INSU

المدينة للمنتجات الأسمنتية
Al Madina Cement Products

INSU PRODUCTS

Energy-Efficient & Cost-Effective Building with INSU Bioclimatic Solutions

Pre-mixed thermal insulating ultra lightweight mortars made by virgin eps beads technology, selected additives, geopolymers and portland cement

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صُنع في عُمان
Made in OMAN

ABOUT INSU

Insu is the flagship insulation brand of Al Madina Cement Products, a leading cement products company in the Sultanate of Oman, established in 2005. Known for excellence and innovation, Al Madina has become a trusted name in high-quality building materials. Our Insu line offers advanced, energy-efficient insulation solutions specifically designed to reduce energy costs and lower environmental impact, supporting eco-conscious construction projects worldwide. Each Insu product reflects our commitment to sustainability, meeting the needs of modern construction with durable, high-performance materials. By choosing Insu, you enter in partnership with a brand dedicated to building a greener future, where top quality and environmental responsibility come first.

INSU PRODUCTS:

1. **INSU Block:** A durable, lightweight, thermally insulating wall block – for wall applications.

2. **INSU Mortar:** A high-performance, lightweight, thermally insulating binding mortar for connecting masonry blocks – for wall applications.

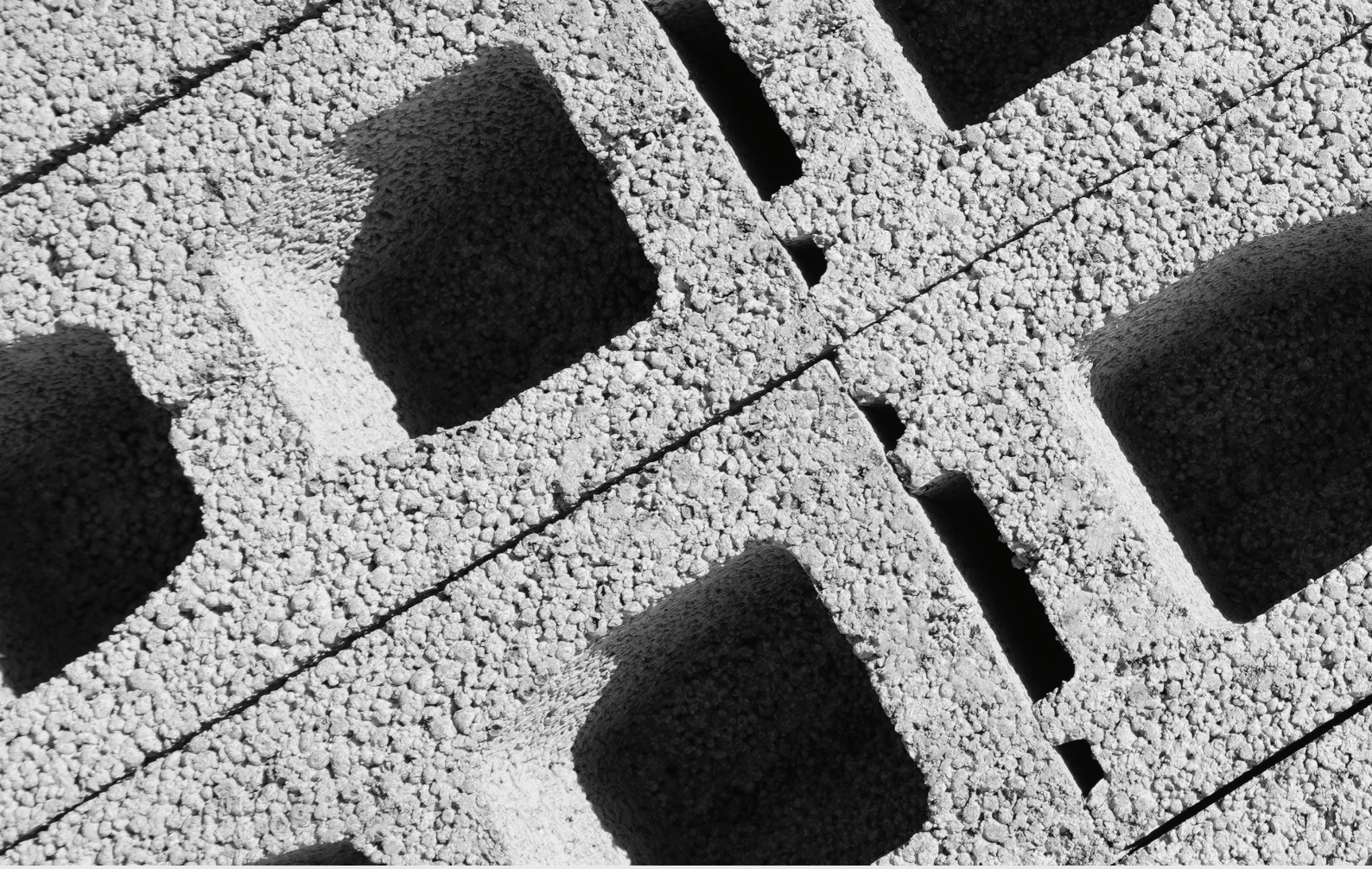
3. **INSU Plast:** A high-performance, lightweight, thermally insulating plaster for wall applications.

