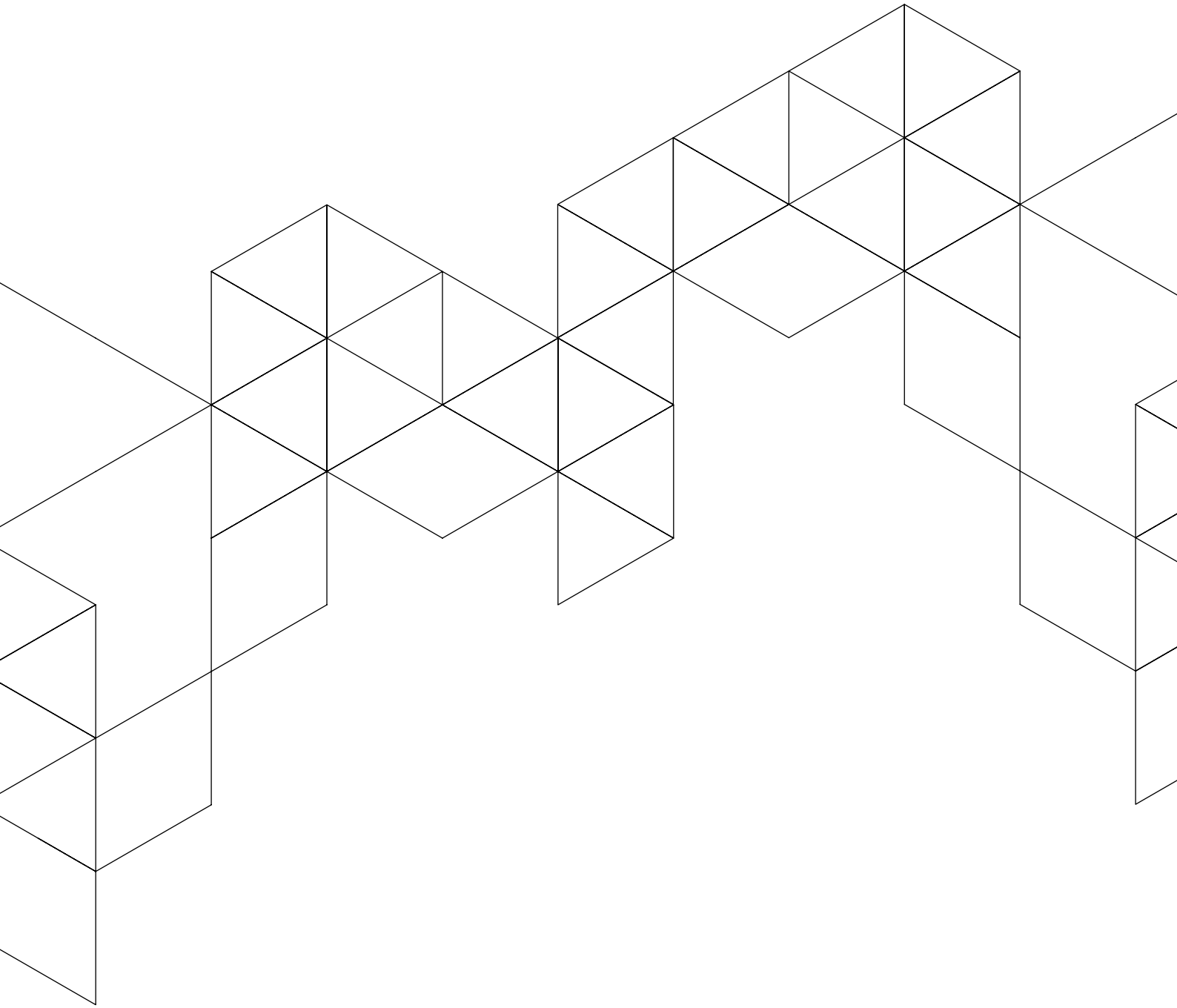
design details

ATLAS

EXTERNAL WALL INSULATION SYSTEMS
GUIDEBOOK



editorial

Thermal insulation of exterior walls with ETICS method is the most common and simplest way to improve thermal and decorative parameters of a building. Correct selection, design and execution of the thermal insulation system determine its future durability and effectiveness. Therefore, the details become of great importance during the implementation of the investor's concept.

Based on many years of experience, we would like to present "ATLAS Design Details" - a catalogue for architects and contractors. The book contains carefully elaborated recommendations and technical solutions for complete thermal insulation systems as well as design and architectural details. ATLAS catalogue includes dozens of technical drawings supplemented by axonometric visualizations and detailed descriptions.

Due to worldwide rapid growth of sustainable development and rational management of natural resources and environment concepts, some legal regulations have been introduced in the EU countries. Selection of the most important and current formal and legal issues is presented in this study as well.

We hope that information given in this book will facilitate the design and execution of the façades. We sincerely believe that your projects will meet the expectations and needs regarding efficiency, aesthetic and technical issues, so the user can enjoy problem-free operation for many years.

PhD Eng Mariusz Garecki
Director of Product Development and Training

M.Sc.Eng. Waldemar Bogusz
M.Sc.Eng. Paweł Karpiński
M.Sc.Eng. Jakub Klimczak
M.Sc.Eng. Maciej Rokiel

