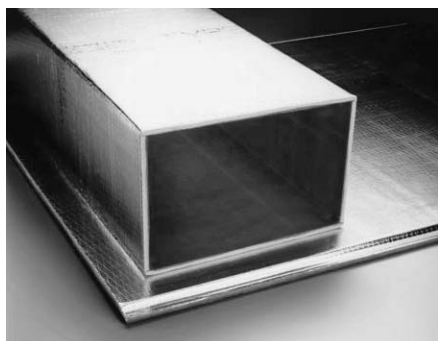




INNOVATIONS FOR LIVING®

Product Data Sheet



Description

QuietR® Duct Board is a rigid, resin bonded fibrous glass board with a tough, damage-resistant, flame retardant, reinforced aluminum foil (FRK) facing. When fabricated into duct systems, it combines excellent thermal and acoustical insulating properties with substantially airtight transmission of air when all joints are sealed with UL 181A listed closures.

QuietR® Duct Board features a durable mat air stream surface that isolates the glass fiber substrate from the airstream and inhibits penetration of the insulation by dirt, dust and other pollutants. This durable air stream surface makes it easy to clean the duct system using methods and equipment described in North American Insulation Manufacturers Association (NAIMA) Publication AH122, Cleaning Fibrous Glass Insulated Duct Systems, Recommended Practice.

Uses

QuietR® Duct Board may be used to fabricate components for indoor commercial and residential heating, ventilating and air conditioning duct systems operating at static pressures to ± 2 in. w.g. (500 Pa), internal air temperatures 40°F (4°C) to 250°F (121°C), and air velocities to 6,000 fpm (30.5 m/s). Straight duct sections, elbows, tees, offsets and other system elements can quickly and easily be fabricated at the shop or on the job and assembled into a complete air transmission system using these lightweight, thermally efficient boards.

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 and operated air conditioning unit will minimize the likelihood of water formation. The system must be maintained and operated to insure that sufficient dehumidification is occurring and that filters are installed and changed as recommended by the equipment manufacturer.

Features

- Acoustically Efficient
- Single Contractor
- Lightweight
- Virtually Eliminates Air Leakage

Code Compliance

- NFPA 90A/90B
- ICC International Mechanical Code
- ICE Compliant
- Corps of Engineers Guide Spec.
- NYC MEA #186-69
- UL 181 Class I Air Duct

Limitations

Fiber glass ducts should not be used in the following applications:

- A. Kitchen or fume exhaust ducts, or to convey solids or corrosive gases;

Typical Physical Properties

Property	Test Method	Value
Maximum Operating Temperature Limits	UL 181/ULC S110	Internal: 250°F (121°C) External: 150°F (66°C)
Maximum Air Velocity	UL 181/ULC S110 Erosion Test	6,000 fpm (30.5 m/s)
Static Pressure Limit	UL 181/ULC S110	± 2 in. w.g. (500 Pa)
Water Vapor Sorption	ASTM C 1104	<3% by weight at 120°F (49°C), 95% R.H.
Mold Growth	UL 181/ULC S110	Meets requirements
Fungi Resistance	ASTM G 21	Meets requirements
Bacteria Resistance	ASTM G 22	Meets requirements
Surface Burning Characteristics	UL 723/CAN/ ULC S102	Flame Spread < 25 Smoke Developed < 50
Fire Retardancy	UL 181/ULC S110	Flame Penetration 30 min.

1. The surface burning characteristics of these products have been determined in accordance with UL 723. This standard should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating.



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Thermal Performance

	1" (25mm)	1½" (38mm)	2" (51mm)
R-value , hr•ft²•°F/Btu (RSI, m²•°C/W)	4.30 (0.76)	6.50 (1.15)	8.70 (1.53)
k-value , Btu•in/hr•ft²•°F (W/m•°C)	0.23 (0.033)	0.23 (0.033)	0.23 (0.033)
C-value , Btu/hr•ft²•°F (W/m²•°C)	0.23 (1.32)	0.16 (0.87)	0.12 (0.65)

Mean temperature is the average of two temperatures: that of the air inside the duct and that of the ambient air outside it. Note: Specified design thickness should be adequate to prevent exterior surface condensation.

Acoustical Performance

Sound absorption coefficients at octave band center frequencies, Hz.

Type	125	250	500	1000	2000	4000	NRC
Type 475, 1" (25mm)	0.08	0.19	0.69	0.94	0.99	0.98	0.70
Type 800, 1" (25mm)	0.08	0.19	0.69	0.94	0.99	0.98	0.70
Type 800, 1½" (38mm)	0.12	0.33	0.92	1.04	1.03	1.02	0.85
Type 1400, 2" (51mm)	0.14	0.72	1.15	1.12	1.06	1.07	1.00

These data were collected using a limited sample size and are not absolute values. Therefore, reasonable tolerances must be applied. Tests were conducted in accordance with ASTM C 423, Mounting A (material placed against a solid backing).

- B. In concrete or buried below grade;
- C. Outdoors;
- D. As casings and/or housings of built-up equipment;
- E. Immediately adjacent to high temperature electric heating coils without radiation protection;
- F. For vertical risers in air duct systems serving more than two stories in height;
- G. With coal or wood fueled equipment, or with equipment of any type which does not include automatic maximum temperature controls;
- H. In variable air volume systems on the high pressure side unless reinforced to withstand the full fan pressure;
- I. As penetrations in construction where fire dampers are required, unless the fire damper is installed in a sheet metal sleeve extending through the fire wall; or
- J. When the duct system is located in non-conditioned space and is used for cooling only (when heating is from another source), unless all registers which would allow moist air into the duct system are vapor sealed during the heating season to prevent condensation from forming inside the duct.

Application Recommendations

Fabrication and installation of fiber glass Duct Systems shall be in accordance with the UL/ULC listing and shall conform to Owens Corning's published methods and/or latest editions of NAIMA (North American Insulation Manufacturers Association) Fibrous Glass Duct Construction Standards AH 116 or SMACNA (Sheet Metal and Air Conditioning Contractors National Association) Fibrous Glass Duct Construction Standards. One of the following closure methods must be employed to meet the requirements of UL 181/ULC S110. USE OF A NON-LISTED CLOSURE SYSTEM VOIDS THE UL/ULC CLASS I AIR DUCT RATING.

- **Pressure-Sensitive Tape**
Any tape listed and labeled under UL 181A, Part I (P).
- **Heat-Activated Tape**
Any tape listed and labeled under UL 181A, Part II (H).
- **Mastic and Glass Fabric**
Any mastic and glass fabric closure system listed and labeled under UL 181A, Part III (M).

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