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FAÇADE INSULATION USING THERMAL INSULATION CLADDING PANELS KODERUS

INSTALLATION WORKS TECHNOLOGY

STAGES AND SEQUENCE OF INSULATION WORKS

Stages and sequence of insulation works using thermal insulation panels KODERUS

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1.3. Transport
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1. Transport, storage and warehousing

1.1. Transport, storage and warehousing

1.1.1. KODERUS panels are covered with a special protective film before transport to protect the material from adverse weather conditions and other factors. The packaging of the goods must not be damaged during loading, transport or unloading.

1.2. Loading goods onto a vehicle

1.2.1. Only load the goods onto the vehicle with a manipulator or hoist.
1.2.2. Each row of panels or each row of pallets of panels must be securely fastened with tensioning straps to ensure that they are secure, up to a maximum load of 50 kg.

1.3. Transport

1.3.1. It is prohibited to place additional loads on pallets of goods during transport to prevent them from being subjected to additional horizontal and vertical forces. Stacking pallets on top of each other is strictly prohibited.

1.4. Unloading of goods

1.4.1. During unloading, the pallets of panels must be unloaded from the vehicles by means of a manipulator or a hoist.
1.4.2. When unloading, it is necessary to ensure that the goods are placed evenly on level ground, avoiding any impact.

1.5. Warehousing and on-site storage of goods

1.5.1. KODERUS goods shall be stored on-site on a level (horizontal) surface. The pallets with panels shall be covered to protect them from direct sunlight, rain and dust.
1.5.2. KODERUS pallets of goods must be stored in such a way that they do not come into contact with the ground.
1.5.3. The number of panels on a pallet must not exceed 10 and the height must not exceed 2.5 m.
1.5.4. Damage to the special protective film during storage may allow moisture to penetrate between the panels. In this case, stains may appear on the surface of the panels.

2. Preliminary construction works before installation of the clinker panels

2.1. Temperature during and after works

2.1.1. The installation of insulation and cladding panels can be carried out throughout the year at all ambient temperatures, but it is necessary to select the correct installation materials for the installation weather conditions. The choice of materials shall be made by the client. The manufacturer of the panels (in this case, “Koderus”, UAB is not responsible).
2.1.2. The adhesion works of thermal insulation panels can only commence once the horizontal planes of the building have been covered (roof covering, flat roof parapets, pitched roof edges and rainwater drainage elements), the building openings have been filled (doors, windows, shop windows), the plinth and the basement slab have been waterproofed.
2.1.3. In new or renovated buildings, interior plastering and floor-concreting must be completed and the masonry, plaster and concrete in the walls must be dry to prevent excessive moisture build-up. Foundations and other parts adjacent to the ground must be covered with horizontal waterproofing to prevent the ingress of moisture.
2.1.4. Before commencing wall insulation works, the contractor shall provide the client with the agreed sequence of works, the solutions for the individual units, and the agreed locations for the storage of materials on-site.
2.1.5. Other additional parts of the insulation system must be stored in a dry environment and protected from mechanical damage.

2.1.6. The contractor shall be responsible for the timely ordering, on-site unloading and storage of materials. Goods shall be ordered at least 20 working days in advance.
2.1.7. The adhesion works of thermal insulation cladding panels is prohibited when:
a) wind or wind gust speeds reach 18 m/s or more;
b) frost or icing has formed on the surface of masonry or panels;
c) all mandatory safety measures are not in place (proper scaffolding, safety harnesses, helmets, etc.);
d) it rains and the work areas are not protected against rainfall;
e) the requirements of Clauses 2.1.2 and 2.1.3 are not met.

2.2. Temperature during and after works

2.2.1. Dirt, mortar residues and other materials that may impair the adhesion of the panels to the walls must be removed from the façade.
2.2.2. Highly absorbent (pervious concrete), crumbling or dusty surfaces must be thoroughly cleaned and primed with a deep penetrating primer.
2.2.3. It is necessary to remove any protruding parts (mortar, loose concrete) from silicate blocks, brickwork and concrete. To strengthen the surface of the masonry of the silicate blocks and to reduce the absorption, it is necessary to prime with an impregnating primer. Silicate brickwork and concrete do not need to be primed. After priming, the insulation panels may be adhered no earlier than 4 hours after.
2.2.4. Any works that result in an increase in the moisture content of the substrate must be carried out at least 72 hours prior to the start of the thermal insulation adhesion.
2.2.5. In the case of thermal insulation of a building under construction, where the insulation is an integral part of the façade design, the installation of the roof and all masonry and concrete works which cause the building to become damp must be completed at least 14 days before the start of the adhesion of the thermal insulation.
2.2.6. Electrical, alarm and CCTV installations must be completed before the start of the insulation works, and the ends of the installation cables must be left longer where necessary (assess the thickness of the KODERUS insulation material).
2.2.7. All planned inserts to which handrails, doorstops, light fixtures, etc. will be attached must be fitted prior to the adhesion works of the thermal insulation material.
2.2.8. Gutters and other rainwater drainage systems shall be installed after thermal insulation works.
2.2.9. Before the insulation panels are adhered, the vertical and horizontal geometry of the building must be checked, and changes in the irregularities of the individual plane of the façade must be marked on the drawing. If the plane unevenness exceeds the tolerances, the contractor shall invite the representatives of the client and the material suppliers, and shall present the method of levelling the plane (different thicknesses of insulation material, higher adhesive content). Permissible tolerances are 30 mm.
2.2.10. When checking the verticality of the façade, a string with a plumb bob should be lowered at the corners of the individual façade planes and attached to the temporary supports by pulling them back 2-3 mm more than the required insulation thickness to prevent the string from touching the surface of the insulation panels, and to level the panels with the help of a plastic pad of a certain thickness. These strings shall remain in place for the duration of the façade insulation works.
2.2.11. When starting the works, it is necessary to take into account the design layout of the façade panels and, if required, to determine the verticality of the windows between the floors by means of a string or a laser, as the vertical seams will have to match the window frame.

