



SHAPEMATE GREC-A

Total insulation of façade walls

Air humidity in the internal environment of a building depends on its volume, cavity surface and its natural ventilation, as well as, the number of people working or living inside. Thus, internal and external air of a building is a mixture of water and air molecules. This combination leads, under appropriate temperature conditions, into water evaporation, creating humidity. After the damp air chills, saturation point comes to a specific temperature. Therefore, if the surface temperature is under air's condensation value, water vapor condensation occurs in the surface. Furthermore, since the surface temperature of an internal wall is vitally affiliated to its thermal insulation level, water vapor condensation is a result of insufficient insulation.

Using **SHAPEMATE* GREC-A**, façade walls total insulation is achieved, avoiding thermal bridges and providing the necessary high standard thermal comfort in the area, without moulding, surface destruction and aesthetic problems.

SHAPEMATE GREC-A offers the following significant advantages:

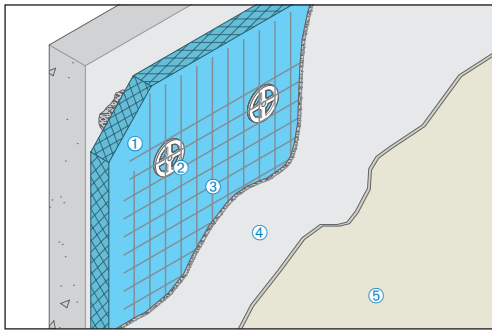
- ◆ Reduction of heat loss providing energy saving (the transmission heatloss can be reduced by cca. 10%),
- ◆ Comfort improvement,
- ◆ Avoidance of mould-growth,
- ◆ Prevention of structural problems as:
 - surface condensation,
 - aesthetic problems,
 - crack formation.
- ◆ The planed and profiled surface of the **SHAPEMATE GREC-A** boards enables high strength adhesion to concrete, plaster, mortars and solvent-free adhesives.

SHAPEMATE GREC-A insulation boards are

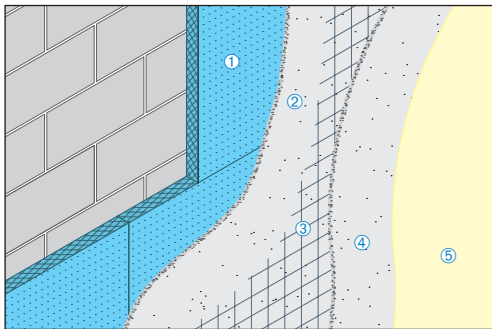
- ◆ not sensitive to moisture,
- ◆ frost resistant,
- ◆ resistant to mechanical impacts, therefore retain the high insulation value and strength during and after the construction period for the whole life of the building.

* Trademark of The Dow Chemical Company

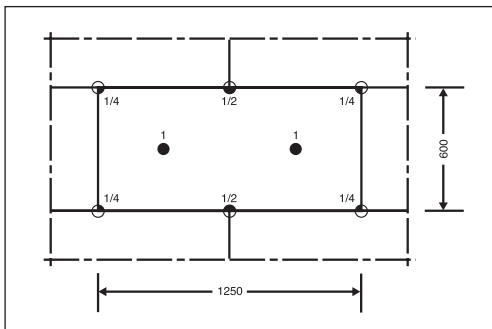




- ① SHAPEMATE GREC-A
- ② Plastic fixings
- ③ Mesh
- ④ Mortar rendering
- ⑤ External finishing



- ① SHAPEMATE GREC-A
- ② Mortar
- ③ Mesh
- ④ Mortar rendering
- ⑤ External finishing



Arrangement of dowels

Installation

- ◆ If the insulation is installed after the construction of the wall structure, the insulation boards should be fixed with bonding and - especially on large areas or if the existing plastered wall has poor quality surface - additional mechanical fastening with dowels.
- ◆ If required, the use of plastic fixing nails placed into the boards in advance is recommended, especially at window openings, wall corners, etc.
- ◆ When installing on irregular wall surface, the cement based adhesive mortar needs to be applied as continuous strip along the edges and is applied in a form of a continuous strip along the edges and 2-3 spots among the mid axis of the boards.
- ◆ If the wall surface is even, the adhesive can be applied with a toothed trowel on the entire surface of the insulation board.
- ◆ On larger areas the insulation boards should be installed in brick pattern with tight joints, paying attention to the flatness of the surface, fixed also mechanically with dowels.
- ◆ An economical arrangement of the fasteners (4 pcs per board) is shown on the figure below: drawing of arrangement of dowels.
- ◆ The rough and profiled surface of the boards adheres with high strength to the concrete.
- ◆ The planed and profiled surface of the **SHAPEMATE GREC-A** boards can be finished with render or adhered tiles (eg. brick tiles).
- ◆ Thin rendering systems with embedded glass fabric reinforcement, or thicker, traditional type of renders with galvanized steel reinforcement mesh both thin rendering systems with embedded glass fabric reinforcement, or thicker, traditional type of renders with galvanized steel reinforcement mesh can be applied.
- ◆ The finishing should be applied following the guidelines of the manufacturer, and the rules for plastering on surfaces with no water-absorption.
- ◆ After longer exposure to direct sunlight (UV-radiation) the surface of the insulation boards can show discoloration and little dust, which should be removed before plastering.
- ◆ Special attention should be paid to the sockel of the buildings: without its proper thermal protection, the efficiency of the insulation of façade, cellar wall and ground floor are significantly reduced.
- ◆ The insulation layer in the sockel area is exposed to severe impacts: moisture from the ground, rain and splashing water, mechanical pressure and impact, humic acid, etc. **SHAPEMATE GREC-A** boards - due to the resistance to moisture, freeze-thaw cycles and mechanical impacts - offer efficient and long-term solution. The blue extruded polystyrene foam boards for sockel insulation can complete various façade insulation systems.

Properties	Standard	Unit	SHAPEMATE GREC-A
Density (minimum)	EN 1602	kg/m ³	32
Thermal conductivity: - 90 days value at 10 °C - declared value - λ_d	prEN 12667 prEN 12939	W/m·K Kcal/mh°C	0.033 max 0.028 max
Compressive strength: - at yield or 10% deflection - design value at long-term loads	EN 826 EN 1606	N/mm ² N/mm ²	0.225 0.08
Water absorption by immersion (28 days)	EN 12087	Vol. %	<1.5
Linear thermal expansion coefficient		mm/m·K	0.07
Capillarity			0
Vapour diffusion factor, μ	EN 12086	-	80-250
Max. service temperature		°C	-50/+75
Dimensions: - length x width - thickness	EN 822 EN 823	mm mm	1250 x 600 30, 40, 50, 60*
Surface			Planed
Borders			Shiplapped

* Available upon request

Technical data of the STYROFOAM product range according to the local regulations, prior to the introduction of the CE marking

Note: the information and data contained herein are given to the best of knowledge and experience. Dow does not undertake any liability, warranty or guarantee for systems or applications. No freedom from any patents or other industrial or intellectual property rights is granted. Information in this brochure may be subject to change. It is important to check when specifying STYROFOAM* products that the most recent advise and recommendations are followed. Please, contact distributor or Dow sales office for further advise.



Dow HELLAS A.B.E.E.

Thorikò Lauriou, 19 500

Tel.: 22920 62200

Fax: 22920 60602

www.styrofoameurope.com

Address of distributor

* Trademark of The Dow Chemical Company

E - 291 - GR - 618 - 0404