ATLAS
design details

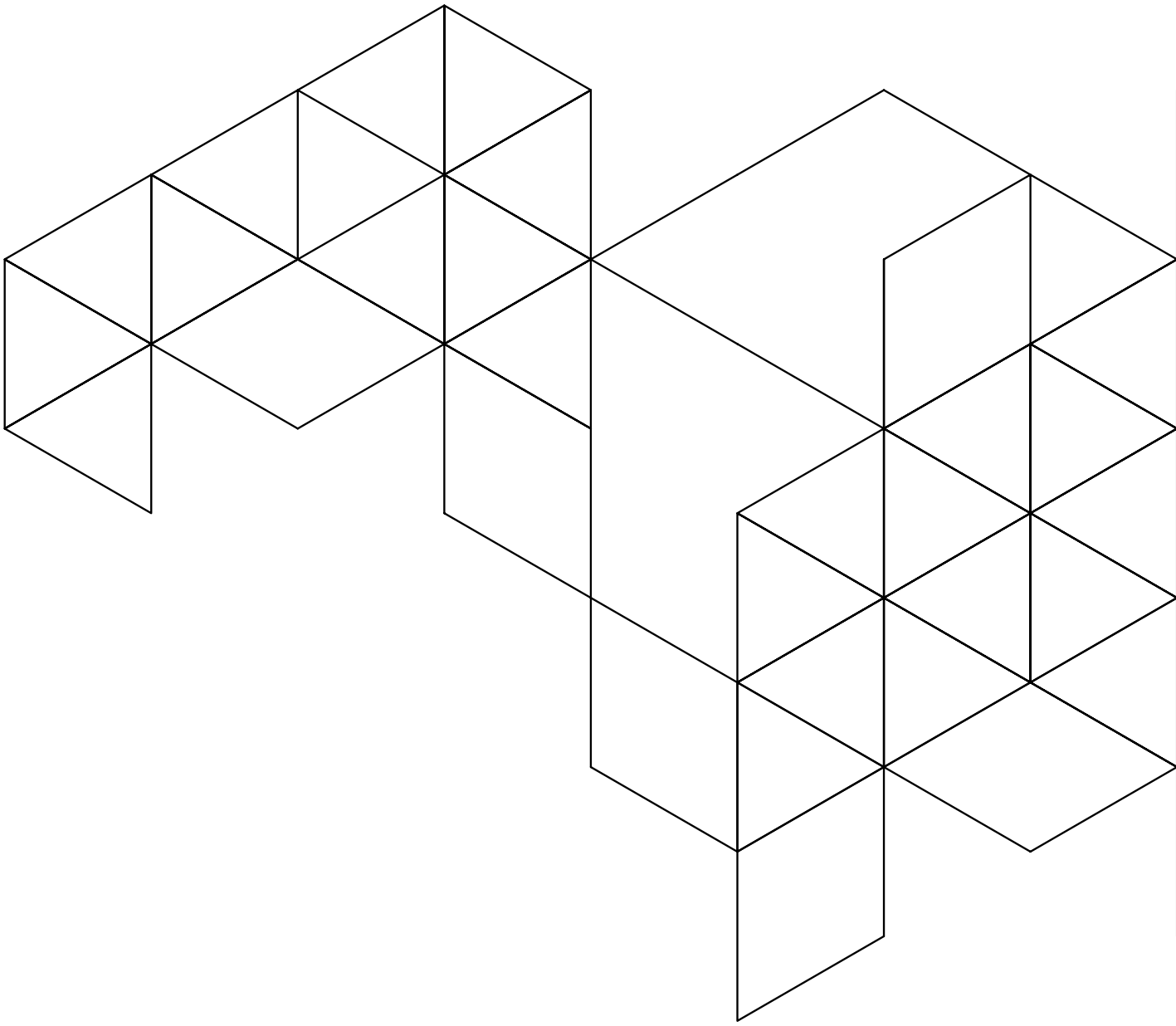


table of contents

PRODUCT BRANDS

RAW MATERIALS, ENERGETICS, LOGISTICS

PUBLIC BENEFIT ORGANISATION

SARP
COOPERATION

ATLAS cooperates with the Association of Polish Architects (SARP). In 2017 the organisation celebrates its 140th anniversary of activity and currently associates over 4,500 professionally active architects. The aim of the Association is to contribute to the creation of modern country appearance, its culture, civilization and civil society, with respect for the history. The main area of the Association activity is to improve legislation regarding architecture and construction environment.

Collaboration with SARP is based primarily on the dissemination of knowledge about Atlas Group system solutions within the architects' community. ATLAS was a patron of SARP 2015 Awards and participated in numerous events integrating the design industry, which were arranged by SARP regional departments. The cooperation also includes organization of trainings for representatives of regional chambers of architects and conferences promoting technical solutions facilitating the process of designing.

A few years ago ATLAS begun cooperation with British and Irish architects within the structures of RIBA (Royal Institute of British Architects) and RIAI (The Royal Institute of the Architects of Ireland). We were, among other activities, present at the RIBA Roadshow in London 2017, where we had an opportunity to promote our solutions for external wall insulation.

ATLAS Group design department works with designers and architects and supports the design activities within the „from the foundation to the roof" idea. The design support regarding system technical solutions is offered by all Atlas Group entities and brands: Atlas, Aval, Fox Dekorator, Izohan, Izolmat, Nexler, Chemiks, Dolina Nidy.

introduction

ETICS system
TECHNOLOGY

ETICS (External Thermal Insulation Composite System) belongs to the most popular methods of thermal insulation of both existing and newly erected buildings.
The ETICS technology consists of application of compatible materials and coatings (including insulation material and façade top finish) upon properly prepared substrate.
This system includes the basic components:

- adhesive mortar,
- thermal insulation material,
- mechanical fixings (anchors),
- reinforced layer (base coat),
- rendering coat,
- façade paint (optional),
  and complementary components:
- materials for construction details: starting tracks, protective corner beads, expansion joints beads, etc.
- sealing materials
- other necessary accessories (e.g. isothermal connectors, etc.)

Each material has its unique function:

- thermal insulation (EPS – expanded polystyrene or XPS – extruded polystyrene boards, mineral wool MW or PUR/PIR polyurethane panels, etc.) provides appropriate thermal insulation of walls,
- adhesive mortar and mechanical fixings provide adequate stability of the system,
- reinforced layer provides resistance to damage (e.g. resulting from impacts) and compensates stress resulting from heat load; in addition it forms the substrate for the top finish coating,
- top finish coating (render, façade paint, alternatively façade tiles, etc.) protects previously applied system layers against adverse atmospheric conditions and concurrently forms the decorative layer.

formal and legal requirements

According to the legal regulations **any product or set of products manufactured and put on the market for purpose of permanent incorporation in a building, which properties affect the basic requirements set for a building as a whole, is considered as a construction product**. Impact of the product or set of products on the basic requirements relates also to the operational performance of a building.

In practice, this means that a system consisting of proven and mutually compatible materials, which were tested against basic standard requirements, can be put on the whole European Union market. These requirements concern construction structures and are listed in the Regulation (EU) No. 305/2011 of the European Union Parliament and of the Council of 9 March 9 2011 laying down harmonized conditions for the marketing of construction products within the EU market.

Current building legal regulations provide seven basic requirements. The following criteria are to be met:

- structural stability and bearing capacity,
- fire safety,
- hygiene, health and environment,
- safety in use and facilities availability,
- protection against noise,
- energy saving and thermal insulation,
- sustainable use of natural resources.

The first basic requirement relates to **bearing capacity and stability**. Hence, it does not apply to ATLAS thermal insulation systems, as these systems are not designed for structural use and do not provide capacity or stability. According to the technical guidelines, the bearing capacity and stability are, however, considered in the context of another basic requirement – safety in use. The appropriate technical parameters and properties of ATLAS thermal insulation system protect structural elements from damage and direct influence of atmospheric factors. Moreover, thermal insulation systems are directly loaded with pressure and suction of wind.

SOME REGULATIONS LIST THAT A BUILDING EXTERIOR WALL MUST BE INSULATED WITH MINERAL WOOL BOARDS ABOVE 25 METRES FROM THE GROUND (INSULATION SYSTEM MUST BE CLASSIFIED AS NON-COMBUSTIBLE). THE NEED FOR USE OF MINERAL WOOL MAY ALSO RESULT FROM OTHER TECHNICAL CONDITIONS AND BUILDING FUNCTIONS AS WELL AS SPECIFIC LOCAL BUILDING REGULATIONS.

Fire safety is very important when it comes to thermal insulation systems. Fire resistance regulations require that individual building elements, including external walls, must be classified as non-combustible or fire retardant. ATLAS thermal insulation systems have been classified as fire retardant. ATLAS ROKER systems with insulation of mineral wool and top finish coat represented by mineral renders are classified as non-combustible.

Buildings must be designed and constructed with no danger for **hygiene, health and safety of users** throughout their whole life span and should not influence the environment quality. This requirement includes, inter alia, release of hazardous substances, volatile organic compounds and emission of radiation. Components of ATLAS systems are free of hazardous substances; all cement mortars have reduced (less than 2 ppm) content of soluble chromium (VI), which is considered to be the primary allergenic hazard factor. Façade paints and primers have limited content of volatile organic compounds (VOC).

The requirement for energy saving and proper thermal insulation has direct impact on ATLAS thermal insulation systems as their primary function is the improvement of the thermal insulation characteristic of external walls. Correctly selected thickness of thermal insulation material ensures the required thermal insulation level (which is determined by applicable standards) and reduces the energy consumption for heating and cooling.

Sustainable use of natural resources, constituting the seventh basic requirement, appeared in the legislation in 2013. According to this requirement, buildings must be designed, constructed and demolished with respect for sustainable use of natural resources and recycling of materials (in case of demolition) as well as for use of environmentally friendly raw and secondary materials. Environmental declarations should be used as a tool for the environmental impact assessment. ATLAS ETICS was one of the first Polish systems with Type III Environmental Declarations for five thermal insulation arrangements issued by the Building Research Institute (ITB). The declarations include elements necessary for thermal insulation (adhesive for polystyrene, polystyrene, mechanical fixings, adhesive for reinforcing layer, reinforcing mesh, priming mass) and differ in the type of the thin-coat rendering coat forming the top layer:
- with mineral renders (ETICS 1)
- with acrylic renders (ETICS 2)
- with silicate renders (ETICS 3)
- with silicone renders (ETICS 4)
- with silicone-silicate render (ETICS 5).

design recommendations concerning selection of insulation systems

The system selection aims to meet the basic requirements for a building. It is incorrect to think of design in terms of thermal insulation layer thickness only. Comprehensive thermal insulation does not only come down to meeting thermal insulation requirements (see table) and designing the fixing method (application of adhesive and mechanical fixings depending on the type of insulation material and the wall structure).

The starting point should consist of the analysis of the investment efficiency based on the check of operating costs and costs associated with the project. Then, one needs to consider the specificity of the building to be insulated, which means: material the exterior walls are made of, building shape, investor's aesthetic expectations (see COLOURS AND MATERIALS LIBRARY on our web site), building destination and location. The fire and the sound protection requirements must also be taken into account. The analysis of the correctness of the adopted solution in terms of building physics is not of less importance.