3. Evaluation of tolerances and defects in goods

Before adhering KODERUS thermal insulation panels, it is necessary to make sure that the façade panel or other element does not exceed the tolerances and possible allowable defects. Next, attach the plinth profile or the wooden ruler - the point on which the first row of insulation material will rest. The first row must be particularly well aligned horizontally, as the first row will be the basis for the entire façade that follows.

3.1. Allowable tolerances and defects in the façade panel (unusable until the defect is rectified)

3.1.1. Tolerance of the angle between the long and short sides measured at 90 degrees + 1.5 mm.
3.1.2. Dimensional tolerances of up to + 6 mm on the long side and up to + 3 mm on the short side.
3.1.3. Up to + 3 mm bending or deflection is possible.
3.1.4. Minimum thickness of the concrete cladding layer at the thinnest point is 5 mm.
3.1.5. Concrete pores may not form more than 4% of the surface area of the workpiece.
3.1.6. Allowable micro-cracks – a maximum of 5 micro-cracks per panel with a total length not exceeding 20 cm (micro-crack thickness < 0,4 mm).
3.1.7. Colour difference – the lightness of the panels may vary, but not the main tint.
3.1.8. Discolouration – the surface of the products may show visible discolouration of no more than 5% of the surface (salts released by the concrete – "carbonation" – are not considered defects).
3.1.9. The tolerance in the thickness of the sill piece must not exceed + 3 mm.
3.1.10. Tolerances and defects in the façade panels and other elements shall be checked on-site. A repeat quality check is required prior to on-site installation works. In the case of goods exceeding the tolerances or mechanical damage caused during transport, such goods may, in exceptional cases and subject to the agreement of all parties, be used only by cutting off the undamaged part.

3.2. Replacement of the panel in case of mechanical damage
3.2.1. The panels must be protected against mechanical damage.
3.2.2. In case of mechanical damage affecting the performance of the façade, each panel can be replaced by a repair panel (with EPS – 5 cm thick). To replace a panel, it is first necessary to remove the entire concrete surface of the damaged panel and then cut the foam to the required depth. The insulation material shall be cut using a fine-toothed hand saw or a special knife for cutting.

3.3. Panel fading and tint difference
3.3.l. For the preparation of dense concrete, a special cementitious mix is used with additives and pigments (liquid and dry), which, as a chemical compound, can cause slight differences in colour
3.3.2. The pigments used to produce the dark colour of the cladding layer (concrete coating) are sensitive to alkalis.
3.3.3. Continuous exposure to moisture and drying, sunlight, rainwater on the dark shades of the cladding (concrete surface) affect and accelerate the lightening of the material.

4. Adhesion works

4.1. Thermal insulation cladding panel adhesion
4.1.1. Building insulation is provided by an external wall insulation system, using:

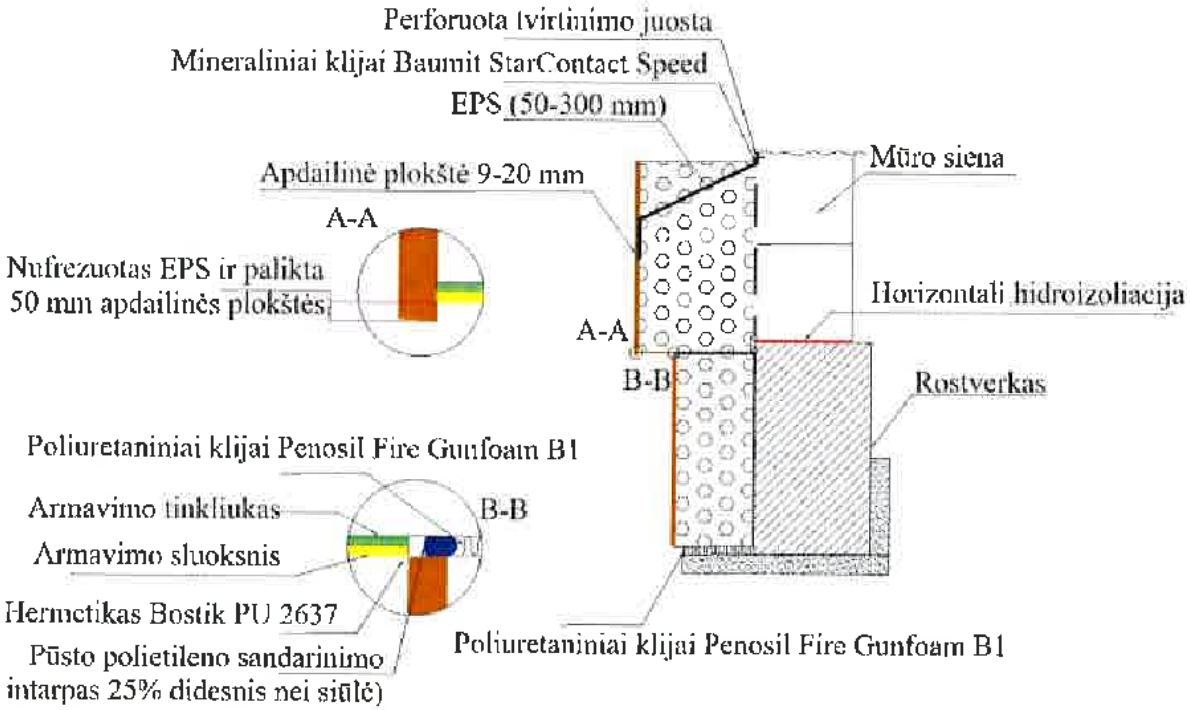
Surfaces to be thermally insulated	*Thermal insulation material*	*Thickness of thermal insulation material (cm)*
Silicate blocks Silicate bricks Gas silicate blocks Ceramic blocks Monolithic, concrete walls	Polystyrene foam (EPS 80 or EPS 100)	5–30 cm

4.1.2. Thermal insulation clinker cladding panels are adhered to the wall of the building with a mineral adhesive designed for polystyrene adhesion. The adhesive shall be supplied dry to the site (TI attached). The manufacturer's adhesive preparation recommendation (water content, adhesive mixing time, adhesive curing time, re-mixing, ambient temperature) shall be taken into account when mixing the adhesive on-site. After re-mixing, the adhesive is ready for use. At lower temperatures, special cold period adhesives shall be used.
4.1.3. The adhesive is applied around the perimeter of the panel, with an approximately 5 cm wide adhesive strip at the edges of the panel, and three to six palm-sized adhesive dots in the centre of the panel (Figure 1). When cutting the panels, the method of adhesion changes accordingly, with the adhesive strip being applied further away from the edge of the panel to prevent it from entering the panel joint. The adhesive shall be spread

to cover at least 60% of the surface of the panel when pressed against it. The quantity of adhesive to be applied shall be chosen to ensure good adhesion of the panel to the wall. The thickness of the adhesive layer shall be chosen to smooth out the unevenness of the surface as much as possible, but shall not exceed 25 mm. If the substrate unevenness does not exceed 5 mm, the adhesive can be applied to the polystyrene using a “comb”.

