

ATLAS CERAMIK SYSTEM

set of products for insulating external walls of buildings

National Technical Assessment ITB-KOT-2018/0385 edition 4

National Declaration of Performance K114/2022

National Certificate of Conformity for Factory Production Control No. 020-UWB-0472/Z

General characteristics of the system

The ATLAS CERAMIK system is a complex system of insulating external walls of buildings (ETICS). The technology of thermal insulation consists in attaching Styrofoam panels to the outside of the wall and laying on them a layer of mortar reinforced with glass fibre mesh, and then completing a facing layer of ceramic, stone or concrete tiles glued to the wall. then a facing layer of ceramic, stone or concrete tiles, glued to the reinforced layer with adhesive mortar and finished with joint mortar. Due to the type of outer layer, studding the thermal insulation panels with mechanical fasteners fixed through the mesh layer is required each time.

Purpose

The system is recommended for façades subject to increased wear and tear and soiling - for example, in the base and plinth areas of buildings, and for the insulation of public and commercial buildings, etc.

Insulation work

FIXING OF THERMAL INSULATION

Fixing of thermal insulation boards should be carried out in accordance with the Technical Data Sheets of the system elements intended for this purpose (see table ATLAS CERAMIK System Elements).

EXECUTION OF THE REINFORCED LAYER

In the ATLAS CERAMIK thermal insulation system, due to the surface layer, which is a cladding of ceramic, stone and concrete tiles, it is required to make a reinforced layer and to stud the thermal insulation panels in one working cycle. A mesh embedded in adhesive mortar is used for the reinforced layer. Studding is carried out through the mesh layer. To this end, a layer of adhesive of uniform thickness is spread on the glued thermal insulation boards with a toothed trowel with teeth size 10-12 mm. The adhesive should be spread in vertical strips slightly wider than the width of the mesh used. Then, starting from the top, successive strips of reinforcing mesh are applied to the layer thus prepared and embedded in the adhesive in several places along their length. Adjacent mesh strips must be laid with an overlap of min. 10 cm overlap both vertically and horizontally, and at corners min. 15 cm. The mesh overlaps must also not overlap with the joints between the thermal insulation boards. After the mesh has been applied, it should be thoroughly embedded in the adhesive layer. In order to ensure that the mesh is evenly embedded, the adhesive is squeezed out with a slightly sloping trowel guided from the top, from the centre of the mesh strip to the sides. Properly embedded mesh, as tensile reinforcement, should be completely invisible from under the surface of the adhesive and should not be in direct contact with the surface of the panels.

The next step is to stud with mechanical fasteners, through the mesh layer. The fasteners to be used are with a galvanised steel pin, in an amount of min. 8 pcs. per 1 m². Details of the number, type and length of dowels and how to position them should be included in the technical design of the insulation. When the dowels are properly set, their plates should be slightly pressed into the adhesive layer.

FIXING OF THE CERAMIC CLADDING

The fixing of the ceramic cladding should be carried out in accordance with the Technical Data Sheets of the system components intended for this purpose (see table ATLAS CERAMIK System Components).

Deformable cementitious adhesives of the C2TE S1 type are recommended for fixing the tiles (for variety III obligatory). When fixing the tiles, special attention should be paid to ensure adequate adhesion of the adhesive and to eliminate the possibility of leaving free spaces under the tiles, e.g. trowel marks. With these factors in mind, it is recommended to use the so-called combined method, consisting in applying the adhesive both on the substrate - with a notched trowel, and on the undersurface of the tile - with the smooth side of the trowel. Only then is the tile pressed down onto the substrate by moving it slightly.

GROUTING OF CERAMIC CLADDING

The grouting of the ceramic cladding should be carried out in accordance with the Technical Data Sheets of the system elements intended for this purpose (see table ATLAS CERAMIK System Elements).

The grouting of the cladding should be carried out only after the adhesive mortar has dried completely, according to the recommendations of the Technical Data Sheet of the adhesive used. For grouting it is recommended to use ATLAS CERAMIC GROUT. Taking into account the conditions of the cladding's use, it is recommended that the width of the joints should be not less than 6 mm and not more than 15 mm (the width should be selected according to the dimensions of the tiles used).

The completed cladding should be protected from rain (covers on scaffolding) for at least 3 days; this applies to a temperature of +20° C and a relative humidity of 60 %; under less favourable conditions, the slower setting of the materials used must be taken into account.

