

INSULQUICK

Semi Rigid thermal insulation made of bio soluble glass fibers bonded with a thermosetting resin, uniform and light-textured, generally used for power plants, boilers, ducts, precipitators and fireplaces.



END USE CHARACTERISTICS AND LIMITATIONS

This product is designed as thermal Insulation for heating equipment with application temperatures up to 454°C (850°F) at a maximum thickness of 6 in (152 mm). (**ASTM C612** Standard Specification for Mineral Fiber Block and Board Thermal Insulation, Type IA, IB, II)

It is typically used where external finish is required with metal or wire mesh sealed in insulating cement which can be finished with paint and canvas. The weather exposed installations are completed with a waterproof mastic or metal jacketed aluminum or galvanized steel. It can also be used as insulation in metallic panel systems. The product can be easily fitted on welding bolts up to 3/8".

When insulation is brought to operating temperature for the first time, there may be slight smoke and/or pungent odor, which usually ends in 24 hours.

Surface Burning Characteristics have been classified as Class 1, FS/SD 25/50, File R25157. (**UL723**, Surface Burning Characteristics of Building Materials and CAN/ULC-S102-M /ASTM E84, Surface Burning Characteristics Test). (FS, Flame Spread – SD, Smoke Developed).

The installation of an insulation in a single layer when is brought to temperatures greater than 400°C requires a careful and detailed work in order to ensure that there are no leaks or hotspots that can generate heat losses. In these conditions, depending on the type of insulation and the installation, is recommended to use two layers of insulation.

The insulation INSULQUICK can be installed in one or more layers: 152 mm (6 in) up to 454°C (850°F); 203mm (8in) up to 343°C (650°F).

Avoid tearing the package during warehousing and transportation, cuts should be made on flat surfaces, fine edge knife, in an isolated area. Stack up to 10 boxes per pallet.

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

PRODUCT SPECIFICATION

PRODUCT	LENGHT mm (in)	WIDE mm (in)	THICKNESS mm (in) (1) (2)	WEIGHT +/- 10% kg/m ² (g/ft ²)
117" x 48" x 1. 1/2"	2972 ± 8mm	1219 ± 3mm	152 ± 3 mm	1.82 (169.9)
117" x 48" x 2"	2972 ± 8mm	1219 ± 3mm	152 ± 3 mm	2.45 (227.6)
117" x 48" x 2.5"	2972 ± 8mm	1219 ± 3mm	190 ± 3 mm	3.06 (284.3)
117" x 48" x 3"	2972 ± 8mm	1219 ± 3mm	152 ± 3 mm	3.67 (341.07)
117" x 48" x 4"	2972 ± 8mm	1219 ± 3mm	203 ± 3 mm	4.89 (454.4)

(1) Minimum thickness 95% after six weeks of being produced, measured at the height of the stack by the numbers of units of packaging.

(2) Measurement method, stack height: Average of 4 measurements taken on the centers from the stack.

Note: Available product made to order with FRK/FSK vapor barrier without UL label

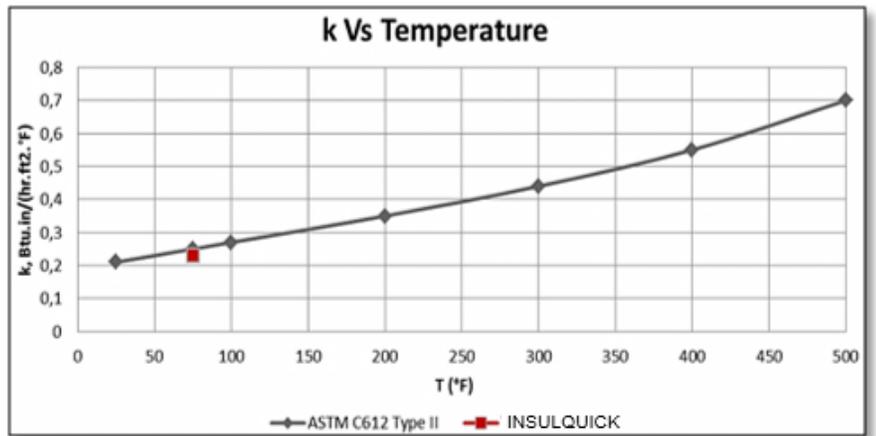
PROPERTIES	STANDARD	DESCRIPTION
Operating Limits	ASTM C411/ASTM C447	Max. 454°C (850°F)
Thermal Performance (Thermal Conductivity)	ASTM C518	0.033 W/m.°C (24°C Mean temperature) Typical value (0.23 BTU.in/hr.ft ² .°F at 75°F Mean Temp.)
Water Vapor Sorption	ASTM C1104/ C1104M	<5% weight-120°F (49°C), 95% R.H.
Compressive resistance	ASTM C165	Min. 25 lbs/ft ² (1197 Pa) (at 10% deformation) Min. 90 lbs/ft ² (4309Pa) (at 25% deformation)
Surface Burning Characteristics	ASTM E84/UL723 (*)	Meets requirements Class1 FHC25/50, UL File R18971
Corrosiveness	ASTM C665 / ASTM C795	Meets requirements
Rigidity	ASTM C1101 /C1101M	Classified as Semi-rigid
Linear Shrinkage	ASTM C356	<2% at 454°C (850°F)
Fungi Resistance	ASTM C1338	Meets requirements

