DUCTLINER

Thermal and acoustical insulation blanket of bio soluble glass wool designed to be applied to interior surfaces of sheet metal ductwork for air conditioning, heating and cooling systems in residential and commercial appliances; uniform textured, presented in flexible rolls. It consists of glass fibers bonded with a thermosetting resin. The air stream surface is faced with "Flame attenuated glass-fiber mat"

END USE CHARACTERISTICS AND LIMITATIONS

This product has been designed as thermal and acoustical insulation for sheet metal ductwork for air conditioning, heating and cooling systems. The facing material provides an effective performance for the attenuation of noise that could be generated by the central air equipment and/or the operating area. This product reduces the heat losses in the sheet metal ducts and allows reducing the friction losses preventing water vapor condensation. This product is designed to make installation easier and to keep its properties when installed **ASTM C1071** Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material) Type I & II. (Liner face marked when agreed with the customer). **Type I** Blanket in roll form.

The insulation should be applied inside the sheet metal ductwork for air systems operating at temperatures from 5°C (40°F) and 121°C (250°F), with the facing exposed to the air flow. The insulation shall be secured to the sheet metal ductwork using mechanical fasteners (impact-driven or weld secured) or an appropriate supporting tool; any damage in the facing shall be repaired in order to fix the performance and keep the cleanness for the system as required.

The fiberglass insulation products themselves do not promote fire or ignite, when a finished material has not been applied. This product supports air operating at velocities up to 30.5 m/s (6000 fpm) and static pressure up to 498 Pa (2 in WG), without evidence of erosion in the glass fiber, deformation, or facing separation.

Product certified by LAPEM (Testing Laboratory Equipment and Materials, Mexico)

PRODUCT SPECIFICATION

PRODUCT	LENGTH mm	WIDE mm	THICKNESS (1) mm	WEIGHT ± 10% kg/m² (g/ft²)
DUCTLINER 1200" x 48" x 1"	30480 -0+150 mm	1219 -0+13mm	25.4 ±2 mm	0.61 (56.8)
DUCTLINER 600" x 47" x 1"	15240 -0+150 mm	1194 -0+13mm	25.4 ±2 mm	0.61 (56.8)
DUCTLINER 600" x 48" x 2"	15240 -0+150 mm	1219 -0+13mm	50.8 ±2 mm	1.23 (114.5)

(1) Minimum thickness 95% six weeks after being produced.

ACOUSTIC PERFORMANCE									
PRODUCT TYPE AND THICKNESS (A Mounting)	DENSITY		OCTAVE BAND CENTER FRECUENCIES, Hz						
	pcf	kg/m³	125	250	500	1000	2000	4000	NRC
DUCTLINER **1" mat faced**	1.5	24	0.17	0.33	0.64	0.83	0.90	0.92	0.70
DUCTLINER **2" mat faced**	1.5	24	0.34	0.64	0.96	1.03	1.00	1.03	0.90

NRC: Noise reduction coefficient. ASTM C423 Standard Test Method for Sound Absorption Coefficients by the Reverberation Room Method. (A Mounting: Material placed against a solid backing such as a block wall). NRC values must be used as a reference values to compare different building materials.

PROPERTIES	STANDARD	DUCTLINER (1 in)	DUCLINER (2 in)
Corrosiveness	ASTM C665/ ASTM C795	Meets requirements	Meets requirements
Thickness and Density	ASTM C167	Meets requirements	Meets requirements
Water Vapor Sorption	ASTM C1104/1104M	<3% weight-120°F (49°C), 95% R.H.	<3% weight-120°F (49°C), 95% R.H.
Fungi resistance	ASTM C1338	Meets requirements	Meets requirements
Erosion Resistance	ASTM C1071	Max. Air Speed 30.5 m/s (6000 fpm) and static Pressure up to 498 Pa (2 in WG)	Max. Air Speed 30.5 m/s (6000 fpm) and static Pressure up to 498 Pa (2 in WG)
Compressive resistance	ASTM 165	Min. 25 lb/ft^2 (10% def.) (1197 Pa) Min. 90 lb/ft^2 (25% def.) (4309 Pa)	Min. 25 lb/ft^2 (10% def.) (1197 Pa) Min. 90 lb/ft^2 (25% def.) (4309 Pa)
Odor Emission	ASTM 1304	Meets requirements	Meets requirements
Surface Burning Characteristics	ASTM E84 / UL723 (*)	Flame Spread Index <25 Smoke Developed Index <50	Flame Spread Index <25 Smoke Developed Index <50
Thermal performance (Thermal conductivity)	ASTM C518	0.24 BTU.in/hr.ft^2.°F a 75°F Mean T. 0.0348 W/m.°C a 24 °C Mean T.	0.24 BTU.in/hr.ft^2.°F a 75°F Mean T. 0.0348 W/m.°C a 24 °C Mean T.
Thermal Performance (Thermal resistance)	ASTM C411	4.2hr.ft^2.°F / BTU (0.73 m^2.°C /W)	8.3 hr.ft^2.°F / BTU (1.46 m^2.°C /W)
Acoustic performance	ASTM C423 A Mounting	NRC: 0.7	NRC: 1.00
Combustion Characteristics	NFPA 259	Meets requirements	Meets requirements
DBE Content	Oregon State	FREE, Meets requirements	FREE, Meets requirements

