous Glass Duct Liner Installation Standard
- Canada: CGSB 51.10-92

#### SUSTAINABLE BUILDING ATTRIBUTES

GREENGUARD® certification is not intended for residential environments. Instead, the certification is intended only for buildings meeting ASHRAE 62.1-2007 commercial building ventilation rates. This certification is proof that the product meets the GREENGUARD Environmental Institute's indoor air quality standards and product emission standards for VOCs.



#### ADVANTAGES

**Improves Indoor Building Environment.** Permacote Linacoustic R-300 helps improve indoor environmental quality by helping to control both temperature and sound.

**Absorbs Disturbing Sound.** Permacote Linacoustic R-300 has exceptional sound-absorbing properties far exceeding the requirements of ASTM C1071. Duct-transmitted noise, such as crosstalk and sound energy from air movement and mechanical equipment, is noticeably reduced.

**Resistant to Dust and Dirt.** The tough, acrylic polymer Permacote coating helps guard against 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 fungus and bacteria.

Permacote Linacoustic R-300 passes ASTM C1071 fungi testing, as well as the more stringent ASTM G-21. Bacteria tests were conducted in accordance with ASTM G-22. Detailed information is available in Johns Manville fact sheet HSE-103FS.

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.

**Withstands High Velocity.** Permacote Linacoustic R-300 has been tested to the recommended maximum velocity of 6,000 fpm (30.5 m/sec). Fiber erosion test results were determined using the Isokinetic Sampling Method described in Johns Manville Fiber Erosion Testing Fact Sheet HSE-133FS.

**Cleanability.** If necessary, the surface may be cleaned using standard industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems."

**Resists Damage.** The specially designed Permacote airstream surface enhances the ability of R-300 to resist damage from typical in-shop handling, fabrication and jobsite shipment.

**Shipped With E<sup>3</sup> Pallet® Technology:** The E<sup>3</sup> Pallet® is designed to simplify repurposing our 4x8' and 4x10' pallets into more functional, 48x48" and 48x40" pallets (respectively). See instructions on page 3.



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



# LINACOUSTIC® R-300

## COATED RIGID FIBERGLASS PLENUM LINER BOARD WITH E<sup>3</sup> PALLET® TECHNOLOGY

### DATA SHEET

#### INSTALLATION

All portions of duct designated to receive duct liner should be completely covered with Permacote Linacoustic R-300. The smooth, black Permacote surface of the Linacoustic R-300 must face the airstream. All Permacote Linacoustic R-300 should be cut to ensure tight, overlapped corner joints. The top pieces should be supported by the side pieces.

Permacote Linacoustic R-300 must be adhered to the sheet metal with full coverage of an approved adhesive that meets ASTM C-916, and all exposed leading edges and transverse edges should be coated with Johns Manville SuperSeal® HV, Johns Manville SuperSeal® Edge Treatment, or an approved adhesive.

The Permacote Linacoustic R-300 must be additionally secured with mechanical fasteners spaced per the schedule shown in the diagram below. The pin length should be such as to hold the material firmly in place with minimum compression of the material.

All material must be installed in accordance with the NAIMA Fibrous Glass Duct Liner Installation Standard.

#### THERMAL PERFORMANCE

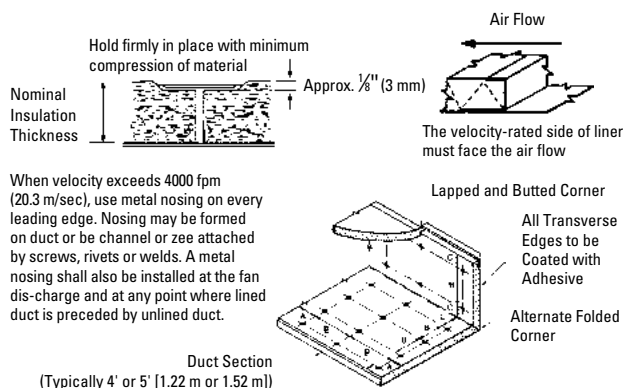
| THICKNESS |       | R-VALUE                      |                      | CONDUCTANCE                  |                      |
|-----------|-------|------------------------------|----------------------|------------------------------|----------------------|
| in        | mm    | (HR•FT <sup>2</sup> •°F)/BTU | M <sup>2</sup> •°C/W | BTU/(HR•FT <sup>2</sup> •°F) | W/M <sup>2</sup> •°C |
| 1         | 25    | 4.3                          | 0.76                 | 0.23                         | 1.31                 |
| 1½        | 38    | 6.3                          | 1.11                 | 0.16                         | 0.91                 |
| 2         | 51    | 8.7                          | 1.53                 | 0.12                         | 0.68                 |
| 3         | 76.2  | 13.0                         | 2.34                 | 0.08                         | 0.43                 |
| 4         | 101.6 | 17.4                         | 3.13                 | 0.06                         | 0.32                 |