EXPANSION JOINTS FOR CERAMIC CLADDING

Structural expansion joints, expansion joints of the insulation plane must be repeated on the surface of the ceramic cladding. The surface of the ceramic cladding should be divided into smaller areas of up to 9 m².

ATLAS CERAMIK system components

According to the regulations in force, the insulation system is treated as a single construction product in its entirety, and must therefore be used only in the layering and material arrangements described in its technical approval. The use of so-called composite products, i.e. the use of products not covered by a National Technical Assessment, from other systems or manufacturers, is not permitted.

According to the contents of the National Technical Assessment, products according to the following list can be used in the ATLAS CERAMIK system.

VARIABLE 1	VARIATION 2	VARIATION 3
Fixing of thermal insulation ATLAS STOPTER K-20 adhesive mortar ATLAS HOTER U adhesive mortar ATLAS HOTER S adhesive mortar ATLAS GRAWIS S adhesive mortar		
Thermal insulation product polystyrene (EPS) boards in accordance with EN 13163+A1:2016		
Fixing of thermal insulation Mechanical fasteners approved for marketing and use in construction		
Reinforced layer - adhesive ATLAS STOPTER K-20 ATLAS HOTER U Reinforced layer - mesh ATLAS 150	Reinforced layer - adhesive ATLAS HOTER U2 Reinforced layer - mesh ATLAS 150	Reinforced layer - adhesive ATLAS STOPTER K-20 Reinforced layer - mesh ATLAS 150
Exterior layer - adhesives for fixing ceramic cladding ATLAS ELASTYK ATLAS PLUS ATLAS PLUS WHITE ATLAS GEOFLEX ATLAS GEOFLEX WHITE ATLAS ULTRA GEOFLEX External layer - ceramic tiles Façade, frost-resistant pressed or expanded ceramic tiles according to EN 14411:2016, belonging to classes BI _a , BI _b , AII _a or AII _b with a thickness of max 15 mm, with up to 3% absorption and a surface weight of max 40 kg/m ² and a surface area of up to 0.36 m ² Exterior layer - grouting of ceramic cladding ATLAS CERAMIC GROUT ATLAS ELASTIC GROUT	Exterior layer - adhesives for fixing ceramic cladding ATLAS ELASTIC ATLAS PLUS ATLAS PLUS WHITE ATLAS GEOFLEX ATLAS GEOFLEX WHITE ATLAS ULTRA GEOFLEX External layer - ceramic tiles Façade, frost-resistant pressed or expanded ceramic tiles according to PN-EN 14411:2016, belonging to class AII _a , BI _a , BI _b , or BII _a with a thickness of 3 - 15 mm with absorption up to 6% and a surface weight of not more than 40 kg/m ² and a surface area of up to 1 m ² , with an average linear expansion coefficient of $5.82 \times 10^{-6} \text{ 1/K}$, in the temperature range from -60 to + 90 °C. External layer - stone tiles Façade frost-resistant natural stone tiles according to EN 1469:2005, with up to 6% water absorption, a surface weight of no more than 40 kg/m ² and a surface area of up to 1 m ² , thicknesses of up to 5 to 20 mm. External layer - concrete tiles Frost-resistant concrete façade tiles according to EN 14992:2012, with up to 6% water absorption, a surface weight of no more than 40 kg/m ² and a surface area of up to 0.36 m ² , a thickness of up to 5 to 20 mm. Exterior layer - grouting of ceramic cladding ATLAS CERAMIC GROUT ATLAS FLEXIBLE GROUT	Exterior layer - adhesives for fixing ceramic cladding ATLAS PLUS ATLAS PLUS WHITE ATLAS ULTRA GEOFLEX External layer - ceramic tiles Façade, frost-resistant pressed or expanded ceramic tiles according to PN-EN 14411:2016, belonging to class BI _a , BI _b , or BII _a with a thickness of 3 - 15 mm with up to 6% absorption and a surface weight of no more than 40 kg/m ² and a surface area of up to 4 m ² , with an average linear expansion coefficient of $5.82 \times 10^{-6} \text{ 1/K}$, in the temperature range from -60 to + 90 °C. Exterior layer - grouting of ceramic cladding ATLAS CERAMIC GROUT ATLAS ELASTIC GROUT