QuietR™ Acoustic Duct Liner Board

Product Data Sheet

**Description**

QuietR acoustic duct liner board is a bonded board of glass fibers designed to be installed inside sheet metal ductwork or plenums with metal fasteners and adhesives. The smooth, fire-resistant airstream surface resists damage during installation and in service. The product complies with the requirements of National Fire Protection Association Standards NFPA 90A and 90B, qualifying them under other model codes.

It is ideal for use in large ducts and plenums where air velocities do not exceed 6,000 fpm (30.5 m/s).

**Uses**

QuietR acoustic duct liner board enhances indoor environmental quality by absorbing noise within sheet metal ducts. The product also contributes to indoor comfort by lowering heat loss or gain through duct walls.

**Features/Benefits**

- **Acoustically Efficient**
  Owens Corning duct liners absorb noise within the duct, helping create quiet and comfortable environments.

- **Thermally Effective**
  These duct liners can reduce operating costs by lowering heat loss or gain through duct walls, conserving energy and eliminating or reducing the need for external insulation.

- **Tough, Abuse-Resistant Surface**
  Installation costs are reduced because these products resist damage which can often occur during fabrication and installation.

- **Cleanable Surface**
  The black mat facing provides a smooth, durable surface making it easier to clean the duct liners using methods and equipment described in North American Insulation Manufacturers Association (NAIMA) Publication AH122, Cleaning Fibrous Glass Insulated Duct Systems: Recommended Practice.

- **Meets Fire Resistance Codes**
  Owens Corning duct liners have flame spread ratings of 25 and smoke developed ratings of 50 when tested in accordance with UL 723 and ASTM E 84. They meet requirements of NFPA 90A and 90B for fire resistance.

- **Bacterial and Fungal Growth Resistance**
  An EPA registered biocide in the mat facing protects the facing from microbial growth and meets requirements of ASTM C 1338, ASTM G 21 (fungi test), and ASTM G 22 (bacteria test).

- **Tips to Avoid Mold Growth in Ducts**
  Mold in duct systems occurs when moisture comes into contact with dirt or dust collected on the duct system surfaces. Proper filters will minimize the collection of dust and dirt, but care needs to be exercised to prevent water formation in the duct. A properly sized, installed and operated air conditioning unit will minimize the likelihood of water formation. The system must be maintained and operated to ensure that sufficient dehumidification is occurring and that filters are installed and changed as recommended by the equipment manufacturer.

- **Specification Compliance**
  - ASTM C1071, Type II Rigid (Replaces Federal Specification HH-I-545B)
  - NFPA 90A and 90B
  - ICC Compliant
  - California Title 24
  - SMACNA Application Standard for Duct Liners

**Availability**

QuietR acoustic duct liners are available in the following standard sizes:

- **1½” x 48” x 96” (38mm x 1219mm x 2438mm)**
- **2” x 24” x 48” (51mm x 610mm x 1219mm)**
- **2” x 48” x 96” (51mm x 1219mm x 2438mm)**

- **MTO available at Width: 48", Length: 24”–120”**

- **Product Type and Thickness**
  - **Nominal Density** (pcf/ kg/m³)
    - 1.0 in (25mm) 1.5 in (38mm) 2.0 in (51mm)
    - 4.3 (0.76) 4.3 (0.76) 6.5 (1.15)
    - 8.7 (1.41) 8.7 (1.41) 8.7 (1.41)

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- **MTO available at Width: 48", Length: 24”–120”**
When duct liners are used in systems supplying hospital operating rooms, delivery rooms, recovery rooms, nurseries, isolation rooms and intensive care units, terminal filters of at least 90% efficiency should be installed downstream of lined ducts.

Lined ductwork supplying clean rooms should have terminal filtration of the efficiency required for the particular class of clean room. To avoid damage to the duct liner due to physical abuse caused by maintenance personnel working in accessible plenums, some means of duct liner protection must be employed.

To prevent itching and short-term irritation to skin and eyes, normal work clothing (long-sleeved shirts, long pants, gloves, and safety glasses) is recommended when handling. To prevent irritation, do not remove this product in poorly ventilated spaces, when fabrication involves power tools, or in any dusty environment.

QuietR™ acoustic duct liners should not be used where operating temperatures will exceed 250°F (121°C).

To avoid contact with liquid water, duct liner should be protected with a sheet metal sleeve and drip pan adjacent to equipment such as evaporative coolers, humidifiers, cooling coils and outside intakes. When duct systems run through unconditioned space and are used for cooling only, register openings must be tightly sealed to prevent water vapor accumulation in the system during the heating season.

### Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>ASTM C 411</td>
<td>250°F (121°C)</td>
</tr>
<tr>
<td>Maximum air velocity</td>
<td>UL 181 and ASTM C 101</td>
<td>000 fps (305 m/s)</td>
</tr>
<tr>
<td>Water vapor sorption</td>
<td>ASTM C 104</td>
<td>3% by weight at 107°F (42°C), 95% RH</td>
</tr>
<tr>
<td>Puif resistance</td>
<td>ASTM C 138</td>
<td>Meets requirements</td>
</tr>
<tr>
<td>Puif resistance</td>
<td>ASTM C 21</td>
<td>Meets requirements</td>
</tr>
<tr>
<td>Bacteria resistance</td>
<td>ASTM C 22</td>
<td>Meets requirements</td>
</tr>
<tr>
<td>Corrosiveness</td>
<td>ASTM C 660</td>
<td>Will not cause corrosion greater than that caused by sterile cotton on aluminum or steel*</td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>ASTM C 516</td>
<td>0.23 W/m°C (0.033)</td>
</tr>
<tr>
<td>Surface burning characteristics</td>
<td>Flame Spread</td>
<td>0pa</td>
</tr>
<tr>
<td>*When wired coated surface of QuietR acoustic duct liner board in contact with generated heat may cause discoloration of the sheet metal.</td>
<td></td>
<td></td>
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</tbody>
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### Acoustic Performance

<table>
<thead>
<tr>
<th>Thickness (in)</th>
<th>Tested Values - QuietR™ Acoustic Duct Liner Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 (25)</td>
<td>15 200 500 1000 2000 4000 4300 NRC</td>
</tr>
<tr>
<td>0.50 (38)</td>
<td>0.5 1.1 0.8 0.4 0.0 0.0 0.0</td>
</tr>
<tr>
<td>0.50 (51)</td>
<td>0.0 0.0 0.0 0.0 0.0 0.0 0.0</td>
</tr>
</tbody>
</table>

### Insertion Loss, dB per ft of Lined Duct

<table>
<thead>
<tr>
<th>P/A, ft²</th>
<th>125 250 500 1000 2000 4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>0.6 1.2 2.0 3.0 4.0 5.0</td>
</tr>
<tr>
<td>4</td>
<td>0.5 0.6 0.8 1.0 1.2 1.4</td>
</tr>
</tbody>
</table>

Data extracted from ASHRAE Handbook, HVAC Applications, Chapter 41.

P/A = Duct Perimeter, (ft²)/Duct Cross Sectional Area (ft²). Example: 12” x 24” duct, P/A = 3 ft²/ft².

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To prevent damage to the duct liner due to physical abuse caused by maintenance personnel working in accessible plenums, some means of duct liner protection must be employed.

To prevent itching and short-term irritation to skin and eyes, normal work clothing (long-sleeved shirts, long pants, gloves, and safety glasses) is recommended. In addition, use a properly fitted and approved disposable dust respirator when installing or removing this product in poorly ventilated spaces, when fabrication involves power tools, or in any dusty environment.