Johns Manville
A Berkshire Hathaway Company

HVAC INSULATION

# DUCT LINER PM

FIBERGLASS DUCT LINER

DATA SHEET

## DESCRIPTION

Duct Liner PM is a flexible duct liner insulation made from strong, glass fibers bonded with a thermosetting resin. The airstream surface is protected using a durable glass mat facing that contains an EPA-registered antimicrobial agent. The flexible glass mat also provides a smooth airstream surface.

## 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

Duct Liner PM is specifically designed for lining sheet metal ducts in air conditioning, heating and ventilating systems, providing superior acoustical and thermal performance.

## STORAGE

Duct Liner PM 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) |
| Air velocity (max.) – ASTM C1071 | 6,000 fpm (30.5 m/sec) |
| Fungi resistance – ASTM C1338 | Does not breed or promote |
| Fungi resistance – ASTM G21 | No growth |
| Bacteria resistance – ASTM G22 | No growth |

## 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 |

**Available in ¼" (6.4 mm) increments.*

Contact your Regional Sales Office for stock items and availability of special sizes.

## SURFACE BURNING CHARACTERISTICS

**Duct Liner PM meets the Surface Burning Characteristics and Limited Combustibility of the following standards:**

Standard/Test Method

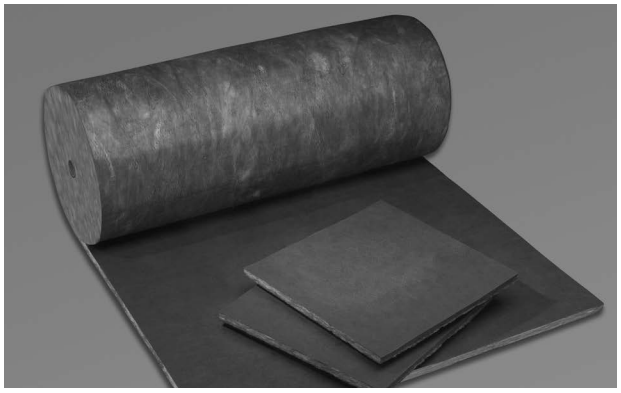
- ASTM E84
- UL 723
- NFPA 255
- NFPA 90A and 90B
- NFPA 259
- CAN/ULC S102

| | |
|---|---|
| Maximum Flame Spread Index | 25 |
| Maximum Smoke Developed Index | 50 |

*UL labels supplied on packages when requested on order.*

## SPECIFICATION COMPLIANCE

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



## ADVANTAGES

**Improves Indoor Building Environment.** Duct Liner PM improves indoor environmental quality by helping to control both temperature and sound.

**Will Not Support Microbial Growth.** The airstream surface of Duct Liner PM is treated with an antimicrobial agent specifically registered with the EPA for HVAC applications to resist potential growth of fungus or bacteria on the airstream surface.

Duct Liner PM duct liner meets all requirements for fungi and bacterial resistance. Tests were conducted in accordance with ASTM C1338 and ASTM G21 (fungi testing) and ASTM G22 (bacteria resistance testing). 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.

**Cleanability.** If HVAC system cleaning is required, the 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."

## GREEN 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.

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818

# DUCT LINER PM

FIBERGLASS DUCT LINER

DATA SHEET

## INSTALLATION

Duct Liner PM 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.** Duct Liner PM's durable glass mat facing is resistant to damage that can occur during in-shop handling, fabrication, jobsite shipping and installation.

**Easy to Fabricate.** Duct Liner PM is lightweight and easy to handle. Clean, even edges can be accurately cut with regular shop tools.