(*) UL723: FILE R25157

VISUAL STANDARD

CHARACTERISTICS	ACCEPTANCE GUIDE
Color	Product and surface color is black. Color can go from gray to black. Color variation does not affect acoustical and thermal product performance.
Surface Appearance	The surface should be uniform and free from binder spots and unbonded areas, but they could be accepted if they are not frequent. Some wet spots could appear randomly. The border shall be free from wool spots agglomeration, but some not frequent spots do not damage the thermal and acoustical performance of the product unless delamination is produced. The following characteristics are considered defects of the product: Airbags between the insulation and the facing when there is a severe separation, broken or damaged facing and facing not properly centered over the product what produces open zones. Maximum acceptance deviation 6 mm (-1/4in)
Thickness	Thickness of the product could be seen minor than required when unwrapped, but because this is a resilient product thickness will get the nominal over the time. Installed thickness could be seen minor than required because of installation method, so more tension than required when applying the product should be avoided to get the labeled R-value. This product does not have previous treatment edges; this step is according to installation of current law.
Telescopy	The rolls could show some conic shape in the extremes because of the rolling system. This condition is controlled at 2" maximum.
Packaging	Packing is covering the roll surface but not the extremes in order the roll to be in contact with air. This condition makes that correctly handling and ware-housing must be provided. Splices between rolls are not allowed.

PACKAGING

PRODUCT	m²/roll	TOTAL NET WEIGHT ± 10% (kg/Package)
DUCTLINER 1200" x 48" x 1"	37.15	22.64
DUCTLINER 600" x 47" x 1"	18.19	22.37
DUCTLINER 600" x 48" x 2"	18.19	22.37

GROSS WEIGHT (kg/package) = NET WEIGHT (kg/package) + 0.3 kg aprox. **1 ROLL / PACKAGE**
Package: Polyethylene shrink-package roll extremes open and auto adhesive label.

RECYCLED CONTENT

(1) PI Recycled Content Post Industrial: Collected from Manufacturers and industry.
(2) PC Recycled Content: Collected from end uses

PRODUCT	TOTAL RECYCLED CONTENT	POST INDUSTRIAL RECYCLED CONTENT (1)	POST CONSUMER RECYCLED CONTENT PC PC (2)
DUCTLINER 1200" x 48" x 1"	62.8%	62.8%	0 %
DUCTLINER 600" x 47" x 1"	78.8%	78.8%	0%
DUCTLINER 600" x 48" x 2"	69.3%	69.3%	0%

INSTALLATION RECOMMENDATIONS

Before Installation

The duct system designer must:
- Clearly designate on contract drawings, the sections of ductwork to be lined.
- Specify the type and thickness of ductliner to be installed and adhesive to be used.

Cutting Fiberglass Ductliner

Fibrous glass duct liner may be cut:
- By hand, with a utility knife or other suitable sharp knife.
- By machines, suach as automated coil line equipment. Follow cutting recommendations of the equipment manufacturers.
- By computarized equipment, which can be programmed to cut rectangular shapes for straightduct sections or special shapes for fitting such as ells, tees, offsets and transitions.

Adhesives and mechanical fastening

Adhere DUCTLINER to sheet metal, covering 90% minimum of surface with an adhesive that meets with qualification requirements on ASTM C916 (Adhesives that meets requirements to ensure the condition of fire danger acceptable. Application instructions and precautions provided by adhesive manufacturers should be carefully followed).

Adhesives may be applied by roller coating, spraying, or brushing. Mechanical fasteners may be located with respect to interior duct dimensions, regardless of air flow direction.

General fabrication and installing principles

The DUCTLINER shall cover 100% of the interior surfaces of duct sections and fitting in finished form.
The product shall be installed with the reinforcement exposed to te air stream. Allowance for sheet metal add on dimensions must be made when cutting ductliner.
Upon completion of installation of lined duct and before HVAC system start-up, visually inspect the ductwork and verify that ductliner has been correctly installed. Confirm that the duct system is free from construction debris.

Consult the installation manual for fiberglass duct of NAIMA (North American Insulation Manufacturers Association)

EUCEB

Fiberglass Colombia S.A - Colombia
Planta Mosquera
Mineral Glass Wool AA1

Certificate No.385 Bio soluble Mineral glass wool FGC. Note Q of the Regulation EC 1272/2008 of the European Parliament and of the Council as Currently in force.

European Certification Board for Mineral Wool Products

CFE Una empresa de clase mundial
LAPEM
LABORATORIO DE PRUEBAS DE EQUIPOS Y MATERIALES

FIBERGLASS COLOMBIA S.A PROVEEDOR AUTORIZADO

FIBERGLASS ISOVER SAINT-GOBAIN

N° CO11/4442

Sistema de Gestión de la Calidad para la producción y venta de membranas impermeabilizantes modificadas (mantos, con o sin recubrimiento autoprotector) y emulsiones asfalticas, Cielo rasos en fibra de vidrio con acabado decorativo. Láminas y rollos flexibles en fibra de vidrio para la fabricación y recubrimiento interno y externo de conductos para transporte de aire acondicionado. Aislamientos térmicos y acústicos rígidos, flexibles y preformados.

Norma - ISO 9001:2015

Producto fabricado bajo un sistema de administración de calidad certificado de conformidad con ISO 9001.

Reported values are typical of tests carried out on samples taken from standard production and may be update without notice.

The user is responsible for determining if the product is recommended for a particular surface and if it satisfies the application requirements. The user must make application testing and product testing required for that purpose.

Not controlled copy. Information on this document may be updated without notice.

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