The essence of thermal insulation is to reduce the heat flow between the interior and air outdoors. However, it should be remembered that the heat flow never affects heat only, but rather heat and moisture. The distribution of temperature inside the wall structure depends on external and internal temperature, heat transfer resistance and heat resistance of each layer of wall. There is always certain amount of water vapour in the air which diffuses through the partition. Its volume depends on the air relative humidity indoors and outdoors as well as the diffusion resistance of the partition layers. Therefore, the system layers should be selected in order to eliminate the risk of vapour condensation, which can result in further development of mould and possible dampness inside the partition following the formation of the condensation plane or zone. The growth of mould is first visible in the area of two linear thermal bridges (e.g. joint between wall and ceiling/balcony/terrace or at the room corner), so the structural design of balconies, terraces or roofs are of same significance (see DESIGN DETAILS on our web site).

Thermal insulation must be designed to eliminate thermal bridging, it means areas of reduced thermal resistance. They can be broadly divided into two categories: material bridges, e.g. joint between brick wall and reinforced concrete ring beam, joint between reinforced concrete column and not-concrete wall (where materials of different thermal properties are used) and geometric bridges - when internal and external areas differ in size (e.g. at the corners). For this reason, the documentation must be adequately precise and should provide correct and clear design details (see DESIGN DETAILS on our web site).

MAXIMUM VALUES FOR THERMAL TRANSMITTANCE (U-VALUE) IN ACCORDANCE WITH THE REGULATION OF THE POLISH MINISTRY OF INFRASTRUCTURE OF 5 JULY 2013 ON TECHNICAL CONDITIONS APPLICABLE TO BUILDINGS AND THEIR PERFORMANCE. THE ORDINANCE WAS ISSUED IN RESPONSE TO 8TH DIRECTIVE 2010/31/EU OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 19 MAY 2010 ON THE ENERGY PERFORMANCE OF BUILDINGS. EACH EU MEMBER STATE IS OBLIGED TO PREPARE INDIVIDUAL REGULATIONS IN THAT REGARD, SO ALWAYS FOLLOW THE LOCAL REQUIREMENTS.

No.	TYPE OF PARTITION WITH CORRESPONDING INDOOR TEMPERATURE	$U_{c(MAX)}$ [W/m²·K]		
		SINCE 1.01.2014	SINCE 1.01.2017	since 1.01.2021
1	External walls: a) $t_i \geq 16°C$ b) $8°C \leq t_i < 16°C$ c) $t_i < 8°C$	 0,25 0,45 0,90	 0,23 0,45 0,90	 0,20 0,45 0,90
3	Internal walls: a) at $\Delta t_i \geq 8°C$ and walls separating heated rooms from staircases and corridors b) at $\Delta t_i < 8°C$ c) separating heated room from unheated room	 1,00 no restrictions 0,30		
4	Walls adjacent to expansion joints of width: a) up to 5 cm, permanently sealed and filled with thermal insulation to depth of at least 20 cm b) above 5 cm, regardless the way of sealing and insulation of joints	 1,00 0,30		
	Walls in unheated underground spaces	no requirements		

technical documentation

The technical documentation should include most of all:

- general thermal insulation design prepared in accordance to requirements listed in local building regulations, certificates (e.g. NSAI, BBA), approvals, etc.
- site survey report describing the technical condition of the building prior to thermal insulation application, the scope of application, installation contract, etc.
- technique of substrate preparation/repairs, requirements on application of subsequent system layers (e.g. temperature and humidity during application),
- detailed design with list of solutions chosen, e. g. for plinth zone, reveals, boards arrangement at corner zones, window sills, insulation of balconies, terraces, technological breaks, system of installation supervision, etc.

Some countries list specific individual requirements on the system installation, contractor's monitoring, warranties, which most often result from local supporting programs (grants). For detailed information one should always follow current national building regulations, European and/or domestic certificates, contractors' schemes, etc.

guidelines on design, application and project supervision

ETAG no. 004 *Guideline for European Technical Approval of External Thermal Insulation Composite Systems (ETICS) With Rendering.*

European Technical Assessment no. 06/0081 for ATLAS ETICS.

European Technical Assessment no. 06/0173 for ATLAS ROKER ETICS.

European Technical Assessment no. 06/0187 for AVAL ETICS.

European Technical Assessment no. 06/0281 for AVAL ROKER ETICS.

European Technical Approval no. 07/0316 for ATLAS XPS ETICS.

Irish Agrément Board Certificate 10-0347 *ATLAS/AVAL External Thermal Insulation Composite Systems.*

British Board of Agrément Certificate 13/5018 *ATLAS/ AVAL External Wall Insulation Systems.*

ETICS Guidelines. *Technical conditions of application, assessment and acceptance of façade works with the use of ETICS*, Association for Thermal Insulation Systems, 2015.

Thermal insulation on thermal insulation. *Guidelines on refurbishment of existing ETICS systems*, Association for Thermal Insulation Systems.

thermal insulation systems

ATLAS

DURABILITY

HYDROPHOBISATION

IMPROVED IMPACT RESISTANCE

SELF-CLEANING ABILITY

BIOCIDE CAPSULES

RESISTANCE TO UV

AESTHETICS

INSPIRATION

WIDE RANGE OF TEXTURES

PATTERNS

INTENSIVE COLOURS

FREEDOM OF COMPOSITIONS

SAFETY

FAST AND CONVENIENT

HIGH YIELD

EASY IN USE

USE IN VARIOUS WEATHER CONDITIONS

external wall insulation systems

ATLAS

1

1.1

ATLAS thermal insulation systems with EPS and XPS insulation

ATLAS ETICS, AVAL ETICS, ATLAS ETICS PLUS and ATLAS XPS systems are intended for use as external thermal insulation of walls made of masonry elements or concrete in order to provide them with appropriate thermal insulation properties. Systems can be used on newly erected or existing (modernised) vertical walls. They are recommended for thermal insulation in traditional, energy efficient and passive construction.

1. **WALL:**
   concrete or masonry wall made of ceramic, concrete, lime - sand, cellular concrete or stone elements

2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   - mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55), ATLAS HOTER S (AVAL KT 53)

3. **THERMAL INSULATION, for example:**
   - boards of expanded polystyrene (EPS), thickness according to thermal calculations
   - boards of extruded polystyrene (XPS), thickness according to thermal calculations

4. **MECHANICAL FIXING:**
   Mechanical fixings, as defined in the thermal insulation project, holding appropriate ETA issued in accordance with ETAG 014

5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   - dispersive adhesive mortar: ATLAS STOPTER K-100
   - mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55)