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<br>(CYCLES PER SECOND) OF: |      |      |      |      |      |      |
|-----------|-------|--|------|------|------|------|------|------|
| in        | mm    | 125  | 250  | 500  | 1000 | 2000 | 4000 | NRC  |
| 1         | 25    | 0.04   | 0.26 | 0.69 | 1.00 | 1.07 | 1.02 | 0.75 |
| 1½        | 38    | 0.14   | 0.52 | 1.01 | 1.07 | 1.03 | 0.97 | 0.90 |
| 2         | 51    | 0.26   | 0.73 | 1.10 | 1.10 | 1.04 | 1.03 | 1.00 |
| 3         | 76.2  | 0.56   | 1.18 | 1.24 | 1.12 | 1.04 | 1.03 | 1.15 |
| 4         | 101.6 | 0.81   | 1.30 | 1.26 | 1.12 | 1.04 | 1.05 | 1.20 |

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



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<br>(0 – 12.7 m/sec)       | 3          | 76 | 12 | 305 | 4  | 102 | 18 | 457 |
| 2501 – 6000 fpm<br>(12.7 – 30.5 m/sec) | 3          | 76 | 12 | 305 | 4  | 102 | 18 | 457 |

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

Liner adhered to the duct with 90% minimum area coverage of adhesive. Adhesive shall conform to ASTM C916.

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

#### RECYCLED CONTENT



#### ISO 9001:2015 CERTIFICATION

Johns Manville mechanical insulation products are designed, manufactured and tested in our own facilities, which are certified and registered to stringent ISO 9001:2015 (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.

# LINACOUSTIC® R-300

COATED RIGID FIBERGLASS PLENUM LINER BOARD  
WITH E<sup>3</sup> PALLET® TECHNOLOGY

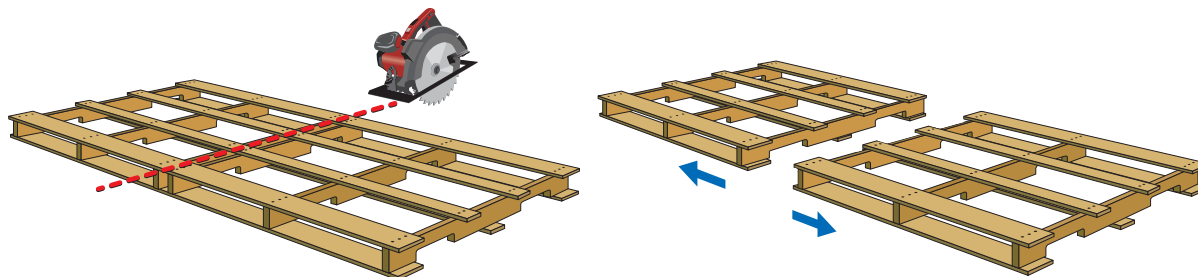
## DATA SHEET




### 4x8' E<sup>3</sup> PALLET® CUT DOWN INSTRUCTIONS

The 4x8' E<sup>3</sup> Pallet® can be cut down into two 48x48" pallets. Simply use a circular saw to cut along the red dotted lines shown in the images below.

### 4x8' E<sup>3</sup> PALLET®: TWO 48x48" PALLETS



|   | 48x48" Cut Down |
|---|-----------------|
| Max Load Capacity (Evenly Distributed)  | 1,587 lbs*      |
| Lateral Collapse Resistance  | 0.60*           |

\*All pallets are subject to abuse, aging and normal wear and tear during use and storage. The data reported in this document represent initial performance of a new pallet after manufacture and do not take into account damage that may occur during handling and use of the pallets.



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### 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® R-300 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](http://www.jm.com/terms-conditions) or call (800)654-3103.**