4. **INSU Crete:** A durable, ultra-lightweight, thermally insulating concrete for combined slope formation and insulation – ideal for industrial and concrete roofs, and flooring systems.

Benefits of INSU Products

INSU thermal insulation products offer numerous advantages that make them a smart and sustainable choice in construction:

- Energy Efficiency
- Noise Reduction
- Fire Resistance
- Quick Return on Investment
- Improved Building Lifespan
- Less Carbon Footprint
- Moisture Control
- 20 Years Warranty
- Breathability
- Lightweight
- Durability
- Cost Savings

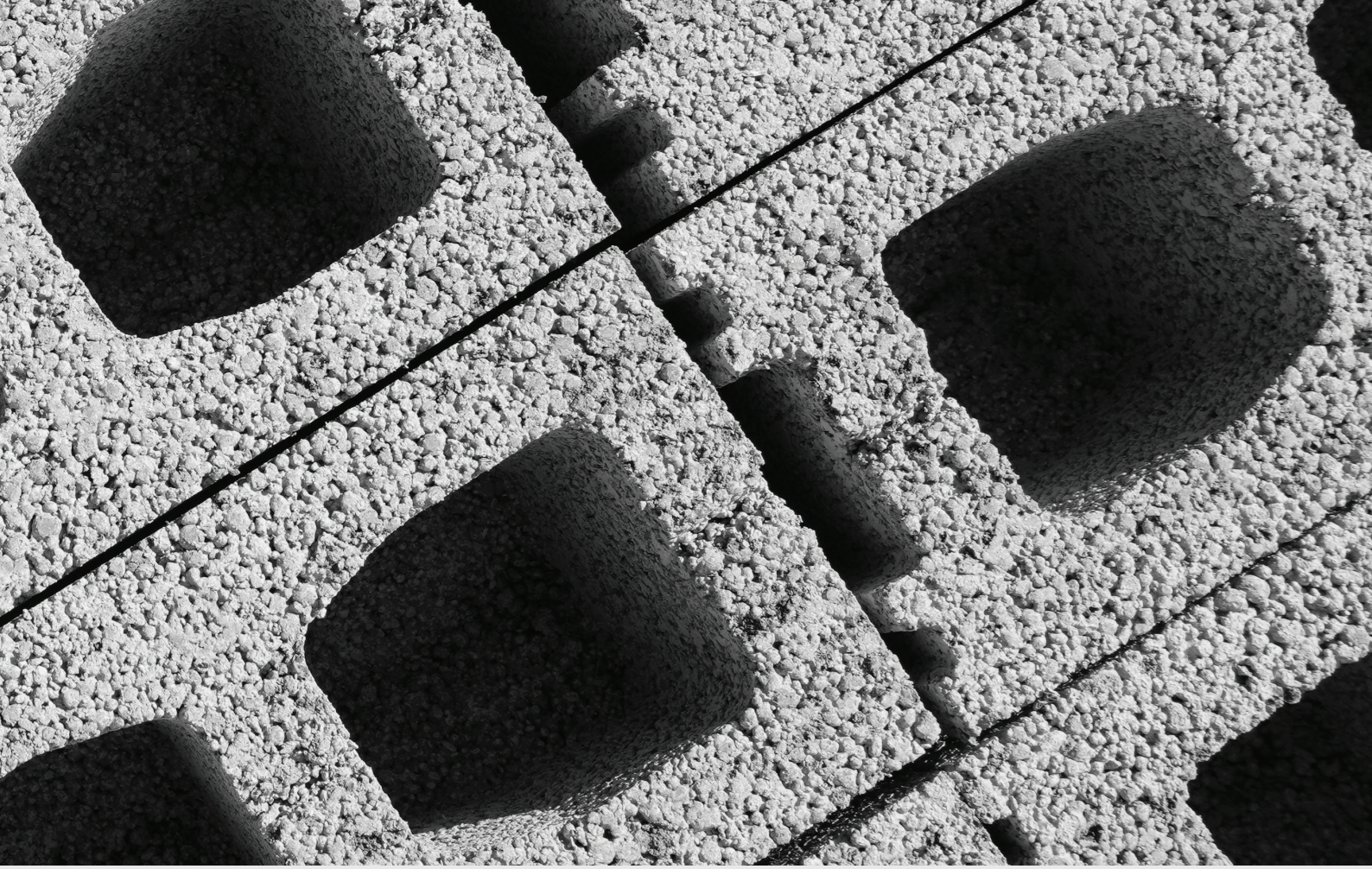


INSUBLOCK

Offers exceptional thermal insulation, superior soundproofing, strong acoustic resistance, high durability, and reliable fire resistance.
These combined advantages make it an excellent choice for sustainable, energy-efficient building envelopes, ensuring long-lasting performance and structural stability for up to 20 years.

Technical Specifications

Weight starting from 12 kg per unit 20x20x40 cm
Thermal Conductivity value λD: 0.12 W/mK
Compressive strength: Up to 9.1 MPa



Technical Specifications	InsuBlock (Economic)	InsuBlock (Premium)
Block Weight (kg)	15	12
Thermal Conductivity (W/m·K)	0.13	0.11
Thermal Resistance (m^2·K/W)	1.77	2.05
Thermal Transmittance (U-value) (W/m^2·K)	0.56	0.487

PERFORMANCE ASPECTS