PROPERTIES	STANDARD	DESCRIPTION
Odor Emission	ASTM C1304	Meets requirements
Energy efficiency of industrial thermal insulation	NOM-009-ENER-1995	Meets requirements
Thermal insulation at high temperatures surface vessels and piping	NRF-034-PEMEX-2004	Meets requirements
Thermal insulation. Electricity federal commission	CFE-D4500-04	Meets requirements
DBE Content	Oregon State	FREE, Meets requirements

(*) Products without facing.

Data presented below are a guide for the thermal performance of the product, based on qualification requirements on ASTM C612 Type II compared with a point of thermal performance on product in reference (INSULQUICK).

ASTM C612 Type II			
TEMPERATURE		THERMAL CONDUCTIVITY	
°F	°C	BTU.in/hr.ft ² .°F	W/m.°C
25	-3.89	0.21	0.030
75	23.89	0.25	0.036
100	37.78	0.27	0.039
200	93.33	0.35	0.050
300	148.89	0.44	0.063
400	204.44	0.55	0.079
500	260.0	0.7	0.101



INSULQUICK FGC			
TEMPERATURE		THERMAL CONDUCTIVITY	
°F	°C	BTU.in/hr.ft ² .°F	W/m.°C
75	23.89	0.23	0.033

THERMAL PERFORMANCE AT DIFFERENT SERVICE TEMPERATURES (*)							
SERVICE TEMPERATURE		INSULATION THICKNESS					
		1,5 in	2 in	3 in	4 in	6 in	8 in
250 °F	ST (°F)	94,6	90,4	85,7	83,2	80,7	79,3
	HL (Btu/hr/ft ²)	33,39	25,60	17,46	13,25	8,95	6,75
	EFF (%)	92,03	93,89	95,83	96,84	97,87	98,39
400 °F	ST (°F)	116,4	107,7	98,2	93,0	87,4	84,5
	HL (Btu/hr/ft ²)	76,66	58,69	39,98	30,32	20,45	15,43
	EFF (%)	92,45	94,22	96,06	97,01	97,99	98,48
550 °F	ST (°F)	143,4	129,5	114,0	105,5	96,4	91,5
	HL (Btu/hr/ft ²)	137,50	105,20	71,57	54,26	36,58	27,59
	EFF (%)	92,73	94,44	96,22	97,13	98,07	98,54
700 °F	ST (°F)	175,6	155,8	133,5	121,1	107,6	
	HL (Btu/hr/ft ²)	219,90	168,00	114,20	86,58	58,34	
	EFF (%)	93,00	94,65	96,36	97,24	98,14	
850 °F	ST (°F)	212,7	186,5	156,6	139,7	121,2	
	HL (Btu/hr/ft ²)	327,50	250,20	170,00	128,80	86,75	
	EFF (%)	93,27	94,86	96,51	97,35	98,22	

ST=Surface Temperature; HL=Heat Losses per hour; EFF=Insulation Efficiency

(*) 3EPlus V4.1 Software (NAIMA) - Calculations of this computer program are based on tested conductivity values and conditions of Horizontal heat flow, Tank Shell-Horizontal, base metal steel, 75°F ambient temperature and wind speed 5 mph, ASJ jacket, as per ASTM C680. Meets ASTM C585 Rigid and ASTM C612 Type II.

