



Expanded Clay Aggregate (ECA) - TILE

Roof Top Thermal Insulation Tile

Expanded Clay Aggregate (ECA) is a round pellet structure produced by firing natural clay at 1200°C temperature. The result is a hard ceramic, honeycomb structure of interconnected voids within the aggregate.

Expanded Clay Aggregate (ECA) is an extremely light weight and thermally insulating material.

Expanded Clay Aggregate (ECA) Tile is introduced **1st** time in India.

Temperature Difference: up to 11°C (subject to standard conditions applicable)

TECHNICAL PARAMETERS

Expanded Clay Aggregate (ECA) Tile Dimension	Expanded Clay Aggregate (ECA) Tile Unit Weight	Thermal Conductivity	Surface Colour
300 mm X 300 mm X 40 mm app.	3.5 – 4 kgs app.	0.367 W/m.K (ASTM C-177)	Plain White

* High resistance to water absorption

KEY FEATURES

- Improves the thermal behavior of a building and saves electricity consumption.
- High thermal insulation efficiency, which does not change with time.
- Protects from thermal cycling effect and increases the building life.
- Light in weight and strong.
- Easy application and maintenance free.

LAYING

Same as conventional ceramic tile laying technique with 4-5 mm groove between tiles. P.S. Waterproofing is must before laying the tiles.

GROOVE FILL

After setting of Expanded Clay Aggregate (ECA) Tile, fill the joints by mixture of fine sand + normal cement mortar or any other cementitious material.





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Test Certificate Reference

National Laboratory for Testing and Development of Thermal Insulations

A project under the National Facilities in Engineering and Technology with Industrial Collaboration (NAFETIC)
 Scheme of AICTE

Test Type: Determination of thermal conductivity

Test method: Guarded Hot Plate Method as per **ASTM C177**

Specimen Details: Expanded Clay Aggregate (ECA) Roof Insulation Tile

Description of Product: Expanded Clay Aggregate (ECA) Roof Insulation Tile is a composite material made from ceramic tile, cement, Ash and Expanded Clay Aggregates (ECA).

Moisture Content: Nil (Sample preheated at 70°C in oven for 24 hours before testing for thermal conductivity)

Dimensions: 294 mm X 294 mm

Average sample thickness (as tested): 39 mm

Density: 976.79 kg/m³

TEST RESULTS

Mean Specimen Temperature (°C)	Observed Apparent Thermal Conductivity Value (W/m.K)	Observed Resistance Value (m ² .K/W)
30	0.3679	0.106