TECHNICAL DATA SHEET

THERMOSHIELD Insulation Mortar

COMPANY INFORMATION

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PRODUCT NAME

THERMOSHIELD 2 in 1 Insulation Mortar

PRODUCT DESCRIPTION

Thermoshield is a high quality heat insulating mortar designed for concrete surfaces. It reduces heat absorption and heat transfer by 140%, thus achieving and maintaining a cooler room temperature. It also buffers & reduces sound transmission whereas regular mortar allows sound to travel directly through walls & ceilings. Its low volume expansion characteristics make it non-combustible. When subjected to high temperatures, heat & flame cannot penetrate Thermoshield's surface as easily compared with ordinary plaster. Thermoshield weighs approximately 60% less than concrete, thereby reducing the cost of structural reinforcements. It is 7x more resistant to heat transmission than cement plaster resulting in savings on electricity consumption for air conditioning. Its unique water resistant formulation prevents water penetration and serves as an extra protective layer. On rooftops where water ponding can occur, an additional layer of cementitious waterproofing such as Aquashield Plus is required.

PROPERTIES

- Water resistant
- Heat resistant
- Reduces heat absorption
- Conserves energy
- Reduces noise
- Fire retardant
- Light weight
- Direct application
- Economical & saves energy
- Eco-friendly (no harmful chemicals)

CLASSIFICATION STANDARD

☑ ASTM C195 (USA) American Society for Testing and Materials

TECHNICAL DATA

Bulk density		0.370 kg/L
Mortar density after addition of water		800 - 900 kg/m^3
Compressive strength after 28 days		6.12 N/mm^2
Weight of set mortar		400 - 450 kg/m^3
Thermal conductivity (K)*		0.1028 W/m-°C
Over-all heat transfer coefficient (U)*		0.36 W/°C
Resistance value (R)*		2.78 °C/W
Grade		0/2/mm
Coverage (2.5cm application thickness)		2 m^2/23 kg bag
Wall application thickness		2.5 cm
Double wall application thickness		5 cm - 10 cm
Roofdeck application thickness		2.5 cm - 5 cm
Pot life		3 hours
Curing time	Roofdeck	14 days (minimum)
	Wall	7 days (minimum)

**Values are based on 2.5 cm (1") thick air dried samples.*

SURFACE PREPARATION

Concrete surface must be fully cured, structurally sound & stable, level, clean and free of paint and contaminants such as dirt, dust, loose material, oils, chemicals, etc. Dampen substrate before Thermoshield application.

Substrate	Surface Preparation
New concrete	Concrete must have cured for 14 - 28 days
Painted concrete	Abrade paint (w/ steel brush and paint remover)
Polished or waxed surface	Acid etch
Smooth surface	Apply scratch coat to roughen surface
CHB	Direct application

APPLICATION GUIDE

1. Mixing

Use only non-absorptive containers such as plastic pail or a galvanized iron sheet as mixing base. Pour clean water into the mixing base & add 23 kg Thermoshield. Mix for 3 - 5 minutes using an electric mixer to attain a lump-free consistency. Allow mix to stand for 15 minutes. Mix briefly before use. Use within the 3-hour pot life.

Usage	Mixing Ratio	
	Water	Thermoshield
Wall plastering	12 L - 14 L	23 kg
Wall pouring	16 L	
Roof deck		

POT LIFE
3 hours

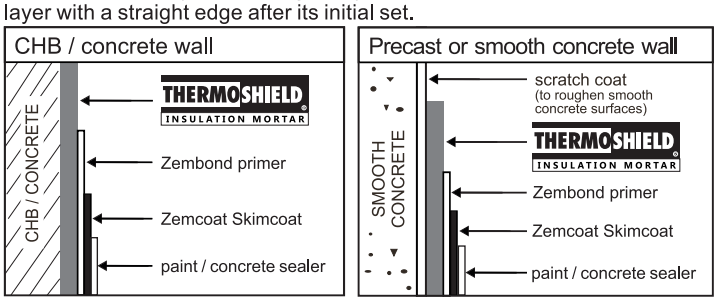
Use electric mixer

2. Application

Protect both the initial and final layers of Thermoshield from direct sunlight for at least 2 days. Damp curing with burlap is advised during summer season. Covering with polyethylene sheets is necessary during rainy season. Curing time: 7 - 28 days (depending on application area)