Soundproof Heatproof Lightweight Easy to install Fireproof

INSUCRETE

INSUCRETE is a durable, ultra-light-weight thermal insulation concrete designed not only for slope formation and insulation on concrete roofs, metal decks, corrugated sheets, domes and declined surfaces; but also as versatile, golden-key solution for a wide range of architectural and engineering needs.

Driven by project requirements, it can be tailored for filling voids (e.g., sunken slabs), floor level raising, lightweight subflooring, sound insulation between floors, waterproofing materials, and offers a wide range of application flexibility.

INSUCRETE is available in multiple densities starting from 200 kg/m³, each offering unique performance characteristics while maintaining the same core benefits of uniform consistency, monolithic, and long-term integrity.

Technical Specifications

Dry density: 250 Kg/m³
Thermal Conductivity value λD: 0.0591 W/mK
Compressive strength: 1.4 MPa

INSUCRETE THICKNESS	PERFORMANCE m2 / Bag	R value m2.k/W
5 cm	1.1 m^2	0.85
6 cm	0.92 m^2	1.01
7 cm	0.79 m^2	1.18
10 cm	0.55 m^2	1.69
15 cm	0.37 m^2	2.54
20 cm	0.28 m^2	3.38

PERFORMANCE ASPECTS

Soundproof Heatproof Lightweight Easy to install Fireproof

INSUPLAST

INSUPLAST is a next-generation thermal insulating plaster engineered to outperform traditional systems (external insulation and finishing systems).

