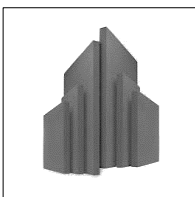
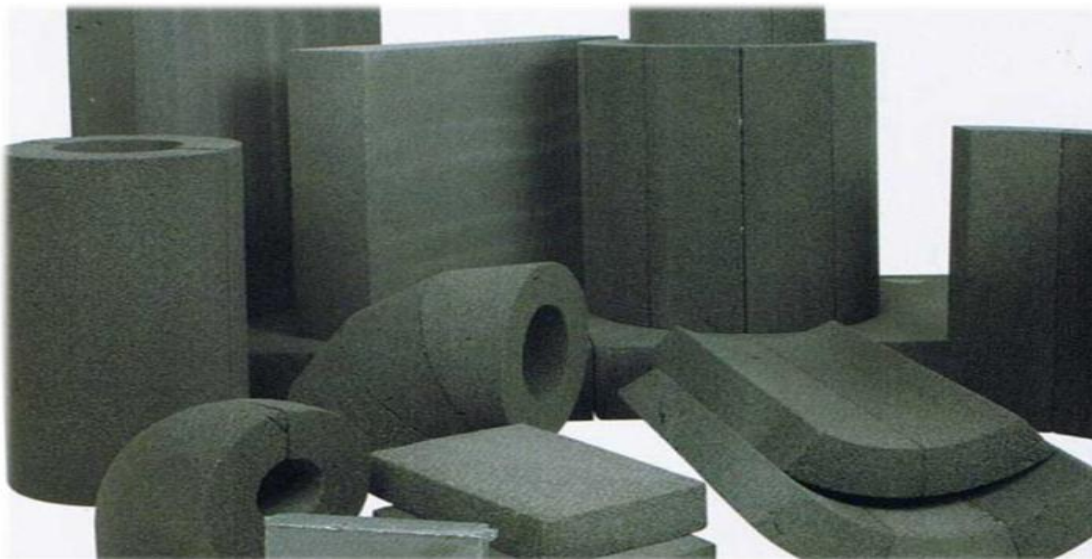


Insultherm[®] Cellular Glass Insulation



P.O. BOX: 326853 | UMM AL QUWAIN | UNITED ARAB EMIRATES

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Insultherm[®] Cellular Glass Insulation

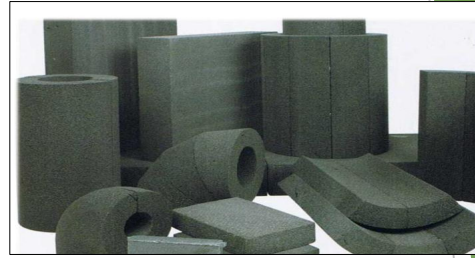
PRODUCT DESCRIPTION

Cellular Glass insulation is rigid, lightweight material containing millions of completely sealed glass cells. This unique cell structure is inherently water resistant and provides a highly effective vapor barrier (will not absorb flammable liquids or vapors). It is also unaffected by common chemicals and by most corrosive environments. The material is available in sectional pipe covering and fittings, board segments for equipment and curved segments for tank wall and head applications. Cellular glass insulation can be applied and coated with a variety of available adhesives and finishes.

PERFORMANCE

High compressive strength, Low thermal conductivity, No water absorption, Zero permeability, High performance barrier, Non-combustible, Non-toxic, Resistant to pets and vermin.

Cellular glass is made of one hundred percent pure glass in a basic block foam. Blocks can be fabricated into wide range of shapes and sizes to the customer requirements such as Pipe Section, Fittings and Slabs etc...



APPLICATION

Low temperature & cryogenic, Cryogenic piping, Chilled and hot water lines, Heat traced pipes & equipment, Hydrocarbon processing, Above and below ground steam lines, Offshore platforms, Cryogenic vessels, equipment & tanks, High temperature pipelines, Asphalt and hot oil storage tanks.


TESTING

Procedural and random testing of Cellular Glass during the manufacturing process ensures the most consistent and high performance insulation reaches our customers. Our in-house testing equipment is Calibrated and certified to ensure ASTM performance and quality of Cellular Glass.

PHYSICAL PROPERTIES OF CELLAR GLASS INSULATION

PHYSICAL PROPERTIES	ASTM		EN ISO	
	SI	ENGLISH	METHOD	METHOD
Density	120 Kg/m ³	7.8 lb/ft ³	C303	EN1602
Thermal Conductivity	W/mK	Btu-in/hr.ft ² .°F		
	0.043 @ 10°C	0.314 @ 50 °F	C177	EN 12667
	0.045 @ 24°C	0.327 @ 75°F	C158	EN 12939
Compressive Strength Block	0.8Mpa	116 Psi	C 165	EN 826
	Strength for flat surfaces With hot asphalt		C240	EN 826
			C552	Method A
Absorption of Moisture (Water % by Volume)	0.20%	0.20%	C240	EN 1609
				EN 12087
Linear Coefficient of Thermal Expansion	9.0 x 10 ⁻⁶ /°F	5.0 x 10 ⁻⁶ /°F	E228	EN 13471
Hygroscopicity	No increase in weight at 90% relative humidity			
Water-Vapor Permeability	0.00 perm-cm	0.00 perm-in	E96 Wet Cup procedure B	EN 12086
				EN ISO 10456
Acid Resistance	Impervious to common acids except hydrofluoric acids			
Capillarity	None			
Combustibility & Reaction to Fire	Non-combustible-will not burn			
	Flame Spread 0		E136	EN ISO 1182
	Smoke Development 0		ASTM E 84	(Class A1)
Composition	Soda-lime silicate glass - inorganic with no fibers or binders			
Dimensional Stability	Excellent - does not shrink, swell or warp			
Flexural Strength,Block	0.48 Mpa	70 psi	C203	EN1604
			C240	EN 12089
				(BS450)
Modulus of Elasticity, Approx	900 Mpa	1.3 x 10 ⁵ psi	C623	EN 826
				Method A1
Specific Heat	0.84 Kj/kg.K	0.18 Btu/lb.°F		
Thermal Diffusivity	4.2 x 10 ⁻⁷ m ² /sec	0.016 ft ² /hr		
Corrosion Protection	Acceptable		C871	
Maximum Service Temperature	482°C	900°F		

