

### ToughGard® Rigid Liner Board with Enhanced Surface



#### 1. PRODUCT NAME

CertainTeed ToughGard® Rigid Liner Board with Enhanced Surface Fiber Glass Duct and Plenum Liner Insulation

#### 2. MANUFACTURER

CertainTeed Corporation  
 P.O. Box 860  
 Valley Forge, PA 19482-0105  
 Phone: 610-341-7000  
 800-233-8990  
 Fax: 610-341-7571  
 Fax-On-Demand: 800-947-0057  
 Website: www.certainteed.com

#### 3. PRODUCT DESCRIPTION

**Basic Use:** ToughGard Rigid Liner Board with Enhanced Surface is a high-quality acoustical and thermal board type insulation used primarily for lining the interior of HVAC sheet metal ducts and plenums to absorb unwanted crosstalk, equipment and air rush noise. This product performs in most types of heating and cooling systems operating at velocities up to 6,000 fpm (30.5 m/s) and temperatures to 250°F (121°C).

**Benefits:** ToughGard Rigid Liner Board with Enhanced Surface improves energy efficiency by reducing heat gain or loss. The product can be precision cut using both manual and automatic cutting equipment, and is durable and easy to clean.

**Composition and Materials:** Composed of glass fibers firmly bonded together with a thermosetting resin into a rigid board-type insulation. The air-stream surface contains an EPA registered antimicrobial 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:** Insulation should be kept clean and dry during shipping, storage, installation and system operation.

**Sizes:** Available sizes as noted in the table on the back. Contact CertainTeed for availability and minimum order quantities.

#### 4. TECHNICAL DATA

##### Applicable Standards:

- Model Building Codes:
  - (ICC)
- Material Standards:
  - ASTM C1071, Type II
- Fire Safety Standards:
  - (NFPA 90A, NFPA 90B)

##### Fire Resistance:

- Fire Hazard Classification:
  - (UL 723, ASTM E84, NFPA 255)
  - 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 below.
- Acoustical Performance:
  - See Table below.

- Operating Limits:
  - Temperature: (ASTM C411)
  - Max. 250°F (121°C)
  - Air Velocity: (ASTM C1071, UL 181)
  - Max. 5,000 fpm (25.4m/s)

THERMAL PERFORMANCE							
Product		K-Value		C-Value		R-Value	
Thickness		Btu·in	W	Btu	W	h·ft. <sup>2</sup> ·°F	m <sup>2</sup> ·°C
in.	mm	h·ft. <sup>2</sup> ·°F	m <sup>2</sup> ·°C	h·ft. <sup>2</sup> ·°F	m <sup>2</sup> ·°C	Btu	W
1	25	0.23	0.033	0.23	1.31	4.3	0.77
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
Thickness		125	250	500	1000	2000	4000	
in.	mm							
1	25	0.07	0.28	0.71	0.90	0.93	0.93	0.70
1½	38	0.10	0.51	0.89	0.95	0.92	0.93	0.80
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.

- Water Vapor Sorption:
  - (ASTM C1104)
    - ≤ 2% by weight
- Corrosiveness: (ASTM C665)
  - Pass
- Bacteria Resistance: (ASTM G22)
  - No growth
- Fungi Resistance:
  - (ASTM C1138 & ASTM G21)
    - No growth
- Water Repellent:
  - (INDA IST 80.6-92)
    - ≥ 4

**Quality Assurance:** CertainTeed was the first fiber glass insulation manufacturer to have its manufacturing plants, R&D center and corporate headquarters registered to ISO 9000 standards.

## 5. INSTALLATION

Rigid Liner Board shall be installed in accordance with the requirements of NAIMA HVAC Duct Construction Standards, or SMACNA HVAC Construction Standards and the project specification.

The liner shall be cut and fitted to assure all joints are neatly and tightly butted with no interruptions or gaps.

Rigid Liner Board shall be adhered to the sheet metal ductwork using an adhesive meeting the requirements of ASTM C916. The adhesive film coverage shall be a minimum 90% of the metal surface.

The product shall additionally be secured, as required, to the sheet metal ductwork using mechanical fasteners (impact-driven or weld-secured). These fasteners vary in type and length. Fastener length shall be such that the Rigid Liner Board's thickness is compressed no more than 10% of its design thickness. Maximum fastener spacing shall be in accordance with NAIMA or SMACNA guidelines. Rigid Liner Board fabricated duct sections shall be kept clean and dry from the point of fabrication through job site installation. Special precautions at the job site may be necessary to accomplish this. The installed lined ductwork shall be protected to avoid contamination by water and dirt.

An HVAC system commissioning program should be considered to assure proper start up and purging of the duct system.

Design Considerations

- "Butter" all raw exposed edges
- High, in-duct air turbulence areas may require special procedures, i.e. perforated inner metal liner, etc.
- Metal nosings shall be securely installed over transversely oriented liner edges facing air stream at fan discharge and at any interval of lined duct preceded by unlined duct.

## 6. AVAILABILITY AND COST

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

## 7. WARRANTY

Refer to CertainTeed's Limited One-year Warranty for ToughGard Rigid Liner Board with Enhanced Surface (30-29-047).

## 8. MAINTENANCE

An inspection and preventative maintenance program for the HVAC system is recommended to ensure optimum performance.

Use NAIMA guidelines for duct cleaning procedures and methods.

## 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/CES
- CertainTeed Pub. No. 30-36-004
- Additional product information available upon request.

### AVAILABLE SIZES

Dimensions				Nom. Thickness		Density	
Width		Length		in.	mm	lb/ft <sup>3</sup>	kg/m <sup>3</sup>
in.	mm	in.	mm				
24 to 48	610 to 1219	48 to 120	1219 to 3048	1	25	3.00	48
				1 1/2	38		
				2	51		



## ASK ABOUT OUR OTHER CERTAINTEED PRODUCTS AND SYSTEMS:

EXTERIOR: ROOFING • SIDING • WINDOWS • FENCE • RAILING • TRIM • DECKING • FOUNDATIONS • PIPE  
 INTERIOR: INSULATION • WALLS • CEILINGS

CertainTeed Corporation  
 P.O. Box 860  
 Valley Forge, PA 19482

Professional: 800-233-8990  
 Consumer: 800-782-8777  
[www.certainteed.com](http://www.certainteed.com)