Figure 1. Applying adhesive to the thermal insulation panel

4.1.4. Unless the wall or scaffolding is covered with a safety net, adhesion or sealing (grouting) works must not be carried out in direct sunlight, at ambient temperatures above +25°C, or in strong winds. In the event of rain, the walls of the building must be protected from water by the installation of a temporary canopy.
4.1.5. Adhesive shall be applied to the thermal insulation panels from the bottom up. The panel shall first be placed in position and measured without adhesive. The foam can be sanded if necessary. Note the ends of the galvanised perforated tape protruding from the panel, which must be facing upwards. When the first row is adhered, the panel is placed against the wall after the adhesive has been applied, with the underside of the panel resting on a nailed support point or plinth profile. After the plinth has been made and the second row has been placed, a 50 mm EPS layer must be milled to prevent rainwater from running onto the reinforced layer. See (Figure 2. Section A-A).

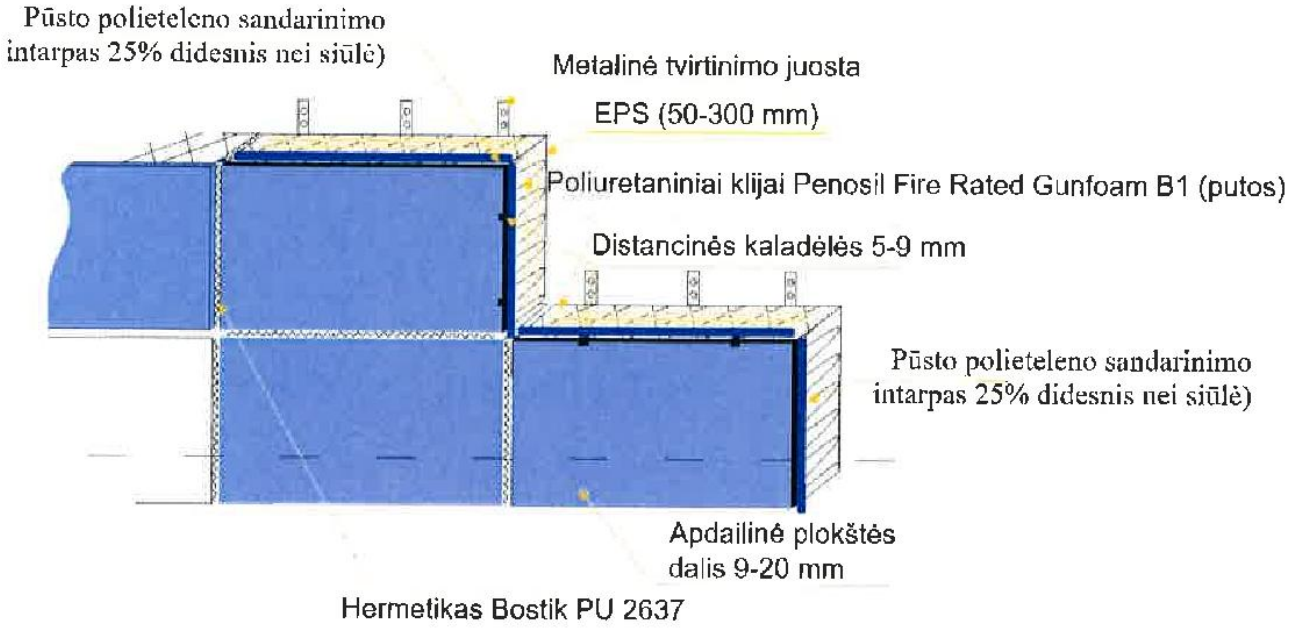


/Text in figure: Perforuota tvirtinimo juosta – Perforated fastening strip;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Nufrezuotas EPS ir palikta 50 mm apdailinės plokštės – Cut EPS and 50 mm of the cladding panel retained;
Poliuretaniniai klijai Penosil Fire Gunfoam B1 – Penosil Fire Gunfoam B1 polyurethane adhesive;
Armavimo tinkliukas – Reinforcing mesh;
Armavimo sluoksnis – Reinforcement layer;
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant;

Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Mūro siena – Masonry wall;
Horizontali hidroizoliacija – Horizontal waterproofing;
Rostverkas – Grillage/

Figure 2. Plinth assembly

A horizontal string is laid between the vertical strings lowered at the corners of the building wall to align the whole row. Before the second panel is adhered, the edge of the first panel shall be coated with 3-4 rows of polyurethane adhesive to prevent cracks in the unevenness of the panels, which may cause heat loss, and to ensure that the panels are adhered to each other. It is recommended to leave vertical and horizontal gaps (seams) of 5-9 mm (equal width) between the panels, using spacers, After the first row has been adhered, the ends of the galvanised perforated tape are mechanically fixed with fasteners according to the type of masonry Figure 3. For the second row, everything is identical, but when attaching the panel to the already adhered panel, the two sides of the panel must be covered with 3-4 rows of polyurethane foam. The mineral adhesive-coated panel shall be placed immediately in the appropriate location using the spacer pads and adhered to the previously adhered panel using the fixing pads. Smooth the panel with light strokes or presses over the entire area of the panel (Figure 3). A plastering ruler or spirit level must be used for levelling. The mineral adhesive must not get into the joints of the panels.



