

## 1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

**Commercial product name:** BK-StirolFix Special

**Information on the manufacturer:**

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## 2. DESCRIPTION AND SCOPE OF APPLICATION

BK-StirolFix Special is mineral, highly flexible polymer-cement adhesive intended for bonding boards of expanded (EPS boards) and extruded (XPS boards) polystyrene, for bonding mineral wool boards (MW boards) on different mineral substrates, as well as for incorporation of reinforcement mesh and levelling of the entire facade surface. BK-StirolFix Special is used as an adhesive for bonding and as base layer, i.e. adhesion for reinforcement as part of the Bekatherm Prestige thermal insulation system.

## 3. COMPOSITION

**Chemical composition:** Grey Portland cement, micro-reinforcement fibres, polymer binder, additives, mineral fillers.

**Hazardous substances:** In accordance with the (EC) Regulation No. 1272/2008 on classification, labelling and packaging of substances and mixtures, through which the CLP/GHS classification and labelling system was lawfully introduced, grey Portland cement is a hazardous substance, so the product is therefore classified as hazardous, and labelled with: Hazard.

## 4. TECHNICAL CHARACTERISTICS

<b>Bulk density, g/dm<sup>3</sup></b>	1100-1300
<b>Hardened product density, g/dm<sup>3</sup> (EN 1015-10)</b>	1400-1600
<b>Adhesion to the surface:</b>	
<ul style="list-style-type: none"> <li>• <b>concrete, kPa (EN 1015-12)</b></li> <li>• <b>EPS, MPa (ETAG-004)</b></li> <li>• <b>MW, kPa (ETAG-004)</b></li> </ul>	≥ 250 (requirement according to ETAG-004) ≥ 80 (requirement according to ETAG 004) ≥ 80 (requirement according to ETAG 004)* *or interruption in a layer of thermal insulation board

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<b>Capillary water absorption-c, kg/m<sup>2</sup> min<sup>0,5</sup> (EN 1015-18)</b>	≤ 0.2 Class Wc2 according to EN 998-1
<b>Heat conductivity-λ<sub>10°C dry</sub>, W/m.K (EN 1745 Table A.12)</b>	0,47
<b>Compressive strength after 28 d, MPa (EN 1015-11)</b>	≥ 10 Class CS IV according to EN 998-1
<b>Diffuse resistance coefficient -μ (EN 1015-19 Table A.12)</b>	≤30
<b>Indicative consumption*, kg/m<sup>2</sup></b>	~5-6.5 for adhesion ~5-7 for reinforcing
<b>Packaging, kg</b>	25;

\*) depending on the quality of the substrate, the type of thermal insulation material used, etc.

## 5. OTHER CHARACTERISTICS

**Physical appearance:** Grey powder

**Wet adhesion pH value:** 11-13

## 6. SUBSTRATE

The substrate to which the adhesive is applied must be firm, clean, and dry, without poorly bound parts, greasy stains, etc. The following surfaces are appropriate: cement-lime mortars (at least one month old), concrete surfaces (at least 3 months old), brick walls, gas concrete, etc. Filling in larger cracks and levelling out in thicker layers may only be done using BK-Mal 220 mortar, not adhesive (deviation of the facade surface from the vertical plane should be max. ± 1 cm/4 m). Thick layers of adhesive lead to cracks and movements of the EPS boards which manifests in the form of cracks on the final layer of the thermal insulation system.

Smooth, poorly absorbent concretes with impurities from formwork must be coated using the primer BK-Beton Kontakt one day before applying the adhesive. Primer does not need to be applied onto new brick walls. When applying boards onto gas concrete walls, it is recommended to coat them using primer BK-Nivelator according to the instruction manual.

## 7. PREPARATION AND APPLICATION

Preparation of the mass is performed by lightly adding the powder into about 26-28 % of water (6.5-7 l of water to 25 kg of powder), with constant stirring using an electric blender until the mass becomes fully homogenized. The mass must be left to set for at least 10 minutes. After that, stir yet again and, if needed, add water in order to set the appropriate adhesive consistency.

Before the start of application of boards, an aluminium skirting board is laid down to which a certain amount of the adhesive is applied in order to seal it from below, and after that, the first row of boards is laid on it.

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When using EPS/XPS boards prepared adhesion is applied on the entire outer edge of the board as well as on three points in the middle of the board, in the form of so-called adhesive loaves with 10 cm in diameter. Stripes along the edges of the board should be applied in the width of at least 5 cm and in the thickness of 1.5-2 cm. The second row of boards is installed at a distance of at least 30 cm in relation to the beginning of the boards from the first row, so-called shear rule (this rule is also followed when bonding all subsequent rows). The rule of toothed connection must be followed at corners of objects (crossed bonding of boards) with a overhang on the corners of at least 5cm across the outer surface of EPS/XPS boards from the adjacent side. Boards must be glued to one another tightly so that the adhesive does not reach contact surfaces between two boards. Any cracks must be filled using pieces of the EPS/XPS boards or BK-Pur Eps Kleber foam, not adhesive.

When bonding the MW plates, the entire surface of the board must be coated with a thin layer of adhesive or the at least the parts to which the adhesive is applied. The adhesive is then applied along the entire periphery of the MW board with the addition of three points of application in the middle, in the form of so-called adhesive loaves with 15 cm in diameter. Stripes on the periphery of the board should be applied in a width of min. 5 cm and a thickness of 2.0-2.5 cm. In further work, respect the same rules mentioned in the EPS bonding section. Due to the weight of the mineral wool, it is recommended to bond the first row of panels on all sides of the building, and then start with bonding of the second, third and subsequent rows in the same way. Boards should be bonded tightly to one another so that the adhesive does not reach the contact surfaces between the two boards.