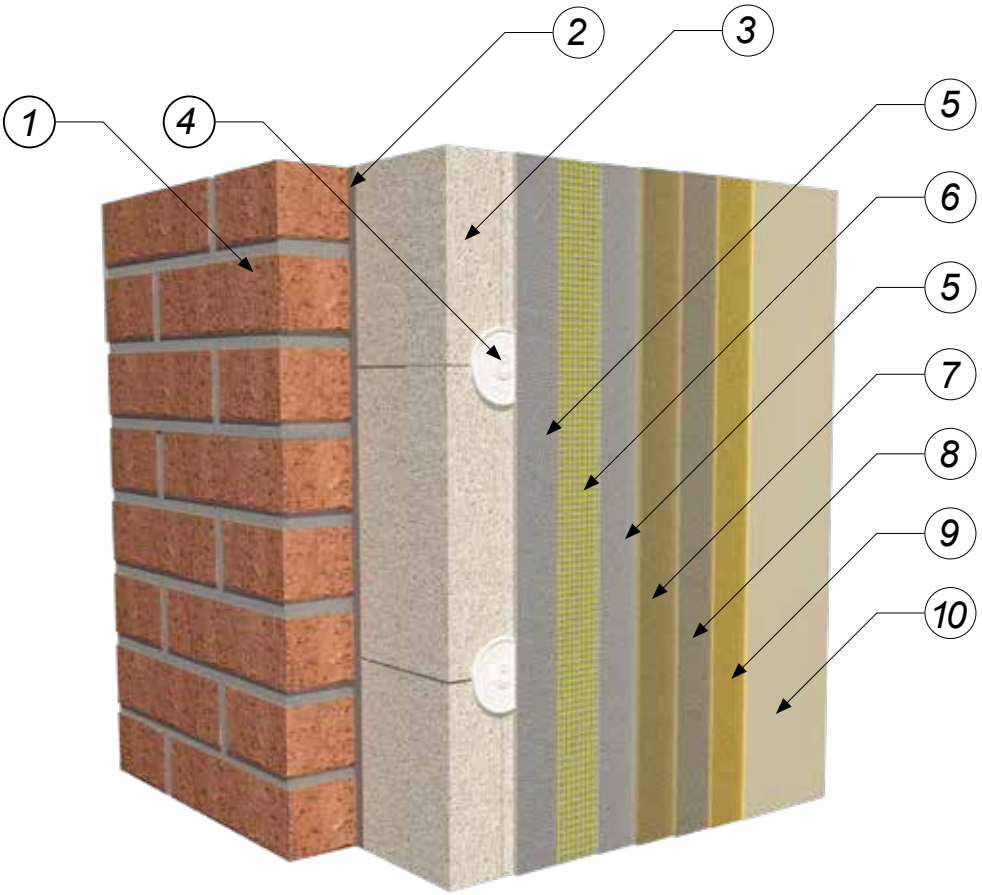
6. **REINFORCING FIBERGLASS MESH**

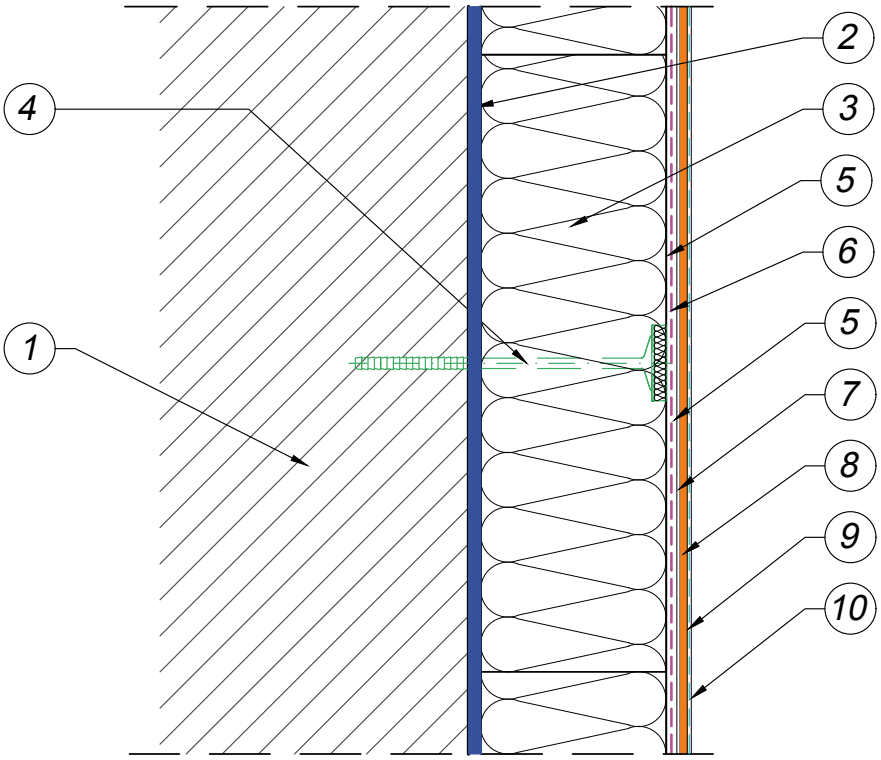
7. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   - ATLAS SILKON ANX (AVAL KT 76)
   - ATLAS SILKAT ASX
   - ATLAS CERPLAST (AVAL KT 16)

8. **RENDERING COAT, for example:**
   - silicone: ATLAS SILICONE RENDER, AVAL SILICONE RENDER
   - silicate: ATLAS SILICATE RENDER
   - silicone-silicate: ATLAS SILICONE-SILICATE RENDER
   - acrylic-silicone: ATLAS ACRYLIC-SILICONE RENDER, AVAL ACRYLIC-SILICONE RENDER
   - mosaic: ATLAS DEKO M (AVAL KT 77)
   - acrylic: ATLAS ACRYLIC RENDER, AVAL ACRYLIC RENDER, ATLAS CERMIT N-100
   - mineral: ATLAS CERMIT WN, ATLAS CERMIT ND, ATLAS CERMIT SN (AVAL KT 137), ATLAS CERMIT DR

9. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
   - ATLAS ARKOL NX
   - ATLAS ARKOL SX

10. **FAÇADE PAINT, for example:**
    - silicone: ATLAS SALTA N, ATLAS SALTA (AVAL KT 46)
    - silicate: ATLAS SALTA S
    - acrylic: ATLAS SALTA E
    - impregnant: ATLAS BEJCA


