

## ToughGard® Duct Board



### 1. PRODUCT NAME

CertainTeed ToughGard® Duct Board

### 2. MANUFACTURER

CertainTeed Corporation  
 P.O. Box 860  
 Valley Forge, PA 19482-0105  
 Phone: 610-341-7000  
 800-233-8990  
 Fax: 610-341-7571  
 Website: www.certainteed.com/  
 insulation

### 3. PRODUCT DESCRIPTION

**Basic Use:** ToughGard Duct Board is a rigid board designed for fabrication into supply and return air duct work for residential and commercial heating, ventilating and air conditioning systems that operate at velocities up to 6,000 fpm (30.5 m/s) and temperatures up to 250°F (121°C) and maximum internal pressures of ± 2" (51mm) water gauge.

**Benefits:** ToughGard Duct Board systems provide excellent thermal properties, absorb unwanted cross-talk, equipment and air rush noise, and resist microbial growth. The ToughGard airstream surface is extremely tough and durable, providing exceptional resistance to damage during fabrication, installation and cleaning, as well as allowing higher system operating velocities.

**Composition and Materials:** Composed of resin bonded glass fibers with a reinforced foil laminate air barrier/vapor retarder and a black mat facing applied to the air stream surface. The air stream surface contains an EPA registered anti-microbial agent in order to reduce the potential of microbial growth that may affect this product. The antimicrobial properties are intended to only protect this product.

**Limitations:** ToughGard Duct Board is not to be used under poured concrete slabs or to convey exhaust fumes, solids or corrosive gases. Ducts exposed to the weather must be weather protected and reinforced per industry standards. Ducts must not be used as vertical risers more than two stories in height. They must not be used adjacent to high temperature heating coils. Insulation should be kept clean and dry during shipping, storage, installation and system operation.

**Sizes:** Standard available sizes as noted in the table at right. Contact CertainTeed for availability and minimum order quantities.

### 4. TECHNICAL DATA

#### Applicable Standards:

- Model Building Codes:
  - ICC, WA State IAQ Standard
- Material Standards:
  - UL 181
  - Class 1 Rigid Air Duct
- Fire Safety Standards:
  - NFPA 90A, NFPA 90B
- Fire Resistance:
  - Surface Burning Characteristics:
    - UL 723 and ASTM E84
    - Max. Flame Spread Index: 25
    - Max. Smoke Developed Index: 50
  - Limited Combustible:
    - NFPA 259
    - < 3,500 BTU/lb.

#### Physical/Chemical Properties:

- Thermal Performance:
  - See table on other side
- Acoustical Performance:
  - See table on other side
- Operating Limits:
  - Temperature (ASTM C411):
    - Max. 250°F (121°C)
  - Air Velocity (UL 181):
    - Max. 5,000 fpm (25.4 m/s)
  - Static Pressure (UL 181):
    - ± 2" wc (498 Pa)
  - Ambient Temperature:
    - 150°F (66°C)
- Water Vapor Sorption:
  - ASTM C1104
  - ≤ 2% by weight
- Water Vapor Transmission (Facing):
  - ASTM E96, Desicant Method
  - Max. 0.02 perms
  - (1.15 x 10<sup>-9</sup> g/Pa-s-m<sup>2</sup>)
- Air Leakage Class (SMACNA):
  - Class 6
- Corrosiveness:
  - UL 181 and ASTM C665
  - Pass
- Bacteria Resistance:
  - ASTM G22
  - No Growth



- Fungi Resistance:
  - UL 181
  - ASTM C1338 & ASTM G21
  - Pass; No Growth
- Water Repellency Rating:
  - ≥ 4 (INDA IST 80.6-92)

**Quality Assurance:** Many of CertainTeed's insulation manufacturing plants are registered to ISO 9001-2000 standards. The GREENGUARD Environmental Institute has certified ToughGard Duct Board for low emissions of total particle, formaldehyde, and other Volatile Organic Compounds (VOCs).

### 5. INSTALLATION

ToughGard Duct Board should be fabricated and installed in accordance with the NAIMA or SMACNA Fibrous Glass Duct Construction Standards and all closure systems should meet the requirements of UL 181A. The installed duct system should be purged prior to occupancy to remove any loose material.