/Text in figure: Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Metalinė tvirtinimo juosta – Metal fastening strip;
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam);
Distancinės kaladėlės 5–9 mm – Spacers 5-9 mm;
Apdailinė plokštės dalis 9–20 mm – Part of the cladding panel 9–20 mm;
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant/

Figure 3. In-plane adhesion.

4.1.6. The panels shall be installed in such a way that the expansion seams between the panels are in a single row (both vertically and horizontally).

4.1.7. When cutting thermal insulation panels, it is important to consider in advance how they will be adhered. It is recommended to cut the finished part of the concrete panel using a power tool with a diamond-tipped blade without serrations.

It is recommended to use a fine-toothed handsaw or a special knife for cutting the insulation material, and a support ruler to ensure accurate cuts. When cutting panels, it is recommended to use an industrial vacuum cleaner to suck up dust to prevent the dust from accumulating on the concrete surface. Once the cutting of the material has been completed, dust and dirt must be cleaned off the panel before adhesion works.

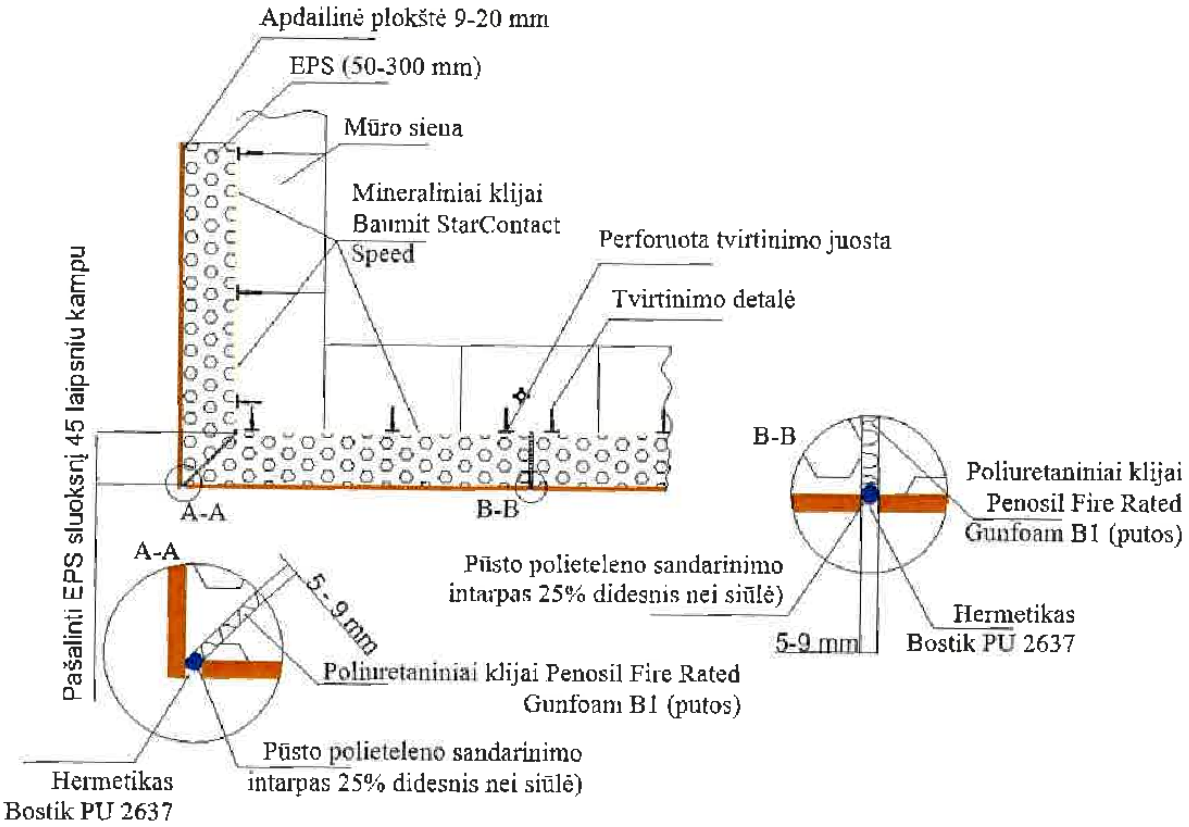
4.1.8. After installation of the KODERUS façade panels, the deviation of the surface from the plane and from the vertical, measured with a two-metre ruler or a spirit level, must not exceed 4 mm vertically and horizontally. The clearance between two adjacent panels is up to 3 mm.

4.1.9. After the completion of the daily installation works, the upper rows of panels must be covered with a film to prevent water from penetrating between the masonry wall and the façade panels.

5. Panel joints

5.1. Panel joints at outer corners

5.1.1. When the insulation panels are adhered at the outer corner (Figure 4), the polystyrene foam is cut at an angle of 45 degrees and joined to the other face through the thickness of the insulation material. On the other face of the wall, the polystyrene foam shall also be cut at an angle of 45 degrees and the panel shall then be joined to the panel already adhered. The gap between the polystyrene foam panels shall be filled with polyurethane foam and the gap between the concrete cladding (5-9 mm) shall be sealed with Bostik PU 2637 polyurethane sealant (see Annex No. 1).



