

### Spiracoustic Plus® Round Duct Liner System

#### Description

Spiracoustic Plus® duct liner, bonded with a thermosetting resin, is specifically engineered to provide very high acoustical and thermal performance in round air ducts of virtually any size. Based on high-density fiber glass board technology, Spiracoustic Plus duct liner has factory-made, evenly spaced kerfs to allow the material to conform to the inside diameter of round air ducts. The airstream surface and transverse edges are protected with JM's factory-applied proprietary black Permacote® acrylic coating.

Johns Manville provides the finishing touches to Spiracoustic Plus round duct insulation with SuperSeal® coating products. These unique acrylic coatings are air-drying versions of the factory-applied airstream coating designed for fabrication and repair use. SuperSeal products help retain all the performance characteristics engineered into Spiracoustic Plus duct liner.

#### Storage

Spiracoustic Plus 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)                   |
| Nominal density                          | 4.0 pcf (64 kg/m <sup>3</sup> ) |
| Air velocity (max.) – ASTM C1071         | 6000 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\*

Spiracoustic Plus duct liner is available in cartons or on pallets in several size configurations. This packaging configuration applies to all product types: VSD (very small diameter), SD (small diameter) and LD (large diameter).

| Description | Thickness |    | Sheet Size    |                  |
|-------------|-----------|----|---------------|------------------|
|             | in        | mm | in            | mm               |
| VSD, SD, LD | 1         |    | 48 x 120 x 1  | 1219 x 3048 x 25 |
| VSD, SD, LD | 1½        |    | 48 x 120 x 1½ | 1219 x 3048 x 38 |
| VSD, SD, LD | 2         |    | 48 x 120 x 2  | 1219 x 3048 x 51 |

\*Reference packaging on back side.

#### Surface Burning Characteristics

Spiracoustic Plus duct liner meets the Surface Burning Characteristics and Limited Combustibility of the following standards:

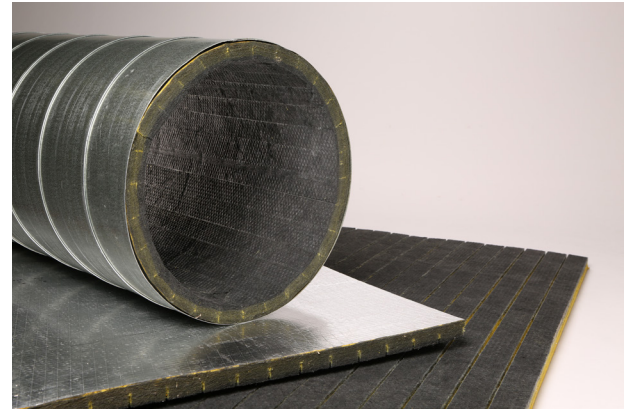
Standard/Test Method

|                        |                               |    |
|------------------------|-------------------------------|----|
| • ASTM E84             | Maximum Flame Spread Index    | 25 |
| • UL 723               |                               |    |
| • NFPA 255             | Maximum Smoke Developed Index | 50 |
| • NFPA 90A and 90B     |                               |    |
| • NFPA 259             |                               |    |
| • Canada: CAN/ULC-S102 |                               |    |

UL labels supplied on packages when requested on order.

#### Specification Compliance

- ASTM C1071, Type II
- ASHRAE 62
- MEA# 237-86-M
- SMACNA Application Standards for Duct Liners
- NAIMA Fiber Glass Duct Liner Installation Standard



#### Recycled Content



#### Advantages

**Cost Effective.** Spiracoustic Plus duct liner eliminates the need for costly double-wall configuration in round air ducts.

**Improves Indoor Building Environment.** 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 agent to protect the coating from potential growth of fungi and bacteria.

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.

