

Innovative **Building Materials**
with Tomorrow's Technology

AL KHAJAH FACTORIES WLL
JAMERSH INSULATED PLASTER TECH SHEET



JAMERSH INSULATED PLASTER

“Al Khajah’s insulation solutions proficiently shield buildings from heat transfer and noise pollution, enhancing the comfort and functionality within structures.”



The innovation of Al Khajah’s Insulated Plaster introduces a versatile, cohesive solution, allowing the adaptability and customization necessary to fulfill diverse requirements. This technology efficiently meets energy guidance laws for existing buildings by providing retrofit options, as well as catering to new construction projects that necessitate optimum insulation properties to augment the performance of the building’s envelope.

Our cutting-edge formulation combines the expanded Perlite as an insulating aggregate unique blend, creating breathable, lightweight application options offering substantial improvements in thermal and acoustic insulation for both internal and external walls but can also endure temperatures of up to 1250°C without compromising its structural integrity. The distinctive open-cell, honeycomb structure of the expanded Perlite forms a thermal resistance barrier that significantly minimizes heat and sound transmission when utilized as an external render or an internal plaster. One of its key

attributes is high vapor-permeability, allowing the structure to breathe, reducing the risk of damage from moisture build-up and mold growth. Through the amalgamation of its porous structure our insulated plaster ensures that the building retains its breathability. As a result, it effectively eliminates the conditions that lead to the formation of condensation and humidity, which can create unhealthy living spaces and facilitate mold growth. This feature, as crucial as thermal insulation for maintaining a healthy living environment, is one of the numerous benefits offered by Al Khajah’s product line. With its low density characteristics and its unique physical structure.

Our insulated plaster maintains a comfortable home temperature throughout the year - warm during winter and cool in the summer. It provides excellent protection against the potential damages caused by condensation, making it a cornerstone for building support and longevity.



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Applying a single 20mm coat of our wall plaster render to a bare masonry wall will result in a remarkable 250% improvement in the wall's thermal resistance.

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Effective building insulation is crucial for ensuring the longevity and durability of structures. One prominent issue faced by buildings is poor insulation, which can lead to various detrimental effects over time. Adapting Al Khajah Insulated Plaster buildings can enjoy extended lifespans and heightened resilience against the damaging effects of time.

Al Khajah offers high-quality insulation solutions that surpass industry standards due to their exceptional properties, buildings are effectively shielded from heat transfer and noise pollution. These products contribute to the creation of lighter, breathable structures that exhibit enhanced fire resistance. What sets Al Khajah apart is not only the superior performance of its products but also its commitment to environmental sustainability.

The company’s insulation products are composed of natural and ecofriendly materials, providing long-lasting solutions, ensuring the longevity and resilience of structures in both traditional and inorganic construction methods.





INSULATED PLASTER

TECHNICAL SPECIFICATIONS

ESSENTIAL CHARACTERISTICS	DETAILS
Colour & appearance	Grey granule
Yield	approx. 2.5m ² /25kg @ 20mm
Drying time	8 hours (at 23°C, 50% relative humidity)
Application temperature	5° – 35°C
Applicable depth	Minimum 10mm, maximum 35mm



INSULATED PLASTER

DESCRIPTION

The IP 33-T product utilizes expanded Perlite as an insulating aggregate to create a render/plaster solution that offers notable improvements in strength, thermal insulation, and acoustic insulation for both internal and external walls. This lightweight material features an open cell, honeycomb structure that acts as a thermally resistant barrier, effectively reducing heat and sound transmission when applied as an external render or internal plaster.

Additionally, the high vapor permeability of this system allows for proper breathability, minimizing the potential risks associated with moisture damage and the growth of mold.

MIXING METHOD

- To prepare IP 33-T, it is recommended that one 25Kg bag of the product be mixed with 10-12 litres of water in a sufficiently large container.
- The mixing process involves pouring 80-90% of the water along with the 25Kg bag into the container, and then the mixture should be mixed at a speed of 100-150rpm using a mixer. It is important to note that the mixing process should not exceed a duration of 3-4 minutes to avoid crushing the insulating aggregate.
- To achieve the desired consistency, the remaining water can be gradually added. After this, it is advised to allow the mixture to rest for 2 minutes before further mixing for an additional minute.
- Do not add water to the mix once the mixed mortar starts to harden.

USAGE

IP 33-T is a versatile solution that can be effectively incorporated into insulation/facade systems in new construction projects or used as a valuable thermal upgrade measure for older properties. The product is conveniently supplied in 25kg bags for on-site mixing with water, allowing for easy application as a straightforward render or plaster base coat. Optional color that has been imbedded into our plaster available on request.

APPLICATION

To achieve optimal results when applying IP 33-T insulated plaster, it is recommended to apply a single or multiple layers on rough surfaces. On smooth surfaces, it is advised to apply the plaster subsequent to the application of a splatter dash coat, the surface should be cleaned with water, and a rush coat should be made with cement and water with a ratio of 0.45., it is essential to rod or level the plaster to ensure a uniform thickness, followed by smoothing the material to attain the desired appearance. In the case of multiple layers, it is important to allow the first coat to partially dry for a period of 60-120 minutes, dependent on the prevailing weather conditions. Subsequently, the second coat should be applied to the specified thickness to adhere with ASTM C926 procedures to achieve optimal layer application results, irrespective of weather conditions.