/Text in figure: Pašalinti EPS sluoksnį 45 laipsniu kampu – Remove the EPS layer at an angle of 45 degrees;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Mūro siena – Masonry wall;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Perforuota tvirtinimo juosta – Perforated fastening strip;

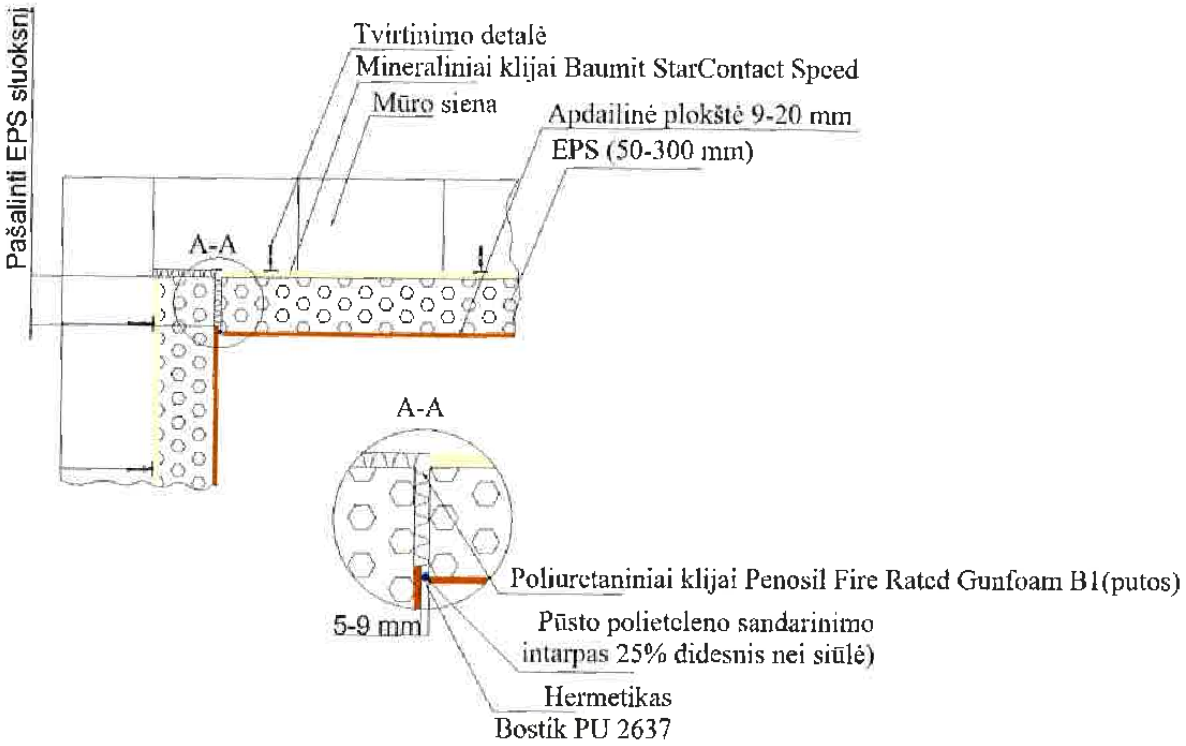
Tvirtinimo detalė – Fastener;
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam);
Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant/

Figure 4. Outer corner jointing

5.2. Panel joints at inner corners of the building

5.2.1. When joining the insulation panels at an inner corner of the building, a strip of un-cladded polystyrene foam of the required thickness is adhered to the corner and the insulation material with the cladding is adhered to it.

5.2.2. When insulating another wall, the insulation panel is attached to the already adhered panel using a spacer pad (5-9 mm), after having coated the edges of the panel with polyurethane foam (see Clause 4.1.3, Figure 1 above).



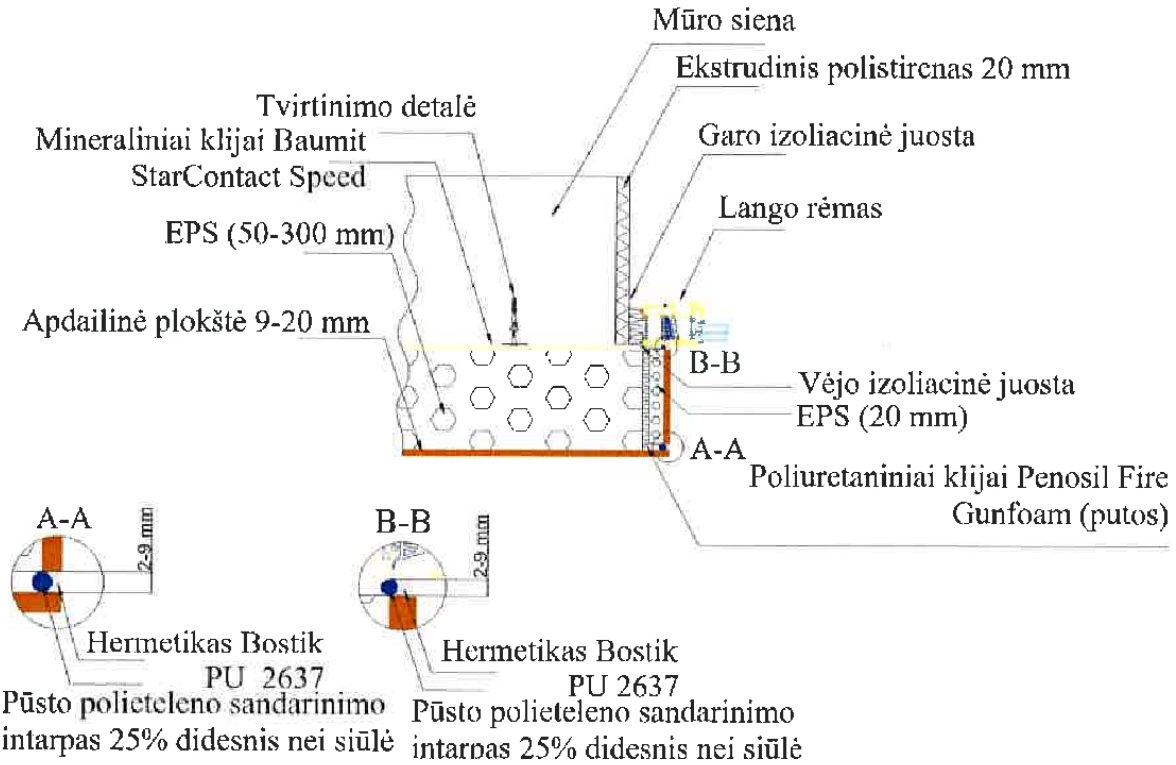
/Text in figure: Pašalinti EPS sluoksnį – Remove the EPS layer;
Tvirtinimo detalė – Fastener;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Mūro siena – Masonry wall;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam);
Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant/