VISUAL STANDARD

CHARACTERISTIC	ACCEPTANCE GUIDE
Color	The product color is yellow. Color can go from light yellow to dark yellow. Color variation does not affect thermal product performance.
Facing and surface Appearance	Surfaces generally must be uniform, hard unpatched (Bakelite). White patch may occur occasionally and / or wet patch, however an occasional patch does not affect thermal performance unless it produces delamination of the product.

PACKAGING

PRODUCT	UNITS/ PACKAGE	AREA/ PACKAGE (m ²)	WEIGHT +/-10% kg/Package
117" x 48" x 1.1/2"	4	14.49	26.37
117" x 48" x 2"	3	10.86	26.60
117" x 48" x 2. 1/2 "	3	10.86	33.23
117" x 48" x 3"	2	7.24	26.57
117" x 48" x 4"	2	7.24	35.40

GROS WEIGHT (kg/package) = NET WEIGHT (kg/package) + 0.6 kg approx.
 PACKAGING: Cardboard lining, Polyethylene and auto adhesive label.

RECYCLED CONTENT

- (1) PI Recycled Content: Post Industrial Recycled Content: Collected from manufacturers or industry.
 (2) PC Recycled Content: Post-Consumer Recycled Content: Collected from end uses.

TOTAL RECYCLED CONTENT	POST INDUSTRIAL RECYCLED CONTENT (1)	POST CONSUMER RECYCLED CONTENT (2)
74.8%	74.8%	0 %

INSTALLATION RECOMMENDATIONS**a. Before Installation**

- All surfaces must be clean, completely dry and covered with anticorrosive painting or any other protective coating according with the operating temperature. During the mounting, the Insulation material should remain always protected of rain and sun.
- In order to facilitate bending of INSULQUICK in tanks of small diameter (<2 m) assemblies, proceed to make cuts in V to form the break points, spaced every 25"

b. Materials

1. Pins o studs previously welded to the Surface to insulate.
2. Rings or metallic supports prefabricated according to tank diameter.
3. Metal strips of 1 inch thick.
4. Metallic sheets of: stainless Steel, smooth aluminum, corrugated or groove, galvanized sheet; used as exterior mechanical protection.

c. During Installation

- Install metallic rings on the tank wall that will support the insulation and the galvanized sheet (aluminum or stainless steel). There are cases where there are supports installed on the equipment, and those elements can have the same function.
- The rings or supports are conformed with plates which have an equal wide to the insulation thickness. These plates are in contact with the tank wall by short stretches of the same plate, welded to the wall of the equipment.
- The rings or supports must be placed approximately 90 centimeters, which is the wide of the metallic sheets.

- To insulate the lid of tank is necessary to install a ring or "flashing" on the limit of the vertical wall and on the board of the lid. This is recommended to support the exterior metallic sheet that goes on the lid of tank and avoid that rain water entering the insulation.
- Once the Insulation is supported over the rings, must be secured to the tank wall with metal strips of 1" wide.
- In case that aluminum is installed, the straps should be quenching H14 and 0.4 mm caliber.
- Once the Insulation is installed, proceed to place the metallic sheet over the rings of support. Moreover, subsection of sheets on longitudinal and traverse joints is made with aluminum screws approximately each 10" to seal those joints. Likewise, it is customary to seal the sheet joints, to prevent water entering the sheet gaskets.

d. Exterior Finishing

On installation exposed to environment, use a smooth aluminum sheet 0.7 mm caliber with quenching or corrugated aluminum 0.5 mm caliber. Also is possible to use stainless Steel Type SS304 or SS316 0.5 mm caliber.

e. Overlaps in the Metallic Exterior Jacket

- In general form (smooth or corrugated sheet), leave a minimum overlap of 2", on longitudinal and traverse joints.
- In case there exist manholes, supports, pipe endings or measuring equipments, joints with those parts must be sealed with a masticque.



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



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LAPEM®

LABORATORIO DE PRUEBAS DE EQUIPOS Y MATERIALES

FIBERGLASS COLOMBIA S.A PROVEEDOR AUTORIZADO

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 asfálticas, 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.

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