# **Specification Sheet**



# **ToughGard<sup>®</sup> Ultra\*Round<sup>™</sup> Spiral Duct Liner**

#### 1. PRODUCT NAME

CertainTeed ToughGard® Ultra\*Round™ Spiral Duct Liner Insulation

#### 2. MANUFACTURER

CertainTeed Corporation
P.O. Box 860
Valley Forge, PA 19482-01

Valley Forge, PA 19482-0105 Phone: 610-341-7000

800-233-8990 Fax: 610-341-7571

Websites:

www.certainteed.com/insulation www.certainteed.com/insulation/hvacmechanical

#### 3. PRODUCT DESCRIPTION

**Basic** Use: ToughGard Ultra\*Round is a high-quality acoustical and thermal insulation for lining the interior of spiral and round sheet metal ducts and plenums in HVAC systems operating at positive static air pressures, air velocities up to 6,000 fpm (30.5 m/s) and temperatures up to 250°F (121°C). ToughGard Ultra\*Round is used to reduce heat gain or loss while also absorbing unwanted crosstalk, equipment and air rush noise.

**Benefits:** This easy-to-install, tough and durable product is a cost-effective alternative to "double wall" metal duct systems. In addition, it features a protected air stream surface that resists dust, dirt and damage during installation and cleaning.

Composition and Materials: A semi-rigid board-type insulation composed of resinbonded glass fibers with a durable black nonwoven air stream surface. The board is grooved to provide the flexibility required to line the inside of spiral metal ducts. 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:** The product should be kept clean and dry from the time of manufacture through job site installation and system operation.

**Sizes:** For available sizes, see table on other side.

#### 4. TECHNICAL DATA

#### Applicable Standards:

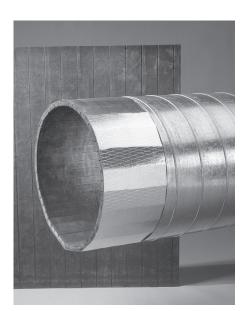
- Model Building Codes:ICC
- Material Standards:
  - ASTM C1071
     Type II insulation
- Fire Safety Standards:
   NFPA 90A, NFPA 90B

## Fire Resistance:

- Fire Hazard Classification:
  - UL 723, ASTM E84
     Max. Flame Spread Index: 25
     Max Smoke Developed Index: 50
- Limited Combustible:
- NFPA 255< 3500 Btu/lb</li>

#### 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. 6,000 fpm (30.5 m/s)
- Positive Static Air Pressures Only
- Water Vapor Sorption:
  - ASTM C1104
  - < 3% by weight



- Corrosiveness:
- ASTM C665 Pass
- Bacteria Resistance:
- ASTM G22
  - No Growth
- Fungi Resistance:
  - AŠTM C1338 & ASTM G21
     Pass; No Growth

	THERMAL PERFORMANCE							
Product		K-Value		C-Value		R-Value		
Thickness		Btu•in.	w	Btu	w	h∙ft²∙°F	m∙°C	
in.	mm	h∙ft²•°F	m∙°C	h∙ft²•°F	m²∙°C	Btu	W	
1	25			0.23	1.31	4.3	0.76	
1 1/2	38	0.23	0.033	0.15	0.87	6.5	1.15	
2	50			0.12	0.65	8.7	1.53	
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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  $75^{\circ}F$  (24°C) mean temperature.

ACOUSTICAL PERFORMANCE										
Pro	duct	Absorption Coefficients @ Octave Band Frequencies (Hz)								
Thickness		405	250	500	1000	2000	4000	NDC		
in.	mm	125	250	500	1000	2000	4000	NRC		
1	25	0.07	0.21	0.74	0.98	1.05	1.04	0.75		
1 1/2	38	0.12	0.49	1.02	1.10	1.06	1.07	0.90		
2	50	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.										

#### 5. INSTALLATION

Installation procedures and techniques must be in accordance with the requirements of the NAIMA Fibrous Glass Liner Standard or the SMACNA HVAC Duct Construction Standard and the projectspecifications. Where NAIMA or SMACNA standards don't cover the unique requirements of lining spiral or oval duct systems, CertainTeed's installation procedures (30-33-007) should be followed.

ToughGard Ultra\*Round is designed to be installed into most sizes of spiral metal ducts up to to 38" in diameter, without mechanical fasteners or adhesives. However, when deemed necessary by the installer or project specifications, the product should 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 must be such that the ToughGard Ultra\*Round thickness is compressed no more than 10% of its design thickness. Maximum fastener spacing must be in accordance with NAIMA or SMACNA guidelines.

The product provides a clean "buttered" transverse edge. However, some circumstances will require the use of adhesive to butter raw exposed liner edges. Final job buttering may be required to coat duct cut-ins and/or minor installation damage. An HVAC commissioning program should be considered to assure proper start up and purging of the duct system.

#### 6. AVAILABILITY AND COST

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

#### 7. WARRANTY

Inasmuch as CertainTeed has no control over installation design, installation workmanship, accessory materials or conditions of applications, CertainTeed does not warrant the performance or results of any installation containing its products.

#### 8. MAINTENANCE

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

#### 9. TECHNICAL SERVICES

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

#### **10. FILING SYSTEMS**

- Sweet's Catalog Files, 15075/CER
- CertainTeed Pub. No. 30-36-004
- Additional product information available upon request.

AVAILABLE SIZES										
Product		Dimensions		Application		Quantity/Pallet				
Thickness Type		width x length		Metal Unfinished Duct Interior Dimensions		Pieces	Area			
,. 	in.	mm	in.	mm	in.	mm				
SD					12 to 26	305 to 660		1800 ft²		
LD	1 25			28 and larger	711 and larger	45	167.2 m <sup>2</sup>			
SD	1 1/-	38	48 x 120	1219 x 3048	20 to 38	508 to 965	30	1200 ft <sup>2</sup> 111.5 m <sup>2</sup>		
LD	) 1 1/ <sub>2</sub>				40 and larger	1016 and larger				
SD	2	50			28 and larger	711	22	880 ft²		





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CertainTeed Corporation P.O. Box 860 Valley Forge, PA 19482 Professional: 800-233-8990 Consumer: 800-782-8777 www.certainteed.com/insulation