Figure 5. Inner corner jointing

6. Window and door framing

6.1. Window, door and other corner framing works (Figure 6)

6.1.1. If the vertical seams of the panels are formed in a single row at the window frame according to the design, then the string is lowered by placing it 15-20 mm on the window frame, marks are made on the window frame and the expansion profile is adhered in place with a mesh or a blown polyethylene sealing insert 25% larger than the seam is placed and sealed with Bostik PU 2637 sealant. On the top of the upper frame, it is recommended to adhere the expansion profile on each floor separately once the horizontal height of the panel joint is known.
6.1.2. If the vertical seams of the panels are not aligned according to the design, then the expansion profile of the window shall be adhered to the frame with a 15-20 mm overlap, regardless of the verticality of the windows between the floors.
6.1.3. To adhere the full height of the frame, the panels are first measured without adhesive, and only after the measurements have been taken, the polystyrene foam is cut at the expansion profile and the cladding concrete panel is cut 5-10 mm longer. After the adhesive has dried, the released panel shall be marked and the whole of the frame shall be smoothed at once using a ruler, and any remaining roughness of the polystyrene foam on the surface shall be scraped off with a polystyrene smoothing rasp.
6.1.4. The upper frame must be installed with a >5% slope towards the façade to prevent rainwater from running onto the window.
6.1.5. The thermal insulation system (together with a layer of reinforcement and/or cladding tiles) is applied to the window and door frames 25 mm.
6.1.6. If self-expanding strip is used, the distance between the thermal insulation material and the window frame must be between 8 and 12 mm at that point. The compression of the self-expanding strip should be between 50 % and 70 %.



/Text in figure: Tvirtinimo detalė – Fastener;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Mūro siena – Masonry wall;
Ekstrudinis polistirenas 20 mm – Extruded polystyrene 20 mm;
Garo izoliacinė juosta – Steam insulation strip;
Lango rėmas – Window frame;
Vėjo izoliacinė juosta – Wind insulation strip;

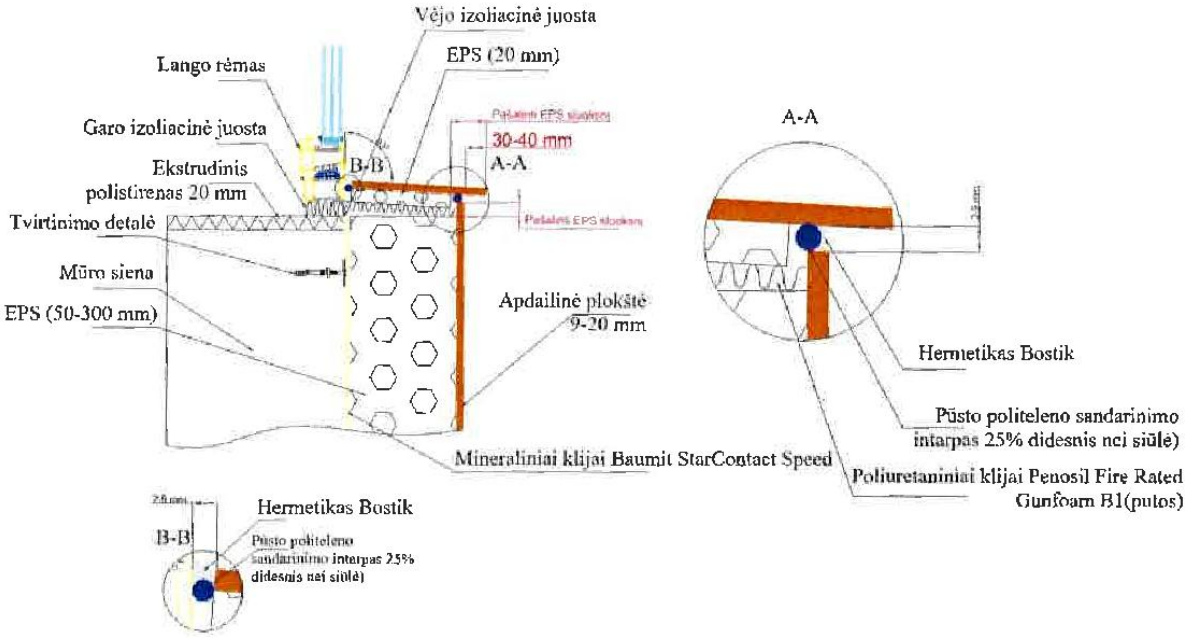
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam);
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant;
Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam/

Figure 6. Joining the façade to the window frame through the horizontal section.