1
4
2
3
5
6
5
7
8
9
10

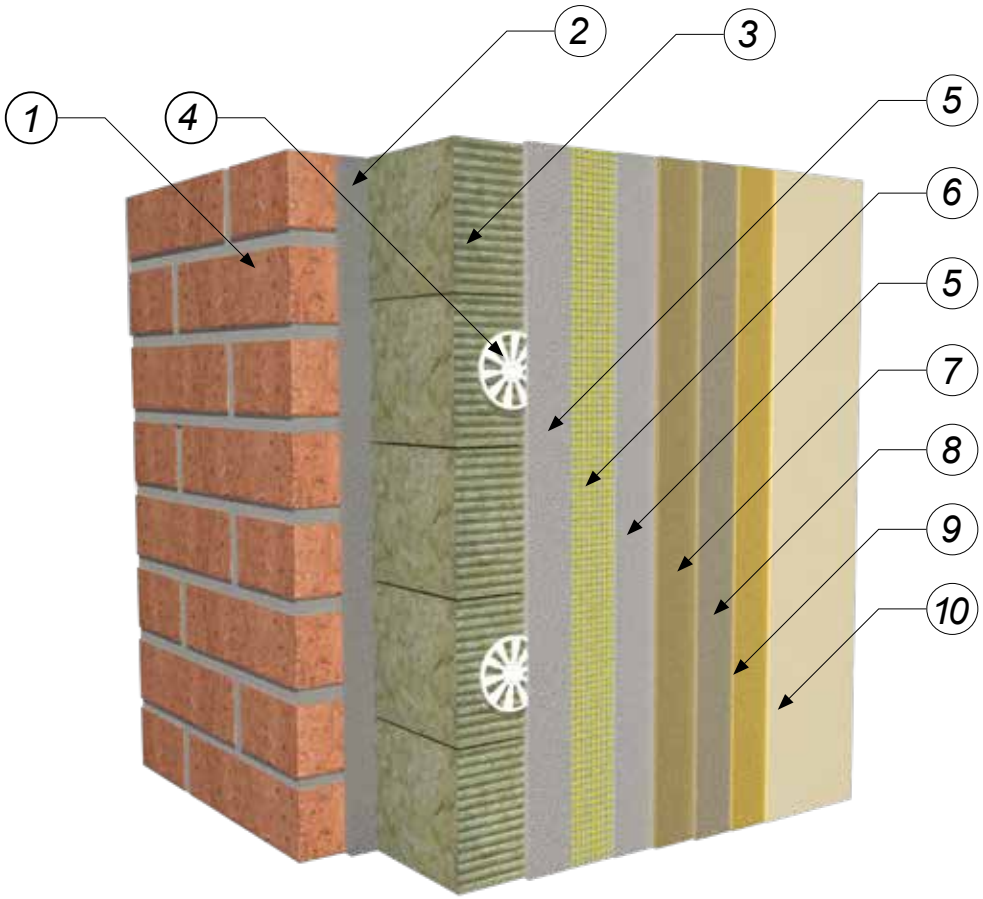

4
1
2
3
5
6
5
7
8
9
10

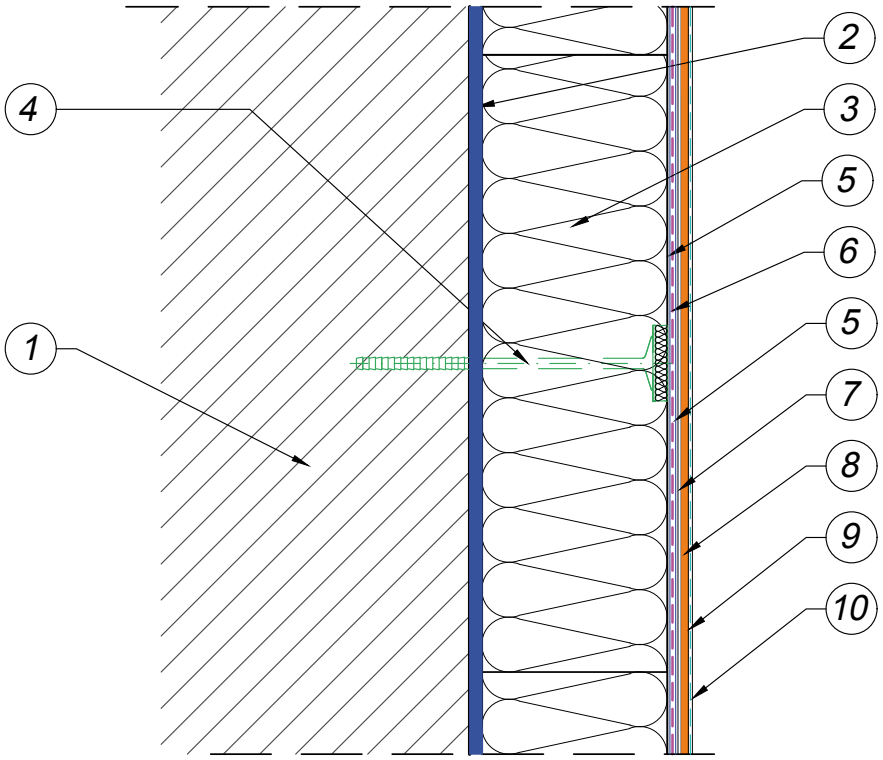
1.2

ATLAS ROKER thermal insulation system with mineral wool boards

ATLAS ROKER system is intended for use as external thermal insulation of walls made of masonry elements or concrete in order to provide them with appropriate thermal insulation properties. The system can be used on newly erected or existing (modernised) vertical walls.

1. **WALL:**
   concrete or masonry wall made of ceramic, concrete, lime - sand, cellular concrete or stone elements
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS ROKER U, ATLAS ROKER W
3. **THERMAL INSULATION, for example:**
   – boards of façade mineral wool , thickness according to thermal calculations
   – boards of lamella mineral wool, thickness according to thermal calculations
4. **MECHANICAL FIXING:**
   Mechanical fixings, as defined in the thermal insulation project, holding appropriate ETA issued in accordance with ETAG 014
5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – - mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS ROKER U
6. **REINFORCING FIBERGLASS MESH**
7. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKON ANX (AVAL KT 76)
   – ATLAS SILKAT ASX
   – ATLAS CERPLAST (AVAL KT 16)
8. **RENDERING COAT, for example:**
   – silicone: ATLAS SILICONE RENDER, AVAL SILICONE RENDER
   – silicate: ATLAS SILICATE RENDER
   – silicone-silicate: ATLAS SILICONE-SILICATE RENDER
   – mineral: ATLAS CERMIT WN, ATLAS CERMIT ND, ATLAS CERMIT SN (AVAL KT 137), ATLAS CERMIT DR
9. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
   – ATLAS ARKOL NX
   – ATLAS ARKOL SX
10. **FAÇADE PAINT, for example:**
    – silicone: ATLAS SALTA N, ATLAS SALTA (AVAL KT 46)
    – silicate: ATLAS SALTA S
    – impregnant: ATLAS BEJCA


1
2
3
4
5
6
5
7
8
9
10

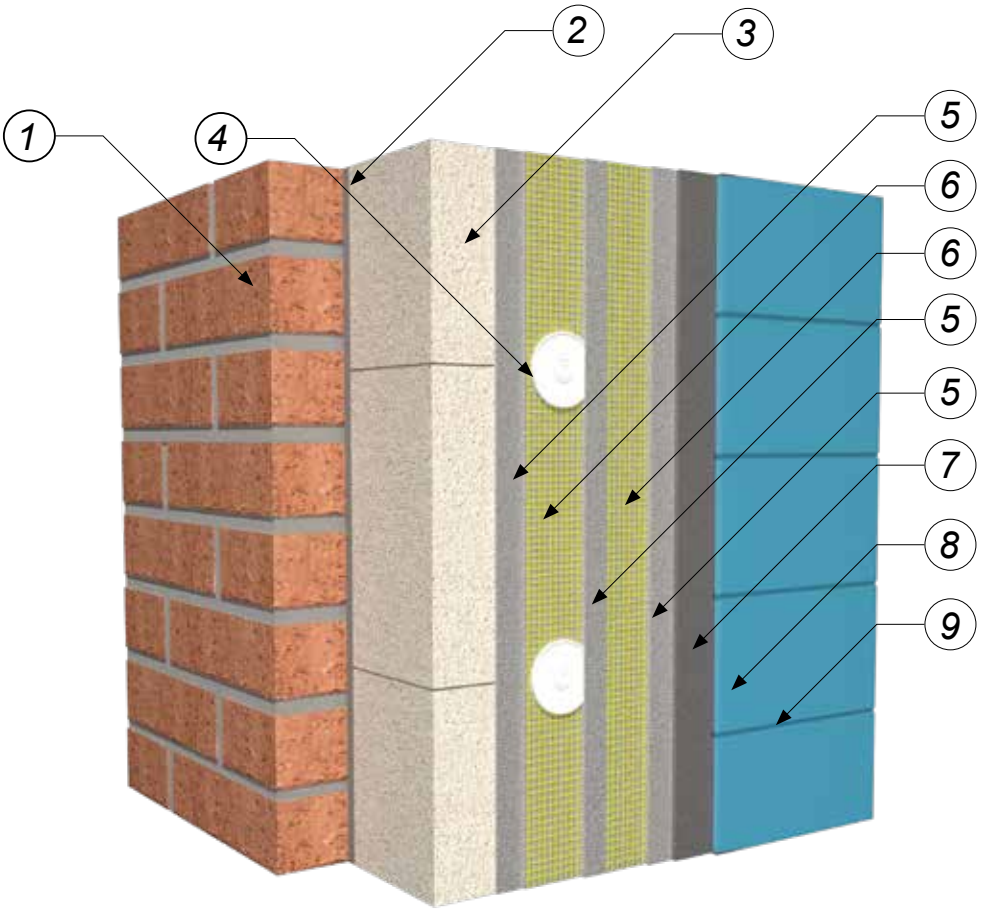

4
1
2
3
5
6
5
7
8
9
10

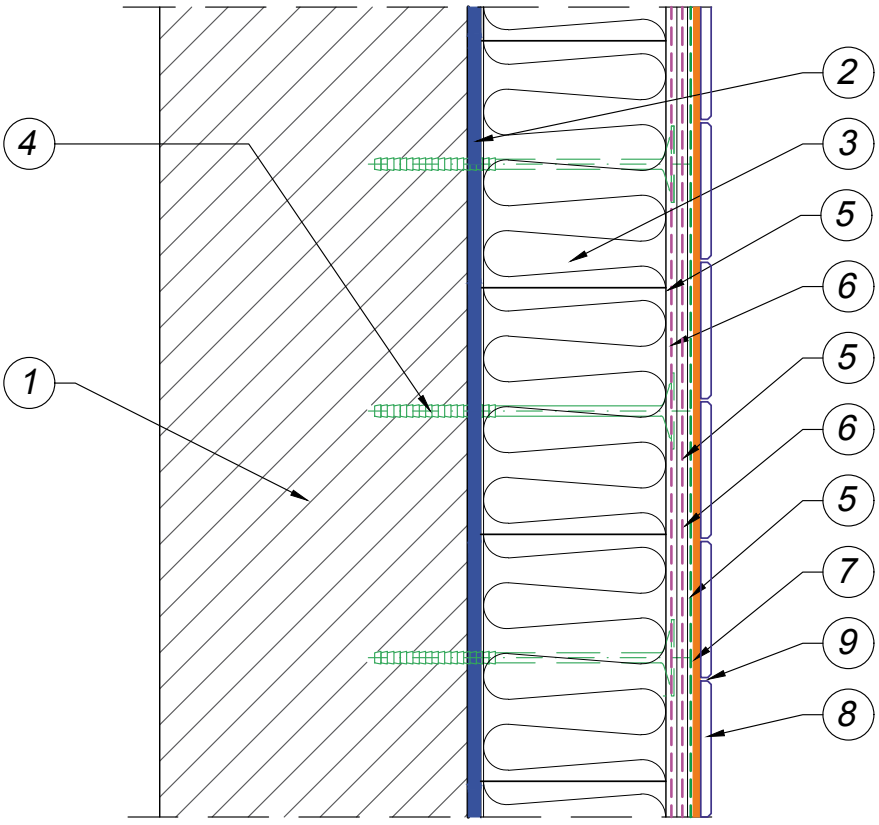
1.3

ATLAS CERAMIK thermal insulation system with ceramic cladding

ATLAS CERAMIK system is intended for use as external thermal insulation of walls made of masonry elements or concrete in order to provide them with appropriate thermal insulation properties, when the design involves the top layer made of tiles. The system can be used on newly erected or existing (modernised) vertical walls.