### 6. AVAILABILITY AND COST

Manufactured and sold throughout the United States and Canada. For availability and cost, contact your local distributor or call CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

AVAILABLE SIZES									
Product Type		Thickness		Width		Length		No. Boards/	
El	Edge	in.	mm	in.	mm	in.	mm	Crtn.	Plt.
475	Shiplap or Butt edge	1	25	48	1219	120	3048	6	45
						96	2438	8	
800		1 1/2	38			120	3048	6	30
		96	2438			6			
	Butt edge	2	51			120	3048	3	22

THERMAL PERFORMANCE							
Product		K-Value		C-Value		R-Value	
EI	Thickness in. mm	$\frac{\text{Btu}\cdot\text{in}}{\text{h}\cdot\text{ft}^2\cdot\text{°F}}$	$\frac{\text{W}}{\text{m}^2\cdot\text{°C}}$	$\frac{\text{Btu}}{\text{h}\cdot\text{ft}^2\cdot\text{°F}}$	$\frac{\text{W}}{\text{m}^2\cdot\text{°C}}$	$\frac{\text{Btu}}{\text{h}\cdot\text{ft}^2\cdot\text{°F}}$	$\frac{\text{W}}{\text{m}^2\cdot\text{°C}}$
475	1 25	0.23	0.33	0.23	1.31	4.3	0.76
800	1½ 38			0.15	0.87	6.5	1.15
	2 51			0.12	0.65	8.7	1.53

Thermal conductance (C) and resistance (R) values are derived from the material thermal conductivity (k) value. Tested in accordance with ASTM C518 and/or ASTM C177 at 75°F (24°C) mean temperature.

ACOUSTICAL PERFORMANCE									
Product		Absorption Coefficients @ Octave Band Frequencies (Hz)							NRC
EI	Thickness in. mm	Mounting Type	125	250	500	1000	2000	4000	
475	1 25	A	0.07	0.21	0.74	0.98	1.05	1.04	0.75
			0.07	0.22	0.77	1.00	1.03	1.05	
800	1½ 38	A	0.12	0.49	1.02	1.10	1.06	1.07	0.90
	2 51		0.17	0.76	1.05	1.02	0.95	0.96	0.95

Sound absorption tested in accordance with ASTM C423 using Type A mounting per ASTM E795.

## 7. WARRANTY

Refer to CertainTeed's Limited One-year Warranty for ToughGard Fiber Glass Duct Board (30-29-047).

## 8. MAINTENANCE

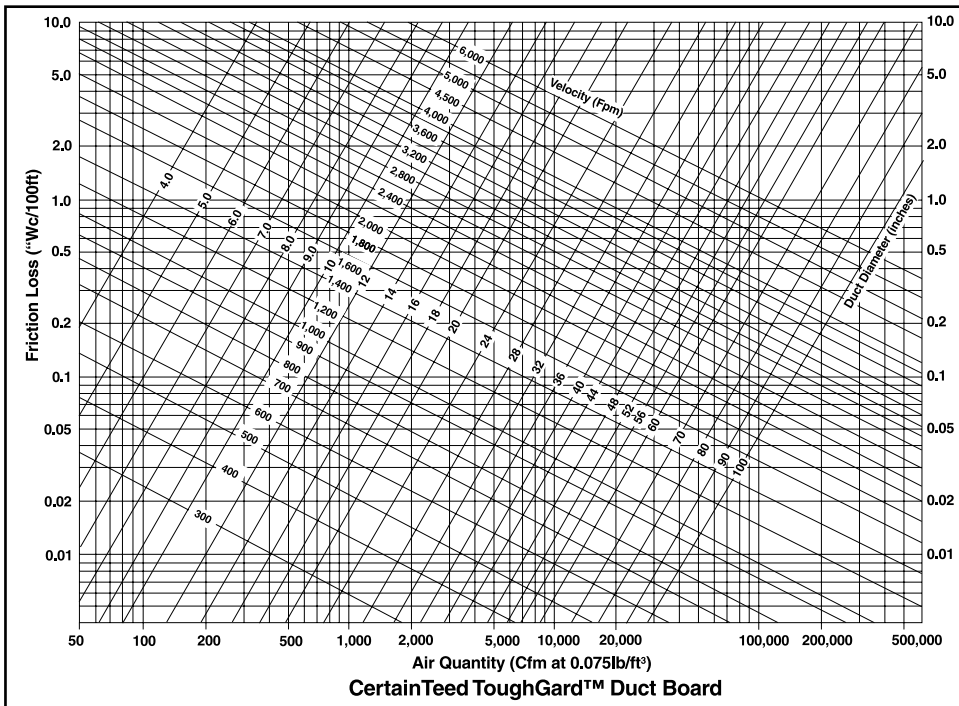
An inspection and maintenance program for the HVAC system is recommended to ensure optimum performance. Use NAIMA guidelines for duct cleaning methods and procedures.

## 9. TECHNICAL SERVICES

Technical assistance can be obtained either from the local CertainTeed sales representative, or by calling CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

## 10. FILING SYSTEMS

- Sweet's Catalog Files, 15080/CER
- CertainTeed Pub. No. 30-36-004
- Additional product information available upon request.



This chart is to be used in place of the standard friction loss chart published in the ASHRAE Handbook of Fundamentals. For conversion of round equivalents to rectangular sizes, use Table 2 (Equivalent Rectangular Duct Dimensions) from the same reference. Test conducted in accordance with TIMA AHS-152T.



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