



1. PRODUCT NAME

ThermaBlend™ Fiber Glass Duct Liner

2. PRODUCT DESCRIPTION

ThermaBlend Duct Liner is ideal as a thermal and acoustical liner in HVAC sheet metal ducts, working to conserve energy by adding insulating value to the duct and absorbing unwanted noise from air-rush, equipment and cross-talk.

ThermaBlend is a high R-value insulation blanket made from a unique blend of textile glass and flame-resistant fibers that improve the overall acoustical, thermal and handling characteristics. Because of ThermaBlend's superior design, the duct liner is easy to cut, with superior tensile strength required for today's automated and manual duct manufacturing equipment. ThermaBlend™ has the highest tested puncture strength in the industry.

ThermaBlend Duct Liner is finished with a smooth, tough, black synthetic fabric that is applied to the airstream side of the blanket. This fabric face is water-repellent, flame-retarding and mold resistant. **ThermaBlend has the lowest published flame spread and smoke developed indices in the industry.** Air velocities above 6,000 fpm (30.5 m/s) can be withstood, and it remains uniform within the duct resisting separation, thereby keeping fibers from entering the air stream. Air flow is unobstructed improving delivery over long runs and reducing noise.

ThermaBlend Duct Liner is available in thicknesses of ½" to 2" in ½" increments, and densities from 1.5 pcf to 3.0 pcf. R-value of 4.2 is achieved with a 1" blanket; R-value of 6 is achieved with a 1½" blanket. See table above-right for more specific information.

ThermaBlend meets all applicable industry standards and building code requirements (see Technical Data section).

Thickness Availability and R-values					
Type	Density	0.5 in.	1.0 in.	1.5 in.	2.0 in.
1500	1.5 pcf		4.2	6.3	8.4
2000	2.0 pcf	2.1	4.2	6.3	8.4
3000	3.0 pcf	2.2	4.4	6.6	8.8

3. FEATURES AND BENEFITS

Sound Control – ThermaBlend Duct Liner helps to reduce sound transmission in two ways. First, the adhesive application of the insulating material to the inside of the duct during manufacturing tends to mitigate any sympathetic vibration in the sheet metal itself. Secondly, and more importantly, ThermaBlend interrupts the path of sound waves from music, speech, machinery or air flow that would otherwise bounce freely from one hard duct surface to another. As result, sound through ducts is effectively dampened both within the system and from room to room.

Thermal Energy Loss Reduction – ThermaBlend Duct Liner eliminates direct contact of the duct sheet metal with the heated or cooled air passing through the system. This greatly reduces the thermal transmission through highly conductive metal ducting, and delivers heated or cooled air efficiently over long distances.

Heat Resistance – ThermaBlend Duct Liner is designed for use at operating temperatures up to 250°F (121°C) within the duct over a sustained period, and complies with all building code standards.

Ease of Handling – ThermaBlend Duct Liner has superior tensile strength while maintaining its flexibility during installation and application. It is easy to cut and easy to apply.

Ease of Cleaning – The tough fabric facing of ThermaBlend Duct Liner maintains a smooth surface within the duct for clear passage of cleaning equipment. The fabric also resists snagging, puncturing and tearing, maintaining the integrity of the liner.

Indoor Air Quality (IAQ) - With superior erosion resistance as tested per C1071, highest tested puncture resistance, and VOC and formaldehyde emissions below Greenguard® certification requirements, ThermaBlend™ is the ideal choice.

Bacteria and Fungi Resistant – ThermaBlend’s fiber blend and synthetic bonding of the fibers will not support growth of bacteria or fungi. Both ThermaBlend’s fabric liner and edge coating utilize **AMICAL® 48**, an EPA registered fungicide/bactericide agent to help eliminate the development of bacteria or fungi from any trapped moisture. (AMICAL® 48 is a registered trademark of the Dow Chemical Company.)

4. TECHNICAL DATA

ThermaBlend™ Duct Liner is compliant with all model building code requirements (BOCA, ICBO, SBCCI, ICC, California Title 24, NYC MEA) as well as all industry standards for duct liner including ASTM C1071, CAN/CGSB-51.11-92, and NFPA 90A & 90B.