1. **WALL:**
   concrete or masonry wall made of ceramic, concrete, lime - sand, cellular concrete or stone elements
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55)
3. **THERMAL INSULATION, for example:**
   – boards of expanded polystyrene (EPS), thickness according to thermal calculations
   – boards of extruded polystyrene (XPS), thickness according to thermal calculations
4. **MECHANICAL FIXING:**
   Mechanical fixings, as defined in the thermal insulation project, accepted for marketing and use
5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive mortar: ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55)
6. **REINFORCING FIBERGLASS MESH**
7. **ADHESIVE FOR TILES OF C2T CLASS, for example:**
   – ATLAS ULTRA GEOFLEX C2TES1 (gel adhesive)
   – ATLAS PLUS WHITE (AVAL KM 15) C2TE S1
   – ATLAS PLUS (AVAL KM 17) C2TE S1
   – ATLAS GEOFLEX WHITE C2TE (gel adhesive)
   – ATLAS GEOFLEX C2TE (gel adhesive)
8. **CERAMIC TILES**
9. **GROUTING MORTAR, for example:**
   – ATLAS ARTIS grout CG2 WA


1
2
3
4
5
6
6
5
5
7
8
9


1
2
3
4
5
6
5
6
5
7
9
8

1.4

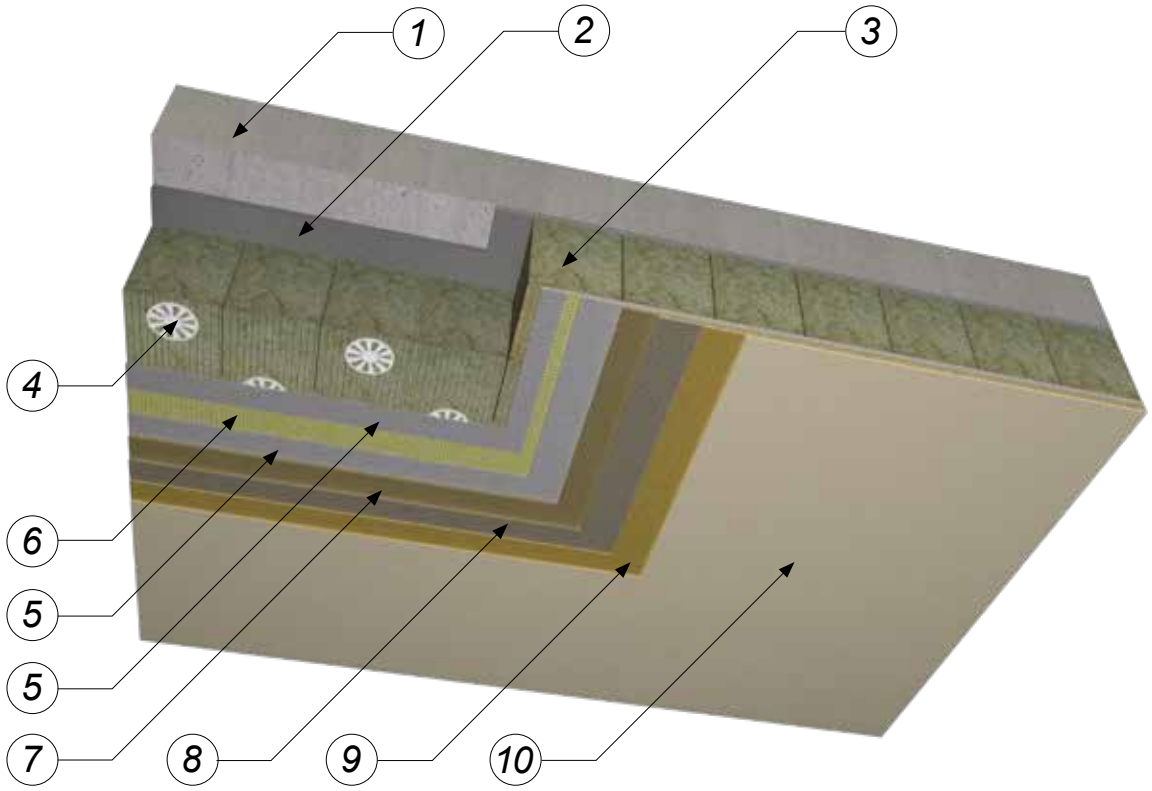
ATLAS ROKER G system for thermal insulation of ceilings of underground garages

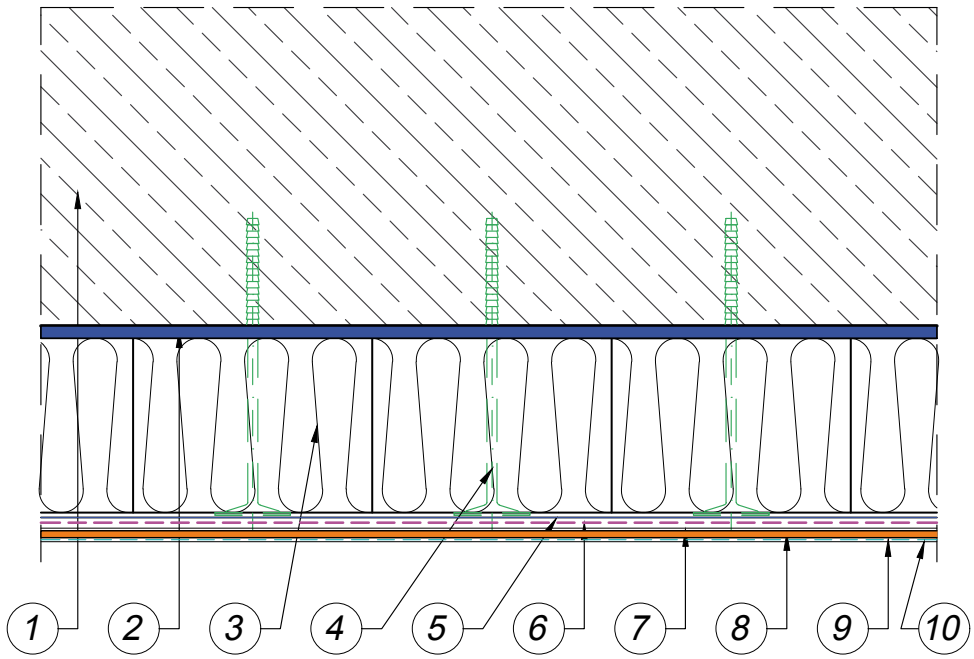
ATLAS ROKER G system is intended for use as thermal insulation of ceilings above garages, cellars, driveways, underground passages, in recreation and entertainment centres, shopping malls, office blocks, etc.

ATLAS ROKER G is available in three options:
- ATLAS ROKER G I – finished with paint coating applied upon the reinforcing layer
- ATLAS ROKER G II – finished with thin-coat rendering coat applied upon the reinforcing layer
- ATLAS ROKER G III – finished with machine-applied mineral render ATLAS CERMIT, applied directly upon mineral wool boards.