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 PSB Singapore

CERTIFICATE OF CONFORMITY

No. CLS2 15 09 93497 002

Certificate Holder: Insultherm Middle East L.L.C
 P.O. BOX: 326853
 Umm Al Quwain
 UNITED ARAB EMIRATES

Product: Thermal Insulation Materials

Brand Name: Insultherm - UAE

Model(s): INSU-PF 50

Product Details: Phenolic foam
 Bulk Density: 45kg/m³
 Thickness: 40mm
 (Rating: Class 0)

Standard(s): BS 476-6:1989/A1:2009
 BS 476-7:1997

Country of Origin: United Arab Emirates



Test Report(s): 7191114692-MEC15/A1-YWA, 7191118960-MEC15-YWA

Issued on: 2015-09-29
Chang
 Vice-President (Certification Department)
 TUV SUD PSB

Valid until: 2018-09-28

Page 1 of 1

This Certificate is part of a full report and should be read in conjunction with it. This Certificate remains the property of TUV SUD PSB Pte Ltd and shall be returned upon request. The use of this Certificate is restricted to TUV SUD Group Testing and Certification Registrations. TUV SUD PSB Pte Ltd (PSB) Application Fees include TUV SUD Group Testing and Certification Registrations, TUV SUD PSB Pte Ltd (PSB) Application Fees, General Terms and Conditions of Business and PSB Product Listing Scheme (PLS) Application Fees. The manufacturer is solely responsible for compliance of any product that has the same designation as the product type tested. Persons relying on this Certificate should verify its validity by checking TUV SUD PSB's website at www.tuv-sud-psb.hq

TUV SUD PSB Pte Ltd - 1 Science Park Drive - Singapore 118271

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 PSB Singapore

CERTIFICATE OF CONFORMITY

No. CLS2 15 09 93497 001

Certificate Holder: Insultherm Middle East L.L.C
 P.O. BOX: 326853
 Umm Al Quwain
 UNITED ARAB EMIRATES

Product: Thermal Insulation Materials

Brand Name: Insultherm - UAE

Model(s): INSU-PIR 50

Product Details: Polyisocyanurate Foam
 Bulk density: 53kg/m³
 Thickness: 40mm
 (Rating: Class 1)

Standard(s): BS 476-7:1997

Country of Origin: United Arab Emirates

Test Report(s): 7191114692-MEC15/B1-YWA

Issued on: 2015-09-29
Chang
 Vice-President (Certification Department)
 TUV SUD PSB


Valid until: 2018-09-28

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TUV SUD PSB Pte Ltd - 1 Science Park Drive - Singapore 118271


Certificate of Assessment
 Awarded to
INSULTHERM MIDDLE EAST LLC
 at
 P.O. BOX NO: 326853, UMM AL QUWAIN, UAE

Quality Registrar Systems certify that the management system of the above organization has been audited and found to be in compliance with the QRS requirements for registration of the management system standard detailed below:


ISO 9001:2008


Quality Management Systems


Scope of work


MANUFACTURING AND SUPPLY OF HIGH QUALITY PHENOLIC FOAM (PF), POLYISOCYANURATE (PIR), POLYURETHANE (PUR), CELLULAR GLASS, CALCIUM SILICATE, PIPE, DUCT, SLAB, WALL & ROOF INSULATION, PRE-INSULATED PIPES AND FITTINGS FOR UNDERGROUND/DISTRICT COOLING PIPING, PHENOLIC FOAM/POLYISOCYANURATE PRE-INSULATED AIR DUCT PANELS AND INSULATION ACCESSORIES

Certificate No: AMU-1007
 Originally Registered: 25 OCT 2015
 Latest Issue: 25 OCT 2015
 Valid up-to: 24 OCT 2016


 Quality Registrar Systems


MANAGING OFFICE ADDRESS:
 Quality Registrar Systems
 P.O. Box 26428
 United Arab Emirates


 ASCRIE
 Accredited
 Quality
 System
 Institute


 WORLD WIDE CERTIFICATION

Tel: +971-2-6714302
 Fax: +971-2-6741449
 www.qrsys.com

This is an accredited certificate authorized for issue by Accreditation Services for Certifying Bodies (Europe) Limited who have assessed QRS as a Certifying Body for compliance with ISO 17021:2011 Conformity Assessment - Requirements for bodies providing audit and certification of management systems.