Property	Standard	Results
Fire Resistance (Flame Spread, Smoke Developed)	UL 723, ASTM E84, NFPA255, CAN/ULC S102-M88	Facing Side-FS25/SD25 Material Side-FS0/SD0
Combustibles	NFPA 259	<3500 BTU/LB.
Oper. temperature	ASTM C411	250° F max.
Erosion	C 1071	Pass
Fungi	ASTM C1338, G21	Pass
Bacteria	ASTM G22	Pass
Corrosion	ASTM C665	Pass
Water Repellency	ASTM C1104	Pass
Odor Emission	ASTM C1304	Pass
Thermal	See chart	
Acoustical	See chart	

Acoustical Performance

		Octave Band Center Freq., Hz						
Type	Thk.	125	250	500	1000	2000	4000	NRC
1500	1.0	.16	.29	.60	.77	.90	.92	.65
	1.5	.26	.45	.82	.94	.98	.94	.80
	2.0	.29	.54	.93	1.02	.99	1.04	.85
2000	0.5	.04	.11	.31	.52	.64	.81	.40
	1.0	.08	.24	.58	.76	.86	.95	.60
	1.5	.17	.41	.82	.93	.95	.96	.80
3000	2.0	.25	.61	1.00	1.05	1.01	1.04	.90
	0.5	.02	.10	.28	.53	.68	.80	.40
	1.0	.07	.25	.67	.87	.94	.97	.70
	1.5	.17	.43	.92	1.06	1.05	1.03	.85
	2.0	.30	.73	1.12	1.10	1.05	1.03	1.00

Duct Liner Insertion Loss, dB/ft

One Inch Liner						
Octave Band Center Freq., Hz						
P/A,ft/ft²	125	250	500	1000	2000	4000
8	0.6	1.5	2.7	5.8	7.4	4.3
6	0.5	1.2	2.3	5	5.8	3.6
4	0.4	0.8	1.9	4	4.1	2.8
2	0.2	0.5	1.4	2.8	2.2	1.8
1	0.1	0.3	1	2	1.2	1.2

Two Inch Liner						
Octave Band Center Freq., Hz						
P/A,ft/ft²	125	250	500	1000	2000	4000
8	0.8	2.9	4.9	7.2	7.4	4.3
6	0.6	2.3	4.2	6.2	5.8	3.6
4	0.5	1.6	3.5	5	4.1	2.8
2	0.3	0.8	2.3	3.3	2	1.7
1	0.2	0.5	1.8	2.3	1.1	1.1

Note- Data extracted from ASHRAE Handbook, HVAC Applications, Chapter 46, 1999. P/A=Duct Perimeter, (ft)/Duct Cross Sectional Area (ft²). Example: 12” x 12” duct, P/A= 4 ft/ft²

