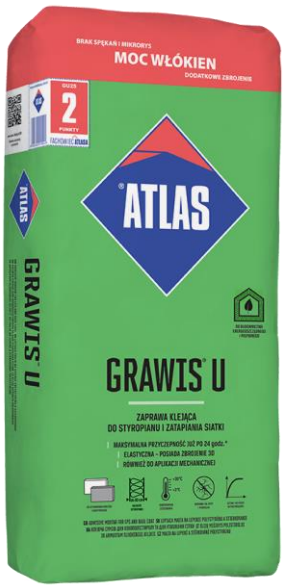
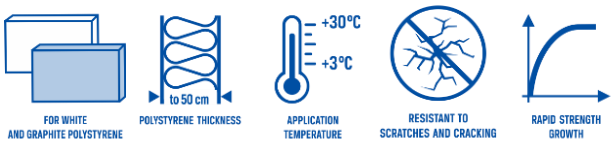


ATLAS GRAWIS U

adhesive mortar for polystyrene boards and mesh embedding

- maximum adhesion after 24 hours
- flexible - has 3D reinforcement
- also for mechanical application
- scratch- and crack-resistant
- fast increase in strength
- for white and graphite polystyrene boards



Properties

ATLAS GRAWIS U is produced as a dry mixture of the highest quality cement binder, aggregates and specially selected modifying additives.

Flexible - has 3D reinforcement - the fibres in the product provide additional dispersed reinforcement, so the mortar is protected against micro-cracks and has better mechanical resistance.

Maximum adhesion after just 24 hours - adhesion to polystyrene after 24 hours (measured at + 20 °C) is a minimum of 0.08 MPa and for concrete a minimum of 0.25 MPa and allows rapid commencement of additional fixing of the thermal insulation with mechanical fasteners.

Rapid strength gain - priming for plaster or studding can be carried out after:
- 24 hours, at a temperature of approx. +20 °C and humidity of up to 80% (lower temperatures lengthen and higher temperatures shorten the drying time).
- 48 hours if, during this time, the temperature is between +5°C and +10°C and the humidity up to 80%.

Allows polystyrene boards to be fixed with adhesive only in buildings up to 12 metres high - in cases and façade locations where mechanical fixing is not a necessity due to due to other factors, e.g. in the corners of buildings or in the event of strong wind loads.

High durability during use - through the high proportion of redispersible polymers, microfibres and special additives and modifiers, an increase in the adhesive's durability, resistance to weather and thermal effects was achieved.

Optimally selected formulation - ensures adequate adhesion of the adhesive to polystyrene boards and excellent working parameters. When applied to the substrate, the adhesive does not roll, tear or pull.

High viscosity - the adhesive does not slip off the trowel or the surface of the board - this allows work to be carried out more quickly while reducing material waste.

It has high adhesion - due to its increased polymer dispersion content, it exhibits high adhesion to mineral surfaces and to EPS panels. This parameter is also favourably influenced by the varied, tightly packed aggregate mixture. The mortar adheres strongly to difficult substrates, e.g. surfaces covered with strongly adhering layers of paint.

Purpose

In ETICS systems:
- for bonding EPS insulation boards (white and graphite) and providing a reinforced layer.
EPS thermal insulation panels (white and graphite) and to make a reinforced layer on them,
- for fixing thermal insulation panels up to 50 cm thick.

It is recommended for insulation work in passive and energy-saving construction
and energy-efficient buildings.

It is a component of thermal insulation systems - it can be used to provide insulation for newly constructed buildings and those undergoing thermal modernisation.

FUNCTION IN THE INSULATION SYSTEM	
fixing thermal insulation in thermal insulation systems	+
Reinforced layer in thermal insulation systems under all ATLAS thin layer plasters	+

TYPES OF THERMAL INSULATION BOARDS	
EPS panels - white polystyrene	+
EPS - polystyrene graphite boards	+
XPS boards - made from extruded polystyrene	use ATLAS XPS
mineral wool slabs with a structured fibre structure (lamella)	Use ATLAS ROKER System
mineral wool slabs with unstructured fibre structure (façade)	Use ATLAS ROKER System

TYPES OF FACILITIES	
housing construction	+
public, educational, office, healthcare, sports facilities	+
commercial and service construction	+
industrial construction	+
industrial warehouses	+
traffic construction	+
farm and livestock buildings	+
underground garages	use the system ATLAS ROKER G
tall buildings > 25 m*	use the system ATLAS ROKER
passive construction	+
energy-efficient construction	+

* buildings up to 11 storeys put into service before 1.4.1995 may be insulated with EPS.

