1. PRODUCT AND COMPANY INFORMATION

Commercial product name: BK-StirolFix 1

Manufacturer:
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2. DESCRIPTION, FIELD OF APPLICATION

BK-StirolFix 1 is a mineral flexible polymer-cement-based adhesive. It is intended for attaching polystyrene boards (EPS boards), graphite polystyrene boards (EPS G boards), as well as mineral wool boards (MW boards), to solid facade surfaces, as well as for placing the reinforcing mesh and levelling out the entire façade surface.

BK-StirolFix 1 is used as an adhesive and as a base coating, ie. reinforcing adhesive within both Bekatherm thermal insulation systems (Bekatherm Standard system with EPS thermal insulation boards and Bekatherm Prestige with MW boards).

3. COMPOSITION

Chemical composition: Grey Portland cement, micro reinforcement fibers, polymer binder, additives, mineral filler.
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 labeling system was introduced into law, grey Portland cement is a hazardous substance. The product is therefore classified a hazardous one with the following label: Hazard

4. TECHNICAL CHARACTERISTICS

Bulk density, g/dm3	1,100-1,300
Hardened plaster density, g/dm³ (EN 1015-10)	1400-1600
Adhesion to the surface: ⅄ **concrete, kPa (EN 1015-12)** ⅄ **EPS, kPa (ETAG-004)** ⅄ **EPS, kPa (ETAG-004)**	≥ 250 (requirement according to ETAG-004) ≥ 80 (requirement according to ETAG-004) ≥ 80 (requirement according to ETAG 004)* * or break in the layer of thermal insulation board

Capillary water absorption-c, kg/(m^2 min^{0,5}) (EN 1015-18)	≤ 0,2 Class W_c2 requirement according to EN 998-1
Diffuse resistance coefficient -μ (EN 1745 Table A.12)	≤30

Thermal conductivity-$\lambda_{10°C\ dry}$, W/m.K (EN 1745 Table A.12)	0.47
Compressive strength after 28 d, MPa (EN 1015-11)	≥ 10 Class CS IV according to EN 998-1
Indicative consumption*, kg/m^2	~4-6,5 for adhesive ~5-7 for reinforcing
Packaging, kg	25;

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

5. OTHER CHARACTERISTICS

Physical appearance: Grey powder
Wet adhesive pH value: 11-13

6. SURFACE PREPARATION

The surface 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 two months old), brick walls, gas concrete, etc. Filling in larger cracks and leveling out of thicker surfaces may only be done using BK-Mal 220 mortar, not adhesive (deviation of the facade surface may be ±1 cm/3 m from the vertical plain). Thick layers of adhesive lead to cracks and movements of the EPS boards. This is apparent in the form of cracks on the final layer of the thermal insulation system.
Smooth, poorly absorbent concretes with impurities 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 initial aluminum skirting board is laid down onto which a certain amount of the adhesive is applied in order to seal it from below. After that, the first row of EPS is laid onto it.

Adhesion mass is applied on the entire outer edge of the EPS board with the addition of three points in the middle of the board, 10 cm in diameter, so called glue cake. Ribbons on 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 EPS boards is placed at a distance of at least 30 cm in relation to the beginning of the boards of the first row, so called shear rule. This rule is respected when placing all following rows. The rule of jagged connection must be followed at angles of objects (crisscross adhesion of boards) with a culvert on the angles of at least 5cm across the outer surface of EPS boards from the adjacent side. Boards must be glued to one another tightly so that the adhesive does not reach contact surfaces between two EPS ~~tiles~~. Any cracks must be filled using pieces of the EPS boards or polyurethane foam BK-Pur Eps Kleber, not adhesive.

The entire surface of the panel, or at least the parts to which the adhesive is applied, must be coated with a thin layer of glue when bonding MW panels. The adhesive is then applied over the entire edge of the MW panel with the addition of three points of application in the middle, about 15 cm in diameter, the so called glue cakes. Tapes on the edge of the panel should be applied in a min. 5 cm width and 2.0-2.5 cm thickness. In further work, follow the same rules mentioned in the EPS panels' gluing section. Due to the weight of the mineral wool, it is recommended to bond the first row of panels on all sides of the facility, and then start gluing the second, third and subsequent rows in the same way. The panels should be adhered tightly to one another so that the adhesive does not reach the contact surfaces between two panels.

Adhesion of EPS boards around openings requires particular attention. EPS boards must be removed in order to avoid the superposition of lines of openings with lines of EPS boards. The drying time in normal conditions (T=+23-25 ºC, relative humidity=50-60%) is 48 hours. After this, you may perform anchoring, cut excess EPS board at corners of objects and sand out any possible uneven surfaces using appropriate hand-held or machine tools. Anchoring is done in order to additionally strengthen the board and is performed at hubs and at the middle of the board (ideally 6-10 anchors/m^2 depending on the number of floors of the building, wind influences, type of thermal insulation panels, etc.). In case of adhesion of MW panels, anchoring represents mandatory step. Anchoring should be done so that the head of the anchor is aligned with the EPS boards 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 facade mesh. Its indicative size is 30x50 cm. It is laid diagonally along the very angle of the opening. It is fixed onto the surface of the EPS ~~tile~~ using 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 into the entire profile in order to level it out.

After at least 48 hours from attaching EPS/MW boards, under normal conditions, the mesh may be pressed into the entire facade surface. In the case of MW panels, it is first necessary to apply a thin layer of glue for waterproofing, once it is dry apply the reinforcing layer. The adhesive is applied using a jagged trowel (length of each tooth is 8-10 mm, , 10-12 mm for MW). The reinforcing mesh is then 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. It must not be entirely covered in adhesive. Apply the final layer of adhesive onto the dry adhesive after 24 hours of drying. This is the final step of smoothing out the facade surface. After smoothing the surface out, the mesh must not be visible. The position of the mesh in the final reinforcement layer should be about 1/3 of the thickness of the layer from the upper

side of the surface. The total thickness of the final adhesive layer should be 4-5 mm in the case of EPS panels, or 5-6 mm in the case of MW panels.
In all phases of work you must make sure the wall is even using a 2-3 meter long board. Much care should be given to preparing the final layers because any irregularities in the form of uneven surfaces make any corrections of the final mortar more difficult. At the same time, these also do not permit reaching the appropriate structure.
Air and surface temperature during installation should be in the +5 ºC to +30 ºC range. Do not work under direct sunlight, wind, or rain. High moisture and low temperatures may lengthen 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. Make sure the space is well ventilated if the product is used in closed rooms. 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 tract protection: In case the process causes excessive dust, use a face mask.
Hands and body protection: Use safety gloves. Wash hands using water each time the work is interrupted. Use long-sleeve work overalls.
Eye protection: Use safety goggles in order to protect the eyes from the dust and wet adhesive.

11. REGULATION INFORMATION

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 labeling system was introduced into law, grey Portland cement is a hazardous substance. The product is therefore classified a hazardous one with the following label: Hazard.

Hazard

Skin irritation, Category 2: H315
Skin sensitization, Category 1: H317
Heavy 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 adhesive, he is obliged to cease the works and notify the manufacturer of this. The manufacturer will consider the claim in the shortest possible time frame. Complaints to the manufacturer upon using a significant portion or the entire amount of the materials are not subject to claims.

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. The purpose of the Data Sheet is to serve 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 product selection, as well as for poorly executed work. It is assumed that the contractor has mastered the techniques of installing and use of various products.
Matters written herein bind us in no way.
This document replaces all previous versions. All previous versions, starting with the listed
date the document was compiled, are void.

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