## THERMAL PERFORMANCE

| Thickness | | R-value | | Conductance | |
|---|---|---|---|---|---|
| in | mm | (hr•ft²•°F)/Btu | m²•°C/W | Btu/(hr•ft²•°F) | W/m²•°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 |

*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 per Second) of | | | | | | |
|---|---|---|---|---|---|---|---|---|
| in | mm | 125 | 250 | 500 | 1000 | 2000 | 4000 | NRC |
| ½ | 13 | 0.08 | 0.17 | 0.42 | 0.63 | 0.77 | 0.89 | 0.50 |
| 1 | 25 | 0.14 | 0.28 | 0.64 | 0.85 | 0.97 | 1.09 | 0.70 |
| 1½ | 38 | 0.24 | 0.51 | 0.90 | 0.99 | 1.01 | 1.10 | 0.85 |
| 2 | 51 | 0.26 | 0.69 | 1.02 | 1.08 | 1.03 | 1.10 | 0.95 |

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

## ISO 9000 CERTIFICATION

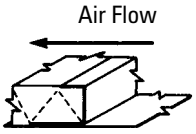
Johns Manville mechanical insulation products are designed, manufactured and tested in our own facilities, which are certified and registered to stringent ISO 9000 (ANSI/ASQC 90) series quality standards. This certification, along with regular, independent third-party auditing for compliance, is your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

# DUCT LINER PM
FIBERGLASS DUCT LINER

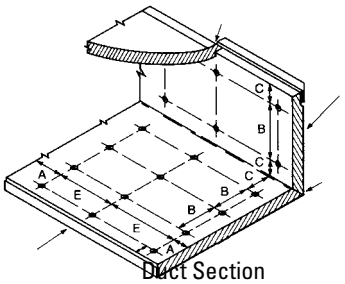
DATA SHEET

## 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.




The velocity-rated side of liner must face the air flow




Duct Section
(Typically 4' or 5' [1.22 m or 1.52 m])

Lapped and Butted Corner

All Transverse Edges to be Coated with Adhesive

Alternate Folded Corner

Maximum spacing for fasteners. Actual intervals are approximate.

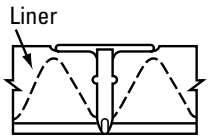
| | Dimensions | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | A | | B | | C | | D | |
| Velocity* | in | mm | in | mm | in | mm | in | mm |
| 0–2500 fpm (0–12.7 m/sec) | 3 | 76 | 12 | 305 | 4 | 102 | 18 | 457 |
| 2501–6000 fpm (12.7–30.5 m/sec) | 3 | 76 | 6 | 152 | 4 | 102 | 16 | 406 |

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

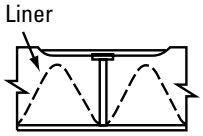
Liner adhered to the duct with 90% minimum area coverage of adhesive. Adhesive shall conform to ASTM C 916.

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

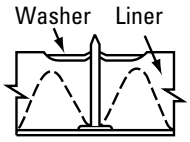
## LINER FASTENERS



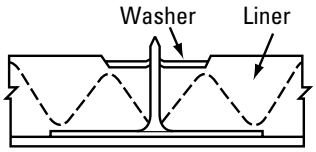

**Type 1**
Clinched Pin: Integral Head (Impact Applied)



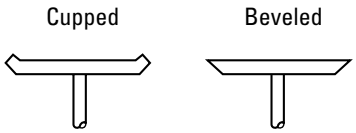

**Type 2**
Welded Pin: Integral Head



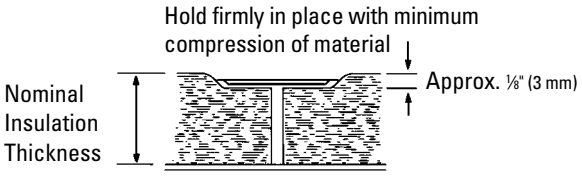

**Type 3**
Welded Pin: Press-on Head




**Type 4**
Adhered Pin: Press-on Head




**Head Types**




Johns Manville

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

**North American Sales Offices, Insulation Systems**

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

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

The physical and chemical properties of Duct Liner PM fiberglass duct liner 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. Numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to ensure current information

**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 www2.jm.com/terms-conditions or call (800) 654-3103.**