#### 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                         | 1.31                 |
| 1½        | 38      | 6.4 | 1.13                         | 0.16                 | 0.91                         | 0.91                 |
| 2         | 51      | 8.4 | 1.48                         | 0.12                 | 0.68                         | 0.68                 |

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  |
| 1         | 25   | 0.05 | 0.21 | 0.71 | 1.01 | 1.07 | 1.09 | 0.75 | 0.75 |
| 1½        | 38   | 0.10 | 0.39 | 1.02 | 1.08 | 1.04 | 1.00 | 0.85 | 0.85 |
| 2         | 51   | 0.17 | 0.63 | 1.10 | 1.05 | 1.09 | 1.06 | 0.95 | 0.95 |

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

#### 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.



# Spiracoustic Plus®

## Round Duct Liner System

### Selection Table by Duct Diameter

#### Thickness: 1" (25 mm)

| Product |                      | Metal Duct ID  |                  | Finished ID    |                  |
|---------|----------------------|----------------|------------------|----------------|------------------|
| Type    | Description          | in             | mm               | in             | mm               |
| VSD     | Very Small Diameter* | 8 (min) to 16  | 203 (min) to 406 | 6 (min) to 14  | 152 (min) to 356 |
| SD      | Small Diameter       | 18 (min) to 30 | 457 (min) to 762 | 16 (min) to 28 | 406 (min) to 711 |
| LD      | Large Diameter       | 32 (min) & up  | 813 (min) & up   | 30 (min) & up  | 762 (min) & up   |

#### Thickness: 1½" (38 mm)

| Product |                      | Metal Duct ID  |                  | Finished ID    |                  |
|---------|----------------------|----------------|------------------|----------------|------------------|
| Type    | Description          | in             | mm               | in             | mm               |
| VSD     | Very Small Diameter* | 14 (min) to 20 | 355 (min) to 508 | 11 (min) to 17 | 279 (min) to 432 |
| SD      | Small Diameter       | 22 (min) to 38 | 559 (min) to 965 | 19 (min) to 35 | 483 (min) to 889 |
| LD      | Large Diameter       | 40 (min) & up  | 1016 (min) & up  | 37 (min) & up  | 940 (min) & up   |

#### Thickness: 2" (51 mm)

| Product |                      | Metal Duct ID  |                   | Finished ID    |                   |
|---------|----------------------|----------------|-------------------|----------------|-------------------|
| Type    | Description          | in             | mm                | in             | mm                |
| VSD     | Very Small Diameter* | 18 (min) to 24 | 457 (min) to 610  | 14 (min) to 20 | 355 (min) to 508  |
| SD      | Small Diameter**     | 26 (min) to 58 | 660 (min) to 1473 | 22 (min) to 54 | 559 (min) to 1372 |
| LD      | Large Diameter       | 54 (min) & up  | 1372 (min) & up   | 50 (min) & up  | 1270 (min) & up   |

\*Fabrication Note: All Spiracoustic Plus duct liner VSD installations in metal duct must be sized for a "slip-fit" installation.

\*\*2" (51 mm) Spiracoustic Plus duct liner SD installations in metal ducts of IDs less than or equal to 30" (762 mm) must be sized for "slip-fit" installation.

Note: Minimum diameters are established to prevent damage to the liner during installation and must be observed.

### Packaging by Thickness

#### Thickness: 1" (25 mm)

|         | Sheets           | Square Feet | Square Meter |
|---------|------------------|-------------|--------------|
| Cartons | 6 sheets/carton  | 240         | 22.3         |
| Pallets | 48 sheets/pallet | 1920        | 178          |

#### Thickness: 1½" (38 mm)

|         | Sheets           | Square Feet | Square Meter |
|---------|------------------|-------------|--------------|
| Cartons | 4 sheets/carton  | 160         | 14.9         |
| Pallets | 32 sheets/pallet | 1280        | 119          |

#### Thickness: 2" (51 mm)

|         | Sheets           | Square Feet | Square Meter |
|---------|------------------|-------------|--------------|
| Cartons | 3 sheets/carton  | 120         | 11.1         |
| Pallets | 24 sheets/pallet | 960         | 89           |

### ISO 9000 Certification

Johns Manville commercial and industrial 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.



### North American Sales Offices, Insulation Systems

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717 17th St.  
Denver, CO 80202  
1-800-654-3103  
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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 thermal insulation 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. Check with the Regional Sales Office nearest you for current information.

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