Unlike other solutions that rely on multiple layers, complex installation, and limited finishing options, INSUPlast delivers high thermal insulation, sound dampening, breathability, and fire resistance – all in a single, easy-to-apply layer.

It simplifies construction, reduces costs, and offers complete flexibility in surface finishes, making it the smarter and more efficient choice for modern external and internal wall insulation.

Technical Specifications

Dry density: 330 Kg/m^3

Thermal Conductivity value λD: 0.0599 W/mK

Compressive strength: Up to 1.65 MPa

PERFORMANCE ASPECTS

Soundproof | Heatproof | Lightweight | Easy to install | Fireproof

INSUPLAST THICKNESS	PERFORMANCE m2 / Bag	R value m2.k/W
20 mm	2.75 m^2	0.33
30 mm	1.83 m^2	0.50
40 mm	1.375 m^2	0.67
50 mm	1.1 m^2	0.83
60 mm	0.92 m^2	1.00
70 mm	0.79 m^2	1.17

INSUMORTAR

INSUMORTAR is a high-performance, lightweight bonding mortar that provides strong adhesion between insulating blocks while delivering excellent thermal insulation, sound dampening, breathability, and fire resistance – all in one product.

It is also ideal for filling electrical, plumbing, and mechanical chases, offering a durable and cost-effective alternative to traditional mortars with a thermal performance warranty of up to 20 years.

With a low thermal conductivity of 0.091 W/m·K and enhanced compressive elasticity, INSUMORTAR helps eliminate thermal bridges and improves a building's earthquake resistance and overall thermal efficiency.

Technical Specifications

Dry density: 1000 Kg/m^3

Thermal Conductivity value λD: 0.091 W/mK

Compressive strength: Up to 5 MPa

PERFORMANCE ASPECTS

Soundproof | Heatproof | Lightweight | Easy to install | Fireproof

INSU Products Driving Oman's In-Country Value (ICV) Growth

Enhancing Local Manufacturing and Industrial Growth

* INSU products are locally made, reducing imports and boosting industry.

* They support construction with energy efficiency, better supply chains, and lower costs.

Energy Efficiency and Cost Savings

* INSU thermal solutions minimize heat flow into buildings, reducing cooling loads, energy use, and stress on the national grid.

* Aligned with Oman Vision 2040, INSU solutions enhance sustainable construction by reducing energy use and carbon emissions – supporting a greener, less fuel-dependent future.

Environmental Sustainability

* INSU products reduce energy use and CO_2 emissions, supporting Oman's 2050 net-zero targets.

* Their durable, fire-resistant, recyclable, and lightweight design minimizes environmental impact across the product lifecycle.

Job Creation and Workforce Development

* INSU solutions create jobs and support skill development in the construction sector.

* By reducing energy demand, they ease pressure on the grid and support innovation and industrial growth.

Economic Diversification and Export Potential

* NSU products strengthen Oman's economic diversification by advancing local manufacturing and sustainable building solutions aligned with Vision 2040.

* Their lightweight, export-ready design reduces reliance on imports and boosts non-oil industrial growth, enhancing long-term economic resilience.

Innovation and Technological Advancement

* INSU products use advanced technology and sustainable materials, making Oman a leader in innovative construction.

* They promote local manufacturing growth and enhance Oman's competitiveness in global sustainable building technologies.

Commitment to Excellence

At Al Madina Cement Products, our Research and Development (R&D) department is dedicated to advancing sustainable building solutions that align with Oman Vision 2040. Through continuous innovation and rigorous testing, we ensure that our Insu thermal products lead the industry in energy efficiency, durability, and environmental impact reduction. Our mission is to develop cutting-edge, cost efficient materials, that provide superior insulation while contributing to a greener planet.