7. Window sill and transom installation works

7.1. Window sill installation (Figures 7 and 8)

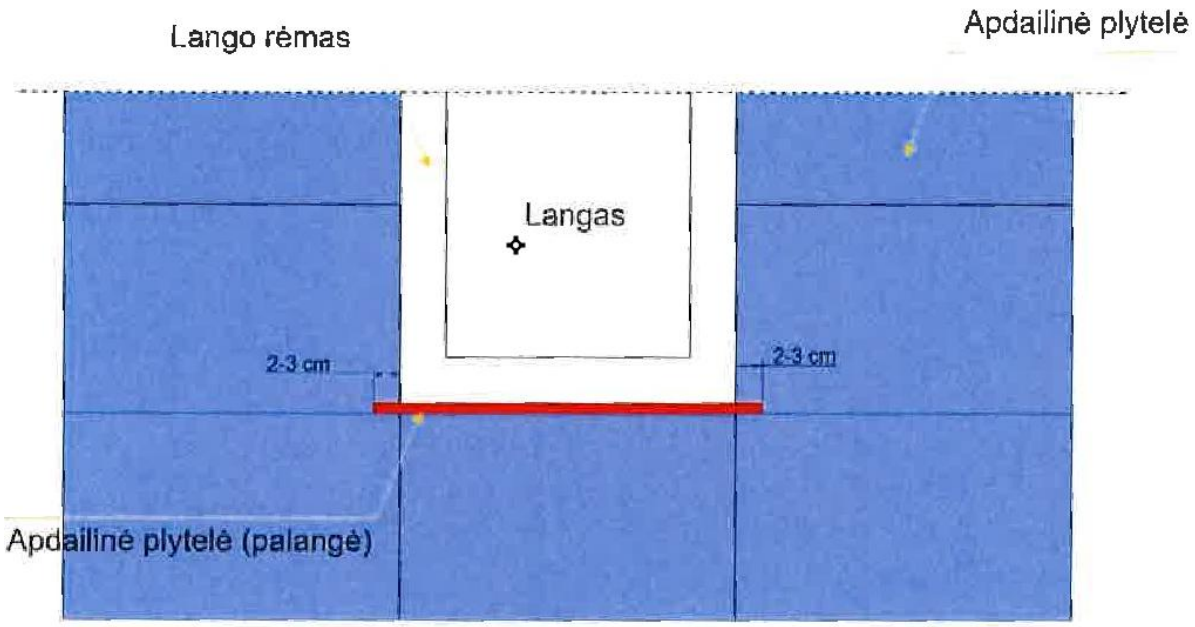
7.1.1. The window sill shall have a minimum clearance of 45 mm from the window sill profile.
7.1.2. The slope shall be formed towards the outside.
7.1.3. Once completing framing works, all remaining gaps between the window frame and the insulation material, as well as the gaps where the insulation panels join, should be filled with polyurethane foam with special precision. The polyurethane-filled gaps should be reinforced with a reinforcing compound and a glass mesh.
7.1.4. Once the reinforcement layer has dried, the frames are then covered with cladding concrete tiles using a highly elastic adhesive. A self-expanding 5 mm strip shall be applied to the window frame and the cut edge of the window frame tile shall be supported by it, or a blown polyethylene sealing insert 25% larger than the seam shall be placed and sealed with Bostik PU 2637 sealant.
7.1.5. When installing window sills, the panels are measured and positioned on the reinforced substrate without adhesive, forming a complete single window sill from the individual tiles. The slope towards the outside is formed using spacers. When removing one panel at a time, several points of mineral adhesive are placed on the reinforced surface and the panel is adhered - the remaining area and the area under the window sill profile are filled with polyurethane adhesive. The remaining panels are adhered in the same way. A blown polyethylene sealing insert 25% larger than the seam is placed in the gap between the bottom panel and the window sill and sealed with Bostik PU 2637 sealant.
7.1.6. The window sill shall be protruded 30-40 mm from the plane of the façade and recessed 20-30 mm into the sides of the façade.



/Text in figure: Lango rėmas – Window frame;
Garo izoliacinė juosta – Steam insulation strip;
Ekstrudinis polistirenas 20 mm – Extruded polystyrene 20 mm;
Tvirtinimo detalė – Fastener;

Mūro siena – Masonry wall;
Vėjo izoliacinė juosta – Wind insulation strip;
Pašalinti EPS sluoksnį – Remove the EPS layer;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Hermetikas Bostik – Bostik sealant;
Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam)/

Figure 7. Installation diagram of a window sill in a façade. Front view.



/*Text in figure: Lango rėmas* – Window frame;
Apdailinė plytelė – Cladding tile;
Langas – Window;
Apdailinė plytelė (palangė) – Cladding tile (window sill)/

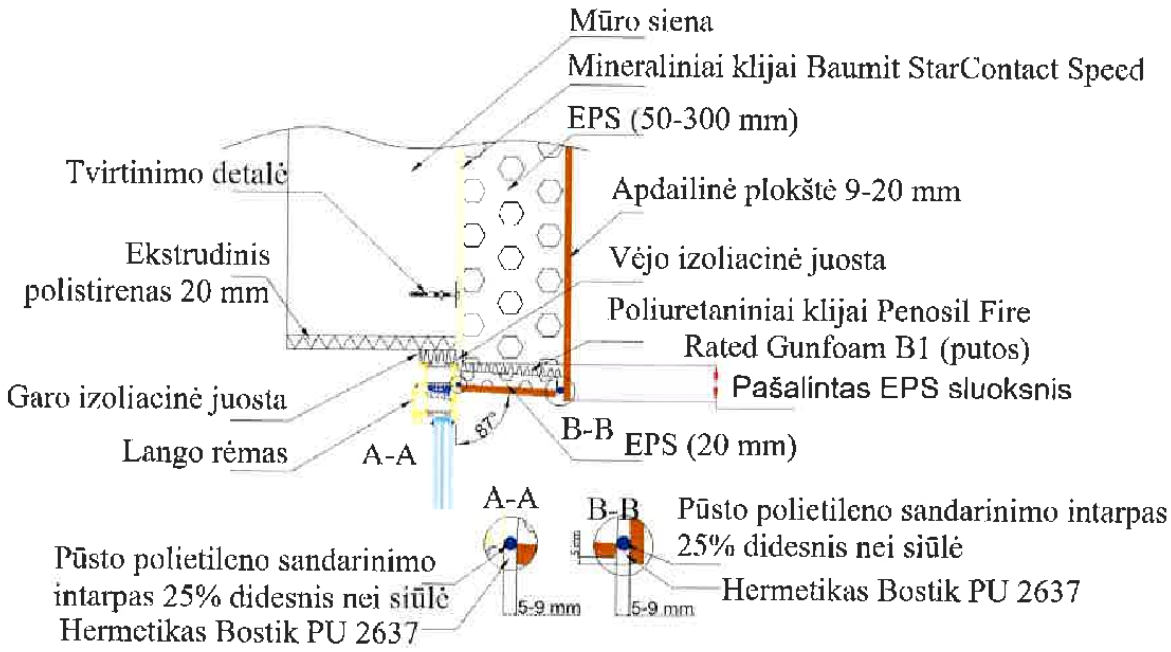
Figure 8. Installation diagram of a window sill on a façade. Front view.

7.2. Installation of the transom

7.2.1. For the installation of the transom, follow the workflow (recommendation) for the forming of the frame as set out in Clause 6.

7.2.2. The transoms are additionally mechanically fixed and a slope of ~5% (87-85°) is formed towards the façade.

7.2.3. The facade panel glued over the top of the transom shall be stripped of polystyrene to a depth of – 5 mm at the joint with the transom panel and shall have a blown polyethylene sealing insert between them, 25% larger than the seam, and shall be sealed with a sealant Bostik PU 2637.