Sample arrangement: ATLAS ROKER G, option II:

1. **CEILING:**
   made of concrete
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   - mineral adhesive mortar: ATLAS ROKER U, ATLAS ROKER W
3. **THERMAL INSULATION, for example:**
   - boards of façade mineral wool , thickness according to thermal calculations
   - boards of lamella mineral wool, thickness according to thermal calculations
4. **MECHANICAL FIXING:**
   Mechanical fixings, as defined in the thermal insulation project, accepted for marketing and use
5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   - mineral adhesive mortar: ATLAS ROKER U
6. **REINFORCING FIBERGLASS MESH**
7. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   - ATLAS SILKON ANX
   - ATLAS SILKAT ASX
   - ATLAS CERPLAST
8. **RENDERING COAT, for example:**
   - silicone: ATLAS SILICONE RENDER
   - silicate: ATLAS SILICATE RENDER
   - mineral: ATLAS CERMIT
9. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
   - ATLAS ARKOL NX
   - ATLAS ARKOL SX
10. **FAÇADE PAINT, for example:**
    - silicone: ATLAS SALTA N, ATLAS SALTA
    - silicate: ATLAS SALTA S


1
2
3
4
6
5
5
7
8
9
10


1
2
3
4
5
6
7
8
9
10

1.5

ATLAS RENOTER system for refurbishment of existing thermal insulation

ATLAS RENOTER system is intended for improvement of thermal characteristic of walls previously insulated with polystyrene. It can be used on buildings of any type. ATLAS RENOTER can be installed directly upon the existing thermal insulation system.

1. EXISTING WALL WITH ORIGINAL THERMAL INSULATION

2. ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:
- mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55), ATLAS HOTER S (AVAL KT 53)

3. THERMAL INSULATION, for example:
- boards of expanded polystyrene (EPS), thickness according to thermal calculations

4. MECHANICAL FIXING:
Mechanical fixings, as defined in the thermal insulation project, accepted for marketing and use

5. MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:
- mineral adhesive mortar: ATLAS STOPTER K-50, ATLAS STOPTER K-20 (AVAL KT 85), ATLAS HOTER U (AVAL KT 55)

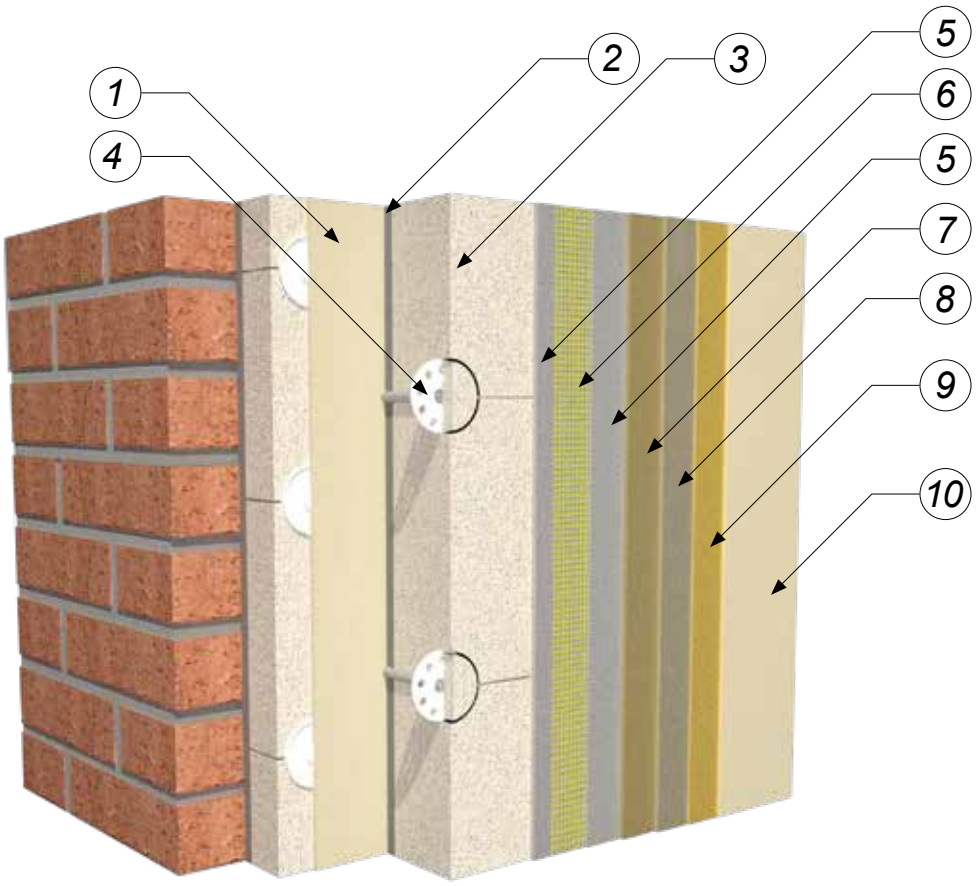
6. REINFORCING FIBERGLASS MESH

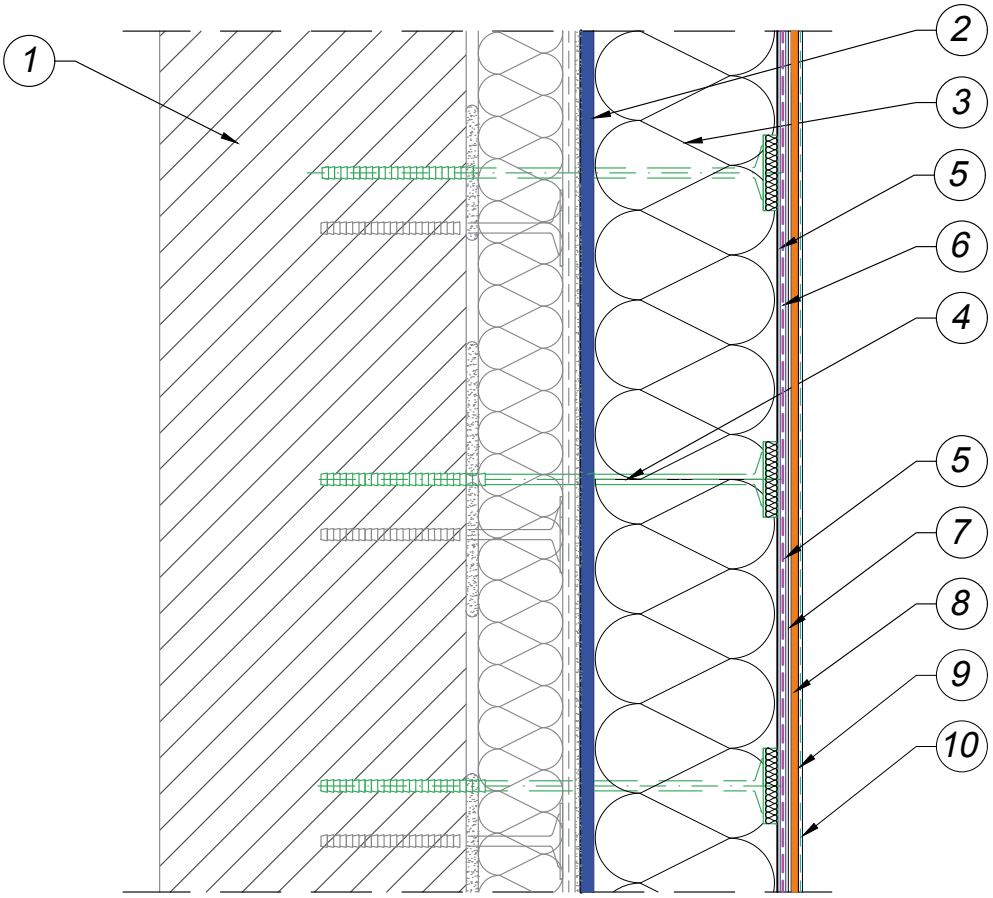
7. PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:
- ATLAS SILKON ANX (AVAL KT 76)
- ATLAS SILKAT ASX
- ATLAS CERPLAST (AVAL KT 16)

8. RENDERING COAT, for example:
- silicone: ATLAS SILICONE RENDER, AVAL SILICONE RENDER
- silicate: ATLAS SILICATE RENDER
- silicone-silicate: ATLAS SILICONE-SILICATE RENDER
- acrylic-silicone: ATLAS ACRYLIC-SILICONE RENDER, AVAL ACRYLIC-SILICONE RENDER
- acrylic: ATLAS ACRYLIC RENDER, AVAL ACRYLIC RENDER
- mineral: ATLAS CERMIT

9. PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:
- ATLAS ARKOL NX
- ATLAS ARKOL SX (for silicate paints)

10. FAÇADE PAINT, for example:
- silicone: ATLAS SALTA N, ATLAS SALTA (AVAL KT 46)
- silicate: ATLAS SALTA S
- acrylic: ATLAS SALTA E


