

## Ultra\*Duct™ Black Duct Board



### 1. PRODUCT NAME

CertainTeed Ultra\*Duct™ Black 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:** Ultra\*Duct Black Duct Board is a rigid board designed for fabrication into supply and return air HVAC duct work. The product can be used in heating and cooling systems which operate at velocities up to 5,000 fpm (25.4 m/s), temperatures up to 250°F (121°C) and maximum internal pressures of ± 2" (51mm) water gauge.

**Benefits:** This product is strong, resistant to mold, bacteria and microbial growth, and easy to clean. In addition, Ultra\*Duct Black provides excellent thermal properties, absorbs unwanted crosstalk, equipment and air rush noise and exhibits low air flow resistance. It also meets all applicable fire resistance standards and building code requirements. The product can be precision cut using both manual and automatic cutting equipment.

**Composition and Materials:** Composed of resin bonded glass fibers with a reinforced foil laminate air barrier/vapor retarder facing applied to the outside surface and a fiber glass textile mat bonded 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 anti-microbial properties are intended to only protect this product.

**Limitations:** Ultra\*Duct Black 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 and system operation.

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

### 4. TECHNICAL DATA

**Applicable Standards:**

- Model Building Codes:
  - ICC
- 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)
  - Pressure  
± 2" wc (498 Pa)
  - Ambient Temperature  
150°F (66°C)
- Water Vapor Sorption:
  - ASTM C1104
  - ≤ 2% by weight
- Water Vapor Transmission (Facing):
  - ASTM E96, Desiccant 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:
  - ASTM C665 Pass
- Bacteria Resistance:
  - ASTM G22  
No Growth
- Fungi Resistance:
  - ASTM C138 & ASTM G21  
Pass; No Growth

**Quality Assurance:** CertainTeed's commitment to quality and environmental management has ensured the registration of the Athens, Chowchilla and Kansas City plants to ISO 9001:2000 and ISO 14001:2004 standards.

### 5. INSTALLATION

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

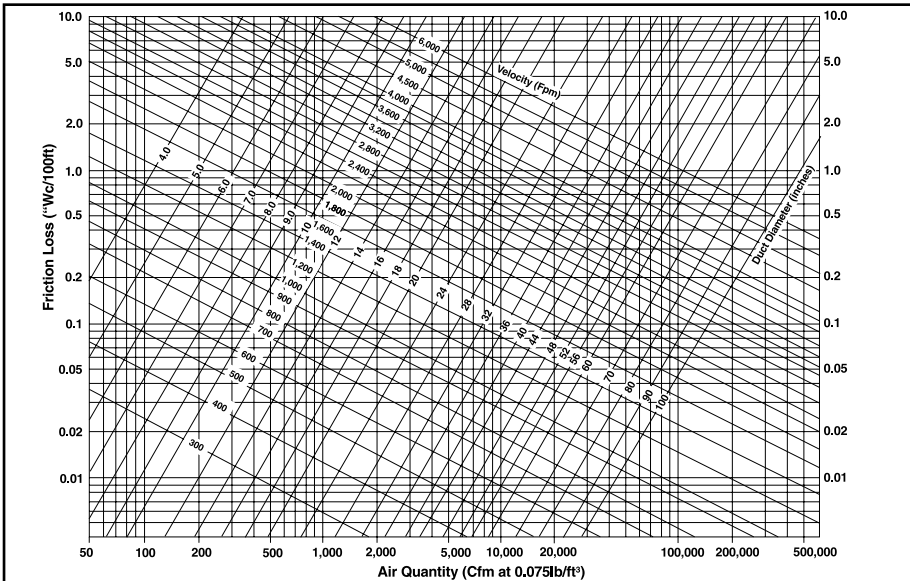
AVAILABLE SIZES									
Product Type		Thickness		Width		Length		No. Boards Per	
El	Edge	in.	mm	in.	mm	in.	mm	Carton	Pallet
475	Shiplap or Butt Edge	1	25	48	1219	120	3048	6	45
						96	2438	8	
800	Shiplap or Butt Edge	1½	38			120	3048	6	30
						96	2438	4	
	Butt Edge	2	51	120	3048	6	3	22	

ACOUSTICAL PERFORMANCE									
Product Type			Absorption Coefficients @ Octave Band Frequencies (Hz)						NRC
EI	Thickness		125	250	500	1000	2000	4000	
	in.	mm							
475	1	25	0.04	0.20	0.70	0.98	1.05	1.01	0.75
			0.07	0.22	0.77	1.00	1.03	1.05	0.75
800	1½	38	0.14	0.46	1.02	1.10	1.07	1.05	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.

THERMAL PERFORMANCE								
Product			K-Value		C-Value		R-Value	
EI	Thickness		Btu•in h•ft <sup>2</sup> •°F	W m•°C	Btu h•ft <sup>2</sup> •°F	W m <sup>2</sup> •°C	Btu h•ft <sup>2</sup> •°F	W m <sup>2</sup> •°C
	in.	mm						
475	1	25	0.23	0.033	0.23	1.31	4.3	0.76
800	1½	38	0.12	0.65	8.7	1.53		
	2	51						

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.



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.

## 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.

## 7. WARRANTY

Refer to CertainTeed's Limited One-year Warranty for Ultra\*Duct Black 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, 230700/CES
- CertainTeed Pub. No. 30-36-081
- Additional product information available upon request.



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