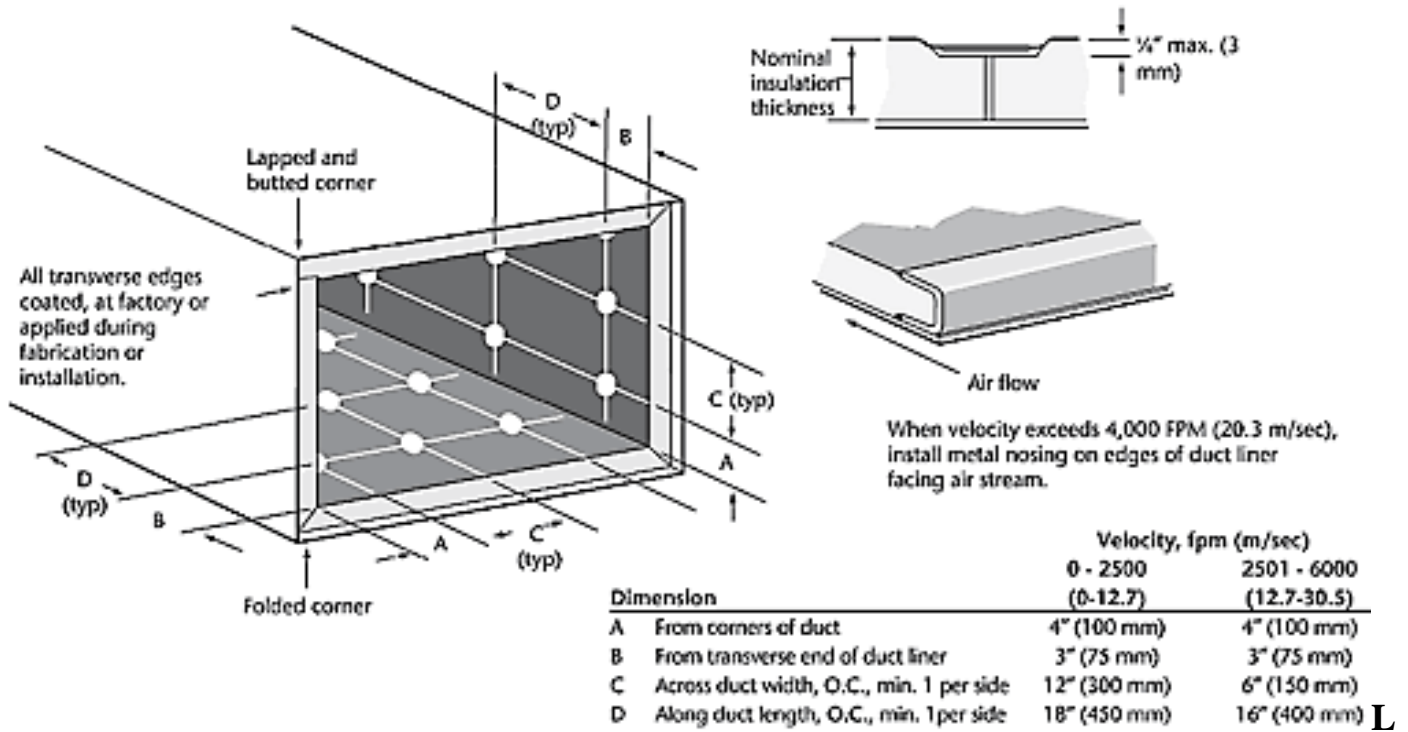
5. APPLICATION

Interior duct surfaces must be completely covered with ThermaBlend Duct Liner to achieve expected results. The material can be cut using both manual and automated equipment. Joints must be neatly butted to eliminate gaps. Treat small nicks and tears with an approved adhesive to eliminate potential for further damage. Blow out system prior to use or occupancy to remove any scraps or foreign material.

6. INSTALLATION

ThermaBlend Duct Liner shall be installed according to the requirements of the NAIMA Fibrous Glass Duct Liner standard, or the SMACNA HVAC Duct Construction standards, along with the project plans and specification

Diagram 1 - Mechanical Fastener Spacing for Fibrous Duct



- Measure duct surface to be covered.
- Cut to fit, allowing for enough material to assure neatly butted joints.
- Apply adhesive meeting ASTM C916 standards and covering a minimum 90% of the inside metal surfaces.
- Position ThermaBlend™ Duct Liner and secure material to the ductwork using mechanical attachment (weld-pins or impact-driven) with clinch shields. The mechanical fastening shall be such that no greater compression than 10% of the liner thickness occurs at the point of attachment. Fastener spacing to be in accordance with applicable standards (NAIMA, SMACNA).
- Treat exposed leading edges with metal protection to prevent any tear-away that might occur as a result of moving air.
- ThermaBlend's roll edges come coated, however various circumstances will require the use of a sealant to "butter" newly exposed edges after cutting the material. In these cases, all exposed edges need to be sealed.
- Repair inadvertent nicks, tears, and duct cut-ins by field "buttering."