1
2
3
4
5
6
5
7
8
9
10


1
2
3
5
6
4
5
7
8
9
10

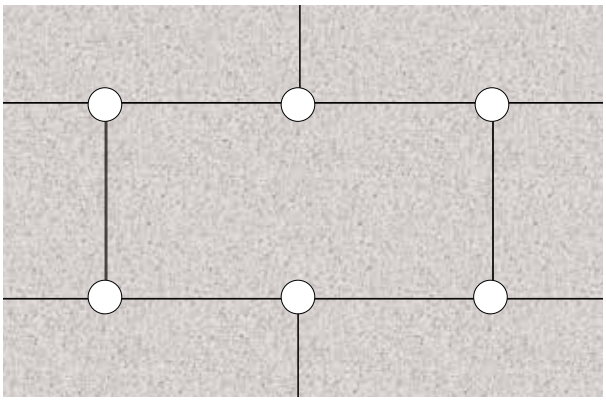
thermal insulation – boards and mesh arrangement

2

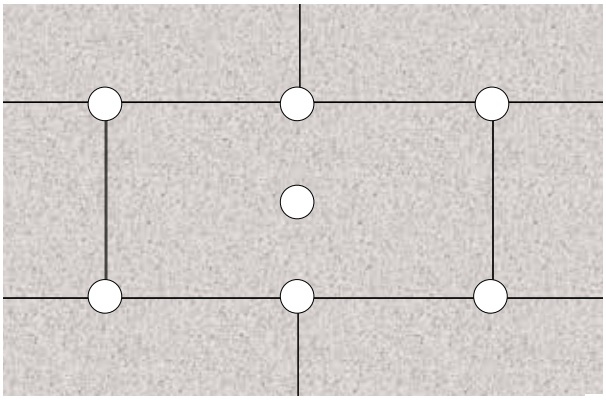
2.1

boards and mechanical fixings arrangement for EPS and XPS boards

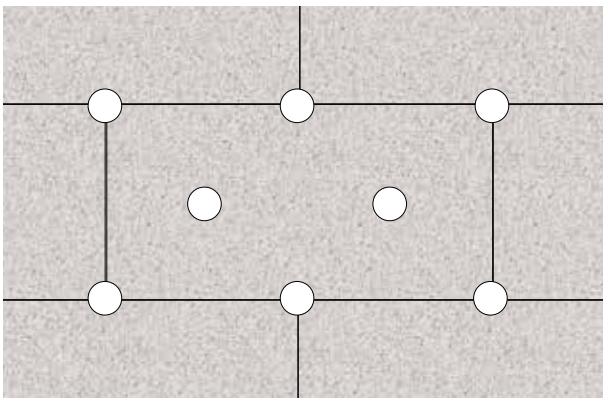
Exemplary arrangement of mechanical fixings



Number of mechanical fixings 4 pcs/m^2

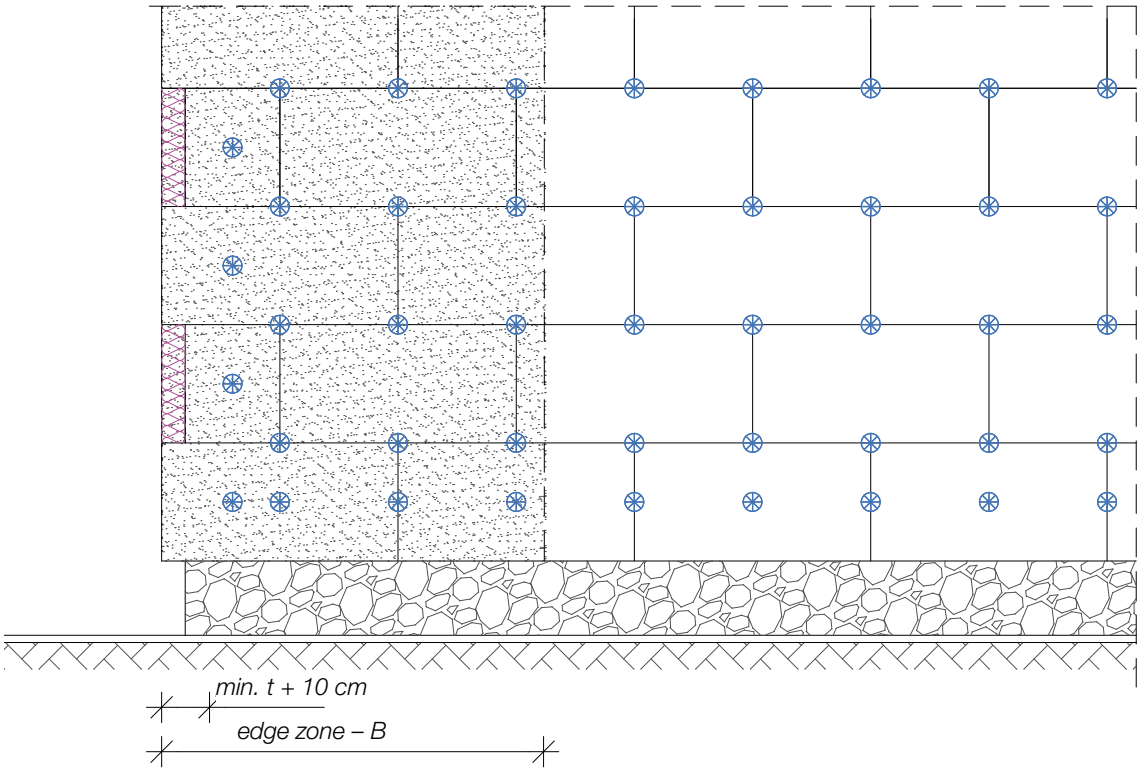


Number of mechanical fixings 6 pcs/m^2



Number of mechanical fixings 8 pcs/m^2

Exemplary densification of mechanical fixings at the edge zone:

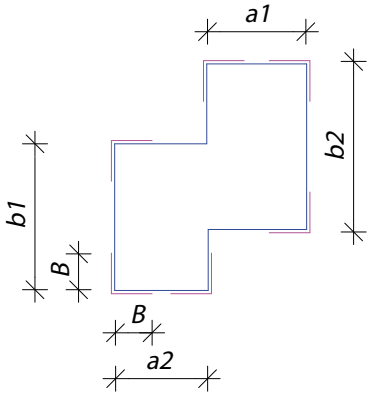


Determination of the edge zone width

The width of the edge zone is 1/8 of the length of the shortest convex exterior wall of a given building, but not less than 1.0 m and not more than 2.0 m, i.e.
B = 1/8 x the shortest from [a1, a2, b1, b2] and 1.0 <B < 2.0 m.

t – EPS or XPS board thickness

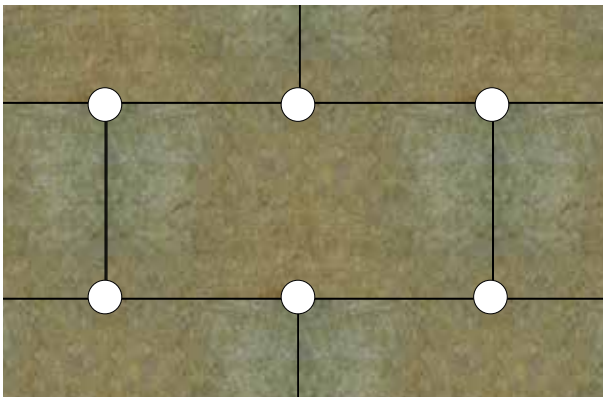
Note: The number of mechanical fixings depends on the wind load and in each case should result from the thermal insulation design.



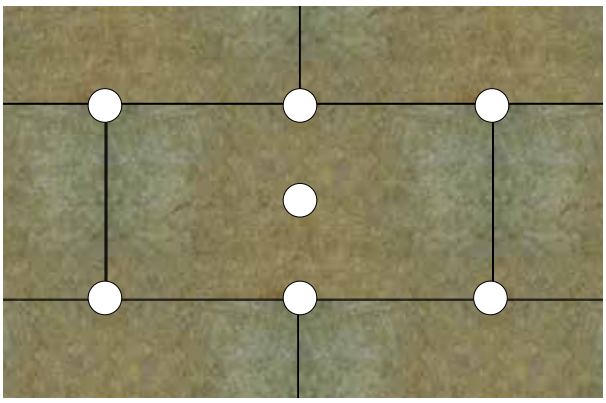
2.2

boards and mechanical fixings arrangement for façade mineral wool boards