a. WALL PLASTERING APPLICATION

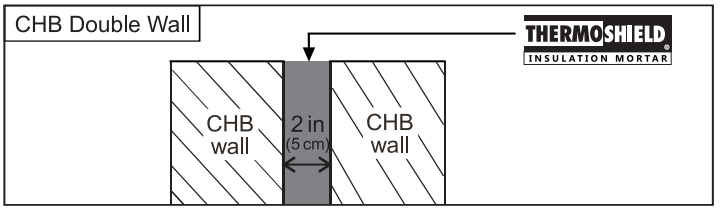
Thermoshield is directly applied on cured concrete walls using a steel trowel just like regular plastering. Surface preparation varies depending on surface condition. For precast or smooth concrete, apply a scratch coat before Thermoshield. For walls that need plaster in excess of 1 inch, apply Thermoshield in layers allowing 1-day interval. Level the additional 1-inch layer with a straight edge after its initial set.



Further finishing for Wall applications:
1. Thermoshield must cure for a minimum of 7 days. For best results, 28 days.
2. Apply Zembond Primer before Zemcoat Skimcoat and finish with paint and/or concrete sealer.

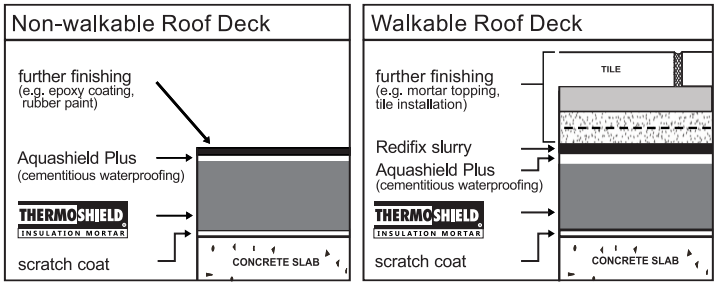
b. DOUBLE WALL APPLICATION

Thermoshield is poured into a 2-inch cavity made of 2 CHB walls to create an insulated double wall.



c. ROOF DECK APPLICATION

Thermoshield is applied 1 - 2 inches on the concrete slab after applying scratch coat.



Further finishing for Roof Deck applications:
1. Thermoshield must cure for a minimum of 14 days. For best results, 28 days.
2. Apply Aquashield Plus (cementitious waterproofing) before further finishing.

For non-walkable roof deck: Apply epoxy coating or rubber paint as further finishing.

For walkable roof deck: Apply Redifix slurry before mortar topping or tile installation as further finishing.

TIP: Laying a wire mesh inside the mortar topping will help avoid possible cracks.

PACKAGING

23 kg multilayer paperbag

CLEANING, SAFETY, STORAGE, SHELF LIFE & WARRANTY

Use clean water to remove excess material on tools before it hardens. Avoid eye exposure & prolonged skin contact. Do not inhale or ingest. In case of irritation, rinse with sufficient water. If symptoms persist, consult your doctor. When stored in a cool, dry place & in its original unopened packaging, Thermoshield Insulation Mortar will remain usable 9 months from date of manufacture. Due to variety of applications, different working methods and the various properties of bases, we cannot assume responsibility or liability with regard to the application of our products. Our guarantee and liability are restricted to the quality of our products at the time of acceptance of the customer of such products. In no case shall our liability extend beyond replacement of defective products, if any, found at the time of acceptance. For all deliveries and services, our General Sales Condition including warranties stipulated for each case are valid.

INNOVATIVE BUILDING SOLUTIONS

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