SUBSTRATE TYPE	
cellular concrete masonry	+
brick or silicate block masonry	+
brick or hollow brick masonry	+
concrete block wall	+
stone wall	+
site-made concrete walls	+
precast concrete walls	+
cement and cement-lime plasters	+
walls covered with highly adherent coatings of paint (each time requires an adhesion assessment)	+
ceilings on the side of ceilings, under heated rooms	use the system ATLAS ROKER G

TYPE OF INSULATION SYSTEM	
traditional system (finished with thin-coat plaster)	+
renovation system (insulation of existing thermal insulation with polystyrene boards)	use the system ATLAS RENOTER
ceramic system (finished with ceramic tiles)	apply the system ATLAS CERAMIK

Technical data

Bulk density (dry mix)	approx. 1.25 kg/dm³
Mixing ratio water / dry mix	approx. 0.21÷0.23 l / 1 kg approx. 5.25÷5.75 l / 25 kg
Temperature of mortar preparation of the substrate and surroundings	from +3 °C to +30 °C
Min./max. thickness of reinforced layer	2 mm / 5 mm
Adhesion to concrete after 24 hours*.	≥ 0,25 MPa
Adhesion to polystyrene boards after 24 hours*.	≥ 0,08 MPa
Maturation time*	approx. 5 minutes
Standby time*	approx. 2.5 hours
Open operating time*	min. 15 minutes

*) The values given in the table are recommended for application conditions of approx. 20 °C and 55 % humidity.

Technical requirements

ATLAS GRAWIS U is a component of a complex thermal insulation system with plastering:

Name of the system	European Technical Assessment
ATLAS GRAWIS	ETA-16/0933

ATLAS GRAWIS U is a component of sets of products for making thermal insulation systems:

Name of the system	National Technical Assessment
ATLAS ETICS	ITB-KOT-2020/1616 Edition 3
ATLAS ROKER EPS	ITB-KOT-2020/1188 Edition 1

Bonding of thermal insulation

Preparing the substrate for bonding the board

The substrate should be:

unfrozen and dry,

stable - sufficiently load-bearing, resistant to deformation and seasoned,

even - larger irregularities should be filled with mortar:

- ATLAS ZW 330,
- ATLAS PLASTERING MORTAR,

cleaned - from layers that could weaken the adhesion of the mortar, especially from dust, dirt, lime, oil, grease, wax, paint residues,

primed - with emulsion:

- ATLAS GRUNT NKP (ready to use - without dilution),
- ATLAS UNI-GRUNT,
- ATLAS UNI-GRUNT ULTRA.

Apply the primer to absorbent or unevenly absorbent substrates (e.g. in case of previous local repairs); weak cement and cement-lime plasters, as well as masonry made of cellular concrete, silicate blocks or cinder blocks also require priming.

The plinth trim, which is the lower finish of the insulation, must be fixed and levelled before the panels are glued.

Specific indications for substrate preparation, depending on the type of substrate

Substrate type	Procedure
"Deaf" plasters	absolutely remove
Paint coatings with low adhesion and other impurities that impair mortar adhesion to the substrate	remove mechanically, e.g. by hydrodynamic washing
Facades with microbial infestation on the surface (fungi, algae, lichen)	clean the surface mechanically, then apply ATLAS MYKOS NR 1 or ATLAS MYKOS PLUS
Large slab buildings	In addition to assessing the condition of the substrate, the condition of the inter-plate joints should be checked. Putty from joints that may react chemically with the thermal insulation should be removed. In structures built with external prefabricated sandwich panels, the original condition of the texture layer fixing should be technically assessed. If necessary, this connection should be reinforced by additional anchoring before the insulation work. The assessment and technical design in this respect should be carried out by a person with structural competence.

Preparation of the adhesive

Pour the material from the bag into a vessel with the measured amount of water (proportions given in the Technical Data) and mix with a slow-speed mixer with a mortar mixer until a uniform consistency is obtained. Set the mixed adhesive aside for 5 minutes and after collecting the unmixed residue from the sides of the vessel with a trowel, mix again. The adhesive thus prepared should be used within about 2.5 hours.

Installation of boards

The adhesive mortar should be applied to the inside of the board using the "strip and point" method. The width of the perimeter prism, laid along the edge of the board, should be at least 3 cm. The remaining surface should be evenly covered with 6÷8 cakes of min. 8 cm. In total, you should put enough mass to cover at least 40% of the whole panel surface (after pressing the panel to the base - at least 60%) to ensure that the panel is properly fixed to the wall. The adhesive mortar is only applied to the surface of the insulation boards, never to the substrate. It is recommended that the mortar thickness under the panel after pressing should not exceed 10 mm. With even and smooth substrates, it is permissible to spread the mortar evenly with a notched trowel over the entire surface of the board. The size of the trowel teeth should be no less than 10 x 10 mm.