Meet Our Expert Konstantinos Elftheriadis

Mr. Konstantinos Elftheriadis, our Research and Development Manager and Product Creator, brings vast experience in the construction field. His expertise and research in innovative building materials and sustainable solutions during the last decade has been instrumental in the development of Insu thermal products in projects as the German University in Cairo, American International School, several residential compounds, headquarters of Multinational companies, Al Futtaim Group and others. Under his leadership, our R&D department continues to push the boundaries of insulation technology to enhance energy efficiency and environmental sustainability.

The Role of Insu Thermal Products in Energy Efficiency

INSU thermal products are engineered to deliver superior thermal insulation performance, effectively reducing operational energy demands in buildings.

The integrated system of INSU thermal solutions creates a continuous 360° thermal barrier between exterior and interior environments, specifically designed for the high temperatures and humidity levels of GCC climates.

By significantly minimizing heat transfer, our systems help maintain cooler indoor environments during summer and more stable comfort in winter.

Studies on comparable insulation systems, along with our tested U-values, show that INSU solutions can substantially reduce the energy required for air conditioning and heating—resulting in measurable savings and enhanced indoor comfort throughout the year.

Key Energy-Saving Benefits

Reduced Heat Penetration

High thermal resistance minimizes heat transfer, ensuring year-round indoor comfort.

Sustainable Performance

INSU materials maintain their insulation efficiency for decades, providing lasting energy savings.

Lower HVAC Load

By reducing thermal loads, our systems enable smaller, more efficient HVAC equipment—cutting energy use, equipment costs, and maintenance.

Enhanced Thermal Resistance

INSU's thermal performance reduces reliance on air conditioning, lowering electricity consumption and improving comfort.

Environmental Sustainability A Greener Tomorrow

At Al Madina Cement Products, sustainability drives our innovation. Our INSU thermal blocks, mortars, plasters, insulating tiles, and lightweight systems use eco-friendly materials that save energy and reduce carbon emissions. Even our paving products—like INSU LOCK—are moving toward greener formulations through optimized blends and durable designs that minimize environmental impact.

Alignment with Oman Vision 2040

Eco-Friendly Infrastructure

Our materials contribute to sustainable urban development, enhancing building longevity while reducing environmental degradation

Sustainable Energy Use

Insu products promote lower energy consumption, supporting Oman's transition to an energy-efficient economy.

Carbon Neutral Goals

By advocating for green construction practices, we play a crucial role in reducing greenhouse gas emissions and meeting sustainability targets

Innovation-Driven Growth

Our R&D efforts focus on next-generation insulation solutions, aligning with Oman's commitment to scientific and technological advancement

Partnering for a Sustainable Future

As part of our corporate social responsibility, we collaborate with environmental agencies, government bodies, and academic institutions to drive sustainable practices across the construction sector. By fostering innovation and prioritizing eco-conscious solutions, we contribute to a future where green building is the norm, not the exception.

How Insu Products Support Environmental Protection

Reduction in Carbon Emissions

INSU systems lower CO_2 emissions by reducing electricity demand through superior insulation, while their lightweight EPS-based design cuts embodied carbon in production and transportation.

Eco-Friendly Materials

INSU products use EPS – a 98% air, low-energy, steam-processed material – combined with geopolymers, recycled aggregates, and local minerals, reducing reliance on OPC and supporting LEED and green building certifications.

Waste Reduction

INSU materials are 100% recyclable, allowing reuse at end of life and minimizing landfill waste. Our R&D team continues to integrate recycled content and industrial by-products to enhance sustainable resource management.

Oman Vision 2040 and Sustainable Development

Oman Vision 2040 highlights the need for environmental stewardship, renewable energy integration, and green building solutions. Our Insu thermal products support these national objectives by fostering energy-efficient and climate-responsive construction.