CURING

To facilitate the curing process, it is advised to apply water to the surface at intervals of 8-12 hours for a minimum duration of 3 days. In instances of hot and dry conditions, it is recommended to extend the curing period to a minimum of 5 days. This approach is vital in achieving high mechanical strengths and reducing the likelihood of surface cracks.

ADVANTAGES

Light Weight

High Thermal Insulation

Fire Resist

Sound Resist

Energy Savings

Cost Savings

Fast Application

Durable/Strong

ECO Friendly

Non Toxic

TECH SHEET

“Enhance building efficiency with Jamersh Insulated Plaster, combining superior thermal performance and energy savings through advanced materials like Expanded Perlite to stabilize indoor temperatures and reduce HVAC requirements”



Jamersh Insulated Plaster is a specialized blended material, available in 20 kg bags, which consists of Ordinary Portland Cement (OPC), Expanded Perlite, PCE powder, and bonding agent admixtures. The preparation of this plaster requires only the addition of water on-site. Prior to plastering, the surface must be thoroughly cleaned and prepared by creating a rough texture using a rush coat made solely of cement. This plastering process offers significant benefits in terms of thermal insulation and sound insulation for both existing and new construction projects. The thickness of the plaster application varies in accordance with the specific thermal guidance laws of different countries.

The Jamersh Insulated Plaster is an advanced building material that provides excellent insulation properties due to its unique composition. The use of OPC ensures the strength and durability of the plaster, while expanded perlite acts as an insulating agent

that traps air pockets within its structure. PCE powder (Polycarboxylate Ether) serves as a high-performance superplasticizer that enhances the workability and flowability of the plaster mixture. Bonding agent admixtures are added to improve the bond strength between the plaster and substrate.

The use of Jamersh Insulated Plaster offers numerous advantages for both new construction projects and renovations of existing buildings. Its superior insulation properties help maintain consistent indoor temperatures, reducing energy consumption for heating or cooling systems while also contributing to improved sound insulation between rooms or floors.

These benefits contribute significantly to increased comfort levels for occupants while also reducing overall energy costs over time.

Experience ease of application with our advanced plaster formula. The inclusion of Polycarboxylate Ether ensures smooth, effortless plastering, making your building process quicker and more efficient

AUTHORATIVE SOURCES

Thermal Insulation in Building Construction: Materials and Techniques” - Elsevier Science & Technology Books, 2018

Building Physics: Thermal Insulation” - Springer Nature Switzerland AG, 2019

Building Construction & Design Magazine International Journal of Concrete Structures and Materials

National Institute of Standards and Technology (NIST)

BuildingGreen: BuildingGreen is a reputable source for information on sustainable building practices and materials.

Construction Technology Laboratories (CTL): CTL is known for conducting research on construction materials and technologies.

American Society for Testing and Materials (ASTM): ASTM sets standards for construction materials testing and evaluation processes.

International Building Code (IBC) - IBC sets standards for building construction practices, including requirements for thermal insulation in structures.

INSULATED PLASTER

THERMAL INSULATION

The unique blend of Jamersh Insulated Plaster, which includes Expanded Perlite, helps in providing thermal insulation to buildings. This can result in energy savings by reducing the need for heating or cooling systems, thus making the building more energyefficient.

ACCOUSTIC PERFORMANCE

Jamersh Insulated Plaster also offers sound insulation properties. This can help in reducing noise transmission between different areas of a building or from external sources, creating a more peaceful indoor environment.

FIRE RESISTANCE

Jamersh Insulated Plaster has excellent fire resistance properties. Ordinary Portland Cement (OPC) with a combination of Expanded Perlite, when properly mixed and applied, can provide a degree of fire protection to the building structure. This can be crucial in enhancing the safety of occupants and preventing the spread of fires within a building.

EASE OF APPLICATION

The composition of Jamersh Insulated Plaster in 25 kg bags simplifies the application process. With only water needing to be added on-site, along with proper surface preparation, such as cleaning and roughening with a rush coat, the plastering process becomes straightforward and efficient.

VERSATILITY

This type of plaster can be used for both existing and new construction projects. Its adaptability to various building types makes it a versatile choice for contractors and builders looking to enhance both thermal and sound insulation properties in their structures.

ADVANTAGES

COMPLIANCE WITH THERMAL GUIDANCE LAWS

By varying the thickness of the plaster according to the specific thermal guidance laws of the country or region, Jamersh Insulated Plaster ensures that buildings meet the required standards for thermal performance. This compliance is essential for ensuring energy efficiency and comfort within the built environment.

LOW THERMAL CONDUCTIVITY (K-VALUE)

With a low thermal conductivity value of 0.08 W/m.K, Jamersh Insulated Plaster effectively reduces heat transfer through walls or ceilings. This property contributes to maintaining stable indoor temperatures and improving overall thermal comfort.

COST EFFECTIVE SOLUTION

Investing in Jamersh Insulated Plaster can lead to long-term cost savings due to its energy-efficient characteristics. By reducing the reliance on mechanical heating and cooling systems, building owners can potentially lower their utility bills over time.

DURABLE AND LONG LASTING

Properly applied Jamersh Insulated Plaster can contribute to the durability of a building’s structure. Its protective layer can help shield the underlying materials from environmental factors, extending the lifespan of the building.

LONGEVITY/LIFESPAN

When applied correctly following the recommended guidelines, Jamersh Insulated Plaster can contribute to the longevity of building structures. Properly insulated walls are less prone to moisture infiltration and subsequent damage, which can extend the lifespan of the building.

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