Stick the insulation boards in a staggered pattern of vertical joints. Immediately after the adhesive mortar has been applied, apply the boards to the substrate and then tap them into position using a patch. Fastening with mechanical fasteners may be commenced at the earliest one day after the boards have been fixed. For additional fixing , plastic or steel studs should be used in accordance with the thermal insulation design, min. 4 pcs/m².

Reinforced layer

Preparation of boards for reinforced layer

The surface of the panels should be frost-free, even, clean, stable and dust-free before the reinforcement layer is applied to them. The surface should be sanded and dusted off before a reinforced layer is applied to graphite panels.

Constructing a reinforced layer.

The reinforced layer consists of a reinforcing mesh, made of glass fibre, embedded in adhesive mortar. The reinforcement layer can be applied after:

- 24 hours, at a temperature of approx. +20 °C and humidity of up to 80% (lower temperatures lengthen and higher temperatures shorten the drying time),
- 48 hours if, during this time, the temperature is between +5° C to +10 °C and humidity up to 80%.

Manual application. The reinforced layer is applied by spreading the mortar evenly with a trowel (e.g. notched trowel of tooth size 6-10 mm) and then spreading the reinforcing mesh and embedding it with a smooth float while filling in smoothly. It is important that the reinforcing mesh is invisible and completely embedded in the adhesive. It is important that the mesh is invisible and completely embedded in the adhesive. 10 cm.

Machine application. The reinforced layer is made by spraying the mortar evenly with an aggregate, e.g:

- Wagner PC 1030 (spray nozzle min 8 mm, pos 2-4, working pressure approx 2-3 Bar)
- Graco RTX 5500 (spray nozzle 8 mm, pos 2-3).

The machine parameters given apply to this exact model, but the settings should be adjusted to suit your unit in each case. After spraying, the reinforcing mesh should be applied (usually in a horizontal direction), sunk into the adhesive using a smooth float, while filling in smoothly. It is important that the reinforcing mesh is invisible and completely embedded in the adhesive. It is important that the mesh is invisible and completely embedded in the adhesive. 10 cm.

Any remaining irregularities after the mortar has dried must be sanded down, as they may prevent the plaster from working properly.

In order to avoid scratches in the corners of the openings, additional grid strips should be pasted at an angle of 45 degrees, measuring min. 20 x 35 cm. The reinforcements should be placed under the actual reinforced layer.

Finishing work

Priming for plaster can be carried out after:

- 24 hours, at a temperature of approx. +20 °C and humidity of up to 80% (lower temperatures lengthen and higher temperatures shorten the drying time).
- 48 hours if, during this time, the temperature is between +5°C and +10°C and the humidity up to 80%.

Consumption

The material consumption depends on the parameters of the substrate (e.g. degree of evenness) and the tile bonding technology adopted.
- 4.0 to 5.0 kg/m² board bonding,
- reinforced layer of 3.0 to 3.5 kg/m².

Packaging

25 kg paper bags.

Safety information

Safety information is given on the product packaging and in the Safety Data Sheet, available at www.atlas.com.pl.

Storage and transport

Information on storage and transport is given on the product packaging and in the Safety Data Sheet, available at www.atlas.com.pl.

The shelf life of the product (best before use) is 12 months from the date of manufacture on the packaging.

Important additional information

Do not stick heated graphite polystyrene. Do not allow graphite polystyrene to become hot during installation or during the initial setting of the adhesive. If the graphite polystyrene boards is heated at any of these stages, it may result in the polystyrene boards becoming detached from the adhesive.

It is necessary to use covers on scaffolding during the works. Work must not be carried out during snow or rainfall or in strong winds.

If it is necessary to glue Polystyrene boards on weak substrates with a bearing capacity that is difficult to determine (e.g. unstable, dusty, difficult to clean), it is recommended to carry out an adhesion test. It consists of sticking polystyrene cubes of 10x10x10 cm in characteristic (important, representative) areas of the façade and checking the joint:
- after 3 days under normal conditions,
- after 5 days when the temperature is below 10 °C and the humidity is above 80 %.

The cubes should be glued over the entire surface and the thickness of the adhesive should be approximately 1 cm.
The strength of the substrate can be considered sufficient if the polystyrene boards is torn off during detachment by hand. If the cube is torn off together with the mortar and substrate layer then the substrate is not sufficiently load-bearing. Further treatment in such a case, e.g. determining how to remove the weak layer, should be described in the technical design of the insulation.

Clean the tools with clean water, directly after use. Difficult to remove residues of already set mortar are washed off with ATLAS CEMENT AWAY.

The information contained in the Technical Data Sheet is a basic guide to the use of the product and does not exempt from the obligation to carry out the work in accordance with the rules of the art of construction and safety regulations. With the issue of this Technical Data Sheet, all previous ones are no longer valid. Documents accompanying the product are available at www.atlas.com.pl.

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