INSUBLOCK
Thermal Certificate

LONESTAR ALPHA LABORATORIES

TEST CERTIFICATE - THERMAL CONDUCTIVITY

Report No.	LMCIV-2400618/ 4	Date Reported	25 Jan 2024
Customer Ref.	-	Date Received	23 Jan 2024

1. Information Provided by the Customer

Customer for LAL	Al Madina Cement Products
Project	General
Project Customer	General
Main Contractor	General
Consultant	General
Sample Description	8" Bottom Closed Light Weight (EPS Block)

2. Sample Details

Sampled By	Customer	Casting Date	Not Given
Sampling Method	Not Given	Source of sample	Al Madina Cement Products LLC
Sample Brought By	Customer	Sampling Certificate	Not Given
Sampling Location	Not Given	Sampling Certificate No.	Not Given

3. Information Provided by Laboratory

Date Tested	24 Jan 2024 – 25 Jan 2024	Test Method	ASTM D 5334:14
Sample No.	CIV-00618/4	Method Variation	Nil
Test Location	LAL MCT	Remarks	Nil

4. Test Result

Equipment Name	Thermal Conductivity w/m K	Temp. °C
KD_2 Pro	0.131	23.2

End of Report

C.R. No. 3245330 LONESTAR P.O. Box 1197 P.C. 130 16 LONESTAR ALPHA LABORATORIES LLC

For and on behalf of Lonestar Alpha Laboratories
Muscat

Naresh Paladugu
Civil Manager

INSUBLOCK
Thermal Certificate

LONESTAR ALPHA LABORATORIES

TEST CERTIFICATE - THERMAL CONDUCTIVITY

Report No.	LMCIV-2405744/1	Date Reported	24 Jul 2024
Customer Ref.	Insublock-12Kg	Date Received	17 Jul 2024

1. Information Provided by the Customer

Customer for LAL	Al Madina Cement Products LLC
Project	Insu Product Based On Closed Cell Vergin Eps Cement Mortar
Project Customer	General
Sample Description	8" Light Weight Bottom Closed Block – Insublock-12Kg - Thermal Insulation Hollow Block for Masonry Applications

2. Sample Details

Sampled By	Customer	Casting Date	Not Given
Sampling Method	Not Given	Source of sample	Not Given
Sample Brought By	Customer	Sampling Certificate	Not Given
Sampling Location	Not Given	Sampling Certificate No.	Not Given

3. Information Provided by Laboratory

Date Tested	17 Jul 2024	Test Method	ASTM C 518 :21
Sample No.	CIV-05744/1	Method Variation	Nil
Test Location	Laboratory at Samil	Remarks	Nil

4. Test Result

Size of Portion Tested (mm)	Density (kg/m³)	Actual Specimen Thickness (mm)	Run Time (sec)	Temp. (°C)	Avg. Thermal Conductivity (W/mk)
192 x 191 x 190	750	187.27	3600	34.8525	0.112697

---------- End of Report ----------

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For and on behalf of Lonestar Alpha Laboratories
Muscat

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Supervisor

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INSUCRETE
Thermal Certificate

LONESTAR ALPHA LABORATORIES

TEST CERTIFICATE - THERMAL CONDUCTIVITY

Report No.	LMCIV-2405744/4	Date Reported	24 Jul 2024
Customer Ref.	Insucrete - 250	Date Received	17 Jul 2024

1. Information Provided by the Customer

Customer for LAL	Al Madina Cement Products LLC
Project	Insu Product Based On Closed Cell Vergin Eps Cement Mortar
Project Customer	General
Sample Description	Insucrete – 250 - Thermal Insulation Roofing & Flooring Lightweight Concrete

2. Sample Details

Sampled By	Customer	Casting Date	Not Given
Sampling Method	Not Given	Source of sample	Not Given
Sample Brought By	Customer	Sampling Certificate	Not Given
Sampling Location	Not Given	Sampling Certificate No.	Not Given

3. Information Provided by Laboratory

Date Tested	17 Jul 2024	Test Method	ASTM C 518 :21
Sample No.	CIV-05744/4	Method Variation	Nil
Test Location	Laboratory at Samil	Remarks	Nil

4. Test Result

Size of Portion Tested (mm)	Density (kg/m³)	Actual Specimen Thickness (mm)	Run Time (sec)	Temp. (°C)	Avg. Thermal Conductivity (W/mk)
228 x 227 x 52	230	50.73	1800	34.8825	0.0591567

---------- End of Report ----------

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