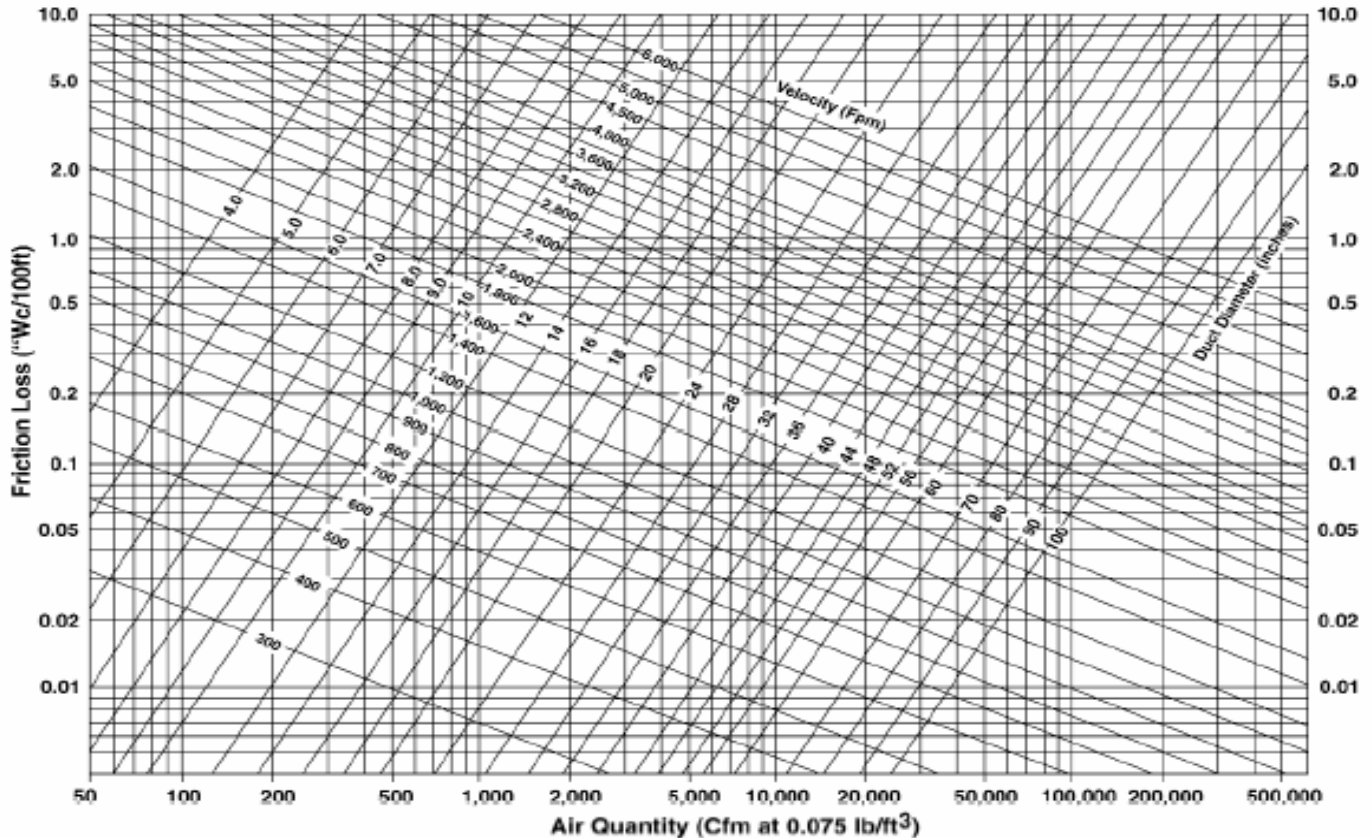
- Keep fabricated HVAC duct liner systems clean and dry from point of manufacturing to job site installation and operation.
- High air turbulence areas may require special design consideration, i.e. perforated metal liner, etc.-Metal nosing shall be installed according to the conditions and details shown in Diagram 1.
- Consider specifying an HVAC system start-up program to assure proper commissioning and purging of the air duct system.

Safety First! Follow good safety and industrial hygiene practices while handling and installing products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

For sales and product information contact:

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ThermaBlend™ Duct Liner Air Friction Loss Chart



This chart is consistent with the standard friction loss chart found in the ASHRAE Handbook of Fundamentals. To convert from round (shown above) to rectangular duct dimensions see Handbook Table 2 "Equivalent Rectangular Duct Dimensions".



*Insulation contains over 75%
post-industrial recycle content*

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Trademark: ThermaBlend™ is a registered trademark of CTA Acoustics, Inc.

Manufacturing: ThermaBlend™ is manufactured by CTA Acoustics, Inc., Corbin, Kentucky, USA. CTA Acoustics, Inc. is an ISO 9001-2001 and QS 9000 certified facility.

Geographic Availability: Products described herein may not be available in all geographic markets. All product and system information contained herein is believed to be accurate at the time of production.

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