Bonding of boards around openings requires particular attention. It is necessary to perform tailoring of boards in order to avoid the superposition of lines of openings with lines of boards.

The drying time in normal conditions ( $T=+23-25$  °C, relative humidity=50-60%) is 48 hours, and after that you may perform anchoring, cutting of excess boards at corners of objects and sand out any possible uneven surfaces by appropriate manual or machine tools using the telescopic sander. Anchoring is done in order to additionally strengthen the board and is performed at joints and at the middle of the board (ideally 6-10 anchors/m<sup>2</sup> depending on the number of floors, exposure to wind, types of thermal insulation boards and similar). In case of bonding the MW boards, anchoring is a necessary step. Anchoring should be done so that the head of the anchor is aligned with the board plain.

In order to prevent any possible diagonal cracks on the corners of openings, reinforcement along the corners of openings must be performed before reinforcing the entire facade surface. Reinforcing is done using a piece of glass mesh with appropriate size of 30X50 cm. It is laid diagonally along the very angle of the opening. It is glued onto the surface of the EPS board using the reinforcement adhesive.

Before the start of reinforcement, you must additionally strengthen critical parts, such as corners of objects and edges around openings using appropriate corner profiles. The profile is pressed onto a layer of adhesive which had already been applied. An additional layer of adhesive is applied onto the entire profile in order to level it out.

After at least 48 hours from bonding the boards, under normal conditions, the mesh may be pressed into the entire facade surface. In the case of MW boards, a thin layer of adhesive is first applied in order to perform impregnation after which the application of

the reinforcement layer is performed. The adhesive is applied using a jagged trowel (depth of teeth 8-10 mm for EPS/XPS, 10-12 mm for MW) and then the reinforcing glass mesh is pressed into the freshly applied adhesive from the top to bottom, with a mandatory 10 cm overlap along the edges of the mesh. Pressing must be done so that the mesh is visible and not completely covered with adhesive. Apply the final layer of adhesive onto the dry adhesive after 24 hours of drying in order to perform the final smoothing out the facade surface. The total thickness of the final adhesive layer should be 4-5 mm in case of EPS/XPS boards, i.e. 5-6 mm in case of MW boards.

In all phases of works it must be ensured that the wall is even using a 2-3 meter long plank. Much care should be given to execution of the final layer because any irregularities in the form of uneven surfaces make any corrections of the final mortar more difficult and prevent reaching the appropriate structure.

Air and surface temperature during the installation should be in the range of +5 °C to +30 °C. Do not work under direct sunlight, wind, fog or rain. High moisture and low temperatures may prolong the drying time.

## 8. CLEANING THE TOOLS

All tools must be thoroughly washed using water immediately after use. If the tools are not washed immediately after use, remove the hardened residue mechanically.

## 9. HANDLING AND STORAGE

The material must be transported in sealed bags. If the product is used in closed rooms, make sure the space is well ventilated. Protect your eyes and skin when working with wet adhesive due to an alkaline reaction. Keep out of reach of children.

Store the material in dry rooms, on pallets, protected from moisture.

Shelf life: 12 months.

## 10. PERSONAL PROTECTION

Respiratory protection: In case the process causes excessive dust, use a protective mask.

Hands and body protection: Use safety gloves. Wash hands with water at each break from work. Use overalls with long sleeves and long legs.

Eye protection: Use safety goggles in order to protect the eyes from the dust and wet adhesive.

## 11. INFORMATION ON REGULATION

In accordance with the (EC) Regulation No. 1272/2008 on classification, labelling and packaging of substances and mixtures, through which the CLP/GHS classification and labelling system was lawfully introduced, grey Portland cement is a hazardous substance, so the product is therefore classified a hazardous, labelled with: Hazard.



Hazard

Skin irritation, Category 2: H315

Skin sensitization, Category 1: H317

Serious eye damage, Category 1: H318

Specific target organ toxicity - one-time exposure, irritation of respiratory organs, Category 3: H335

**H-labels:**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

**P-labels:**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**12. ECOTOXICOLOGICAL INFORMATION**

Based on experiences and information currently available, no negative health effects are known when the product is used appropriately. Prevent uncontrolled discharge into waterways because an alkaline reaction may occur.

**13. STORAGE**

In accordance with local/regional/European/national regulations.

**14. OTHER INFORMATION**

If the contractor notices an aesthetic or application deficiency while using the material, he is obliged to cease the works and notify the manufacturer thereof, who shall take the remarks into consideration in the shortest possible time frame. Remarks sent to the manufacturer after incorporation of a significant portion or the entire quantity of the material, cannot be the subject of complaint.

**15. NOTE**

Banja Komerc Bekament DOO performs product quality checks using its own laboratories. It also regularly tests its products in certified laboratories. The Data Sheet is the product of our knowledge and previous practical experience and it should serve to all users as a recommendation in order to achieve the best possible results. If weather and other conditions are different than those described in our instructions, our instructions need to be taken as general guidelines, without an installation warranty.

Banja Komerc Bekament DOO assumes no liability for damages resulting from the improper use or incorrect selection of product, as well as for poorly executed works. It is assumed that the contractor has mastered the techniques of incorporation and use of various products.

Matters written herein bind us in no way.

This document replaces all previous versions which, starting from the stated date, are considered invalid.

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