/Text in figure: Tvirtinimo detalė – Fastener;
Ekstrudinis polistirenas 20 mm – Extruded polystyrene 20 mm;
Garo izoliacinė juosta – Steam insulation strip;
Lango rėmas – Window frame;
Mūro siena – Masonry wall;
Mineraliniai klijai Baumit StarContact Speed – Baumit StarContact Speed mineral adhesive;
Apdailinė plokštė 9–20 mm – Cladding panel 9–20 mm;
Vėjo izoliacinė juosta – Wind insulation strip;
Poliuretaniniai klijai Penosil Fire Rated Gunfoam B1 (putos) – Penosil Fire Rated Gunfoam B1 polyurethane adhesive (foam);
Pašalinti EPS sluoksnį – Remove the EPS layer;
Pūsto polietileno sandarinimo intarpas 25 % didesnis nei siūlė – Expanded polyethylene sealing insert 25% larger than the seam;
Hermetikas Bostik PU 2637 – Bostik PU 2637 sealant/

Figure 9. Connecting the façade to the window frame at the top through the vertical section.

8. Thermal insulation panel joint sealing works

8.1. Sealing of panel gaps (joints) with sealant

8.1.1. After insulating the walls of the building and installing the window frames, the cladding surface of the concrete must be rinsed with water.

Soapy water or water diluted with washing-up liquid (liquid soap) may be used. If soapy water is used, the entire wet area must be rinsed with clean water and dried.

8.1.2. The gaps between panels, frames/vertices/window sills tiles shall be filled with a polyurethane sealant (e.g. Bostik PU 2637). The sealant can be filled into the gaps between the panels by means of a hand or electric gun. The expansion joints shall be countersunk by approx. 3-4 mm. It is recommended to use soapy water to remove excess sealant.

8.1.3. The recommended temperature of the sealing surface is +5 to +30 °C.

8.1.4. Coverage from direct sunlight for 48 hours is required.

8.1.5. Before sealing, the seams shall be thoroughly cleaned of dust and other dirt which reduces/impairs adhesion. Once the seams have been prepared, a blown polyethylene sealing insert 25% larger than the seam shall be added and sealed with Bostik PU 2637.

9. Acceptance of works

9.1. Acceptance of façade installation works

9.1.1. The tolerances to be checked are described in Clause 3.

9.1.2. The visual assessment of the façade of the building shall be carried out at a distance of 30 m from the façade wall of the building on the shaded side of the façade.

Annex No. 1

/Logo: Bostik
smart adhesives/

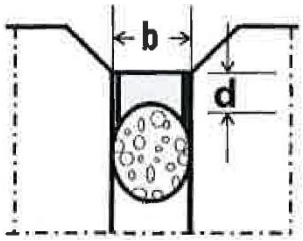
"Bostik" seam sealing system

The system includes Bostik Urethane 2637 polyurethane compound, sealing profiles and Bostik Primer 5075 primer. The system is used primarily for façade, construction and installation work, filling seams between concrete, steel, masonry, wood, glass and plastic. Features of the system:

- upon reaction with atmospheric moisture, the sealant compound becomes highly elastic (elasticity of the polyurethane reaches 25% of the seam width) and rubber-like;
- the dried material looks aesthetic and can be painted over using flexible paints;
- polyurethane seals do not undergo secondary vulcanisation and remain elastic for decades;
- adheres perfectly to common construction materials with no need for priming;
- the sealant is highly resistant to exposure to water, UV radiation, alkalis, solvents and changes in temperature (from -30°C to +70°C);
- the polyurethane sealant is easy to spread and smooth during its application;
- the sealant can also be applied to wide seams;
- excellent for filling seams between granite and marble panels;
- the material does not accumulate static energy and therefore does not attract dust.

Procedure for sealing façade seams

1. The width of the seam should be at least 5 mm and not more than 50 mm. Surfaces must be dry, clean, free from dust and grease. Mortar and cement residues must be removed mechanically. Residues of grease and oils, especially those on metal and glass surfaces, must be removed, e.g. using MEK.
2. Although Bostik Urethane 2637 adheres particularly well to most construction materials even without the use of a primer, Bostik Primer 5075 is used to improve adhesion to porous materials. The primer must be applied with a coarse brush and allowed to dry for at least 15 minutes but not more than 4 hours before application of the sealing compound.
3. The seam must be shaped so that the deepest part of the seam is in contact with the surfaces in contact and be at its thinnest in the middle, which is why a round Bostik sealing profile is used as a base for the sealant. The dimensions of the profile should be chosen so that it is embedded and does not slip when the sealant is applied. The profile must be at least 2 mm wider than the width of the seam (10, 13, 16, 20, 24, 30, 40, 50 mm in diameter) and the joints must be as tight as possible with no gaps. When fitting the profile into the seam, it is very important not to mechanically damage the surface of the profile, as this reduces the possibility of moisture and water accumulating in the seam.
4. It is recommended to install seam ventilation and dehumidification ducts when repairing existing seams or sealing seams in new buildings. Plastic tubes with a diameter of 8–10 mm should be installed bevelled at each panel joint at a distance of at least 3 m from each other. Seams in the polyurethane material should protrude between 2 and 3 mm.
5. The seam is sealed using polyurethane mastic, applied by hand or with an electric compressed air gun or syringe. The depth of the sealant seam (dimension "d" in the illustration) should be half its width (dimension "b" in the illustration). When sealing a deformable floor seam, it is recommended to maintain a seam depth to width ratio of 1:1 (b=d). Use masking strips to avoid staining the surrounding surfaces. The seam surface is smoothed using a wooden or metal spatula pre-soaked with lye (soap solution). Where the surface is to be painted, to improve the adhesion of the paint, apply a thin layer of fine, clean sand to the surface of the compound immediately after application of the mastic.



6. At +23°C and 50% relative humidity, the surface of the material sets after 7–8 hours. It settles to a depth of 1.6 mm within 1 day and 8 mm within 7 days. The surface can be painted using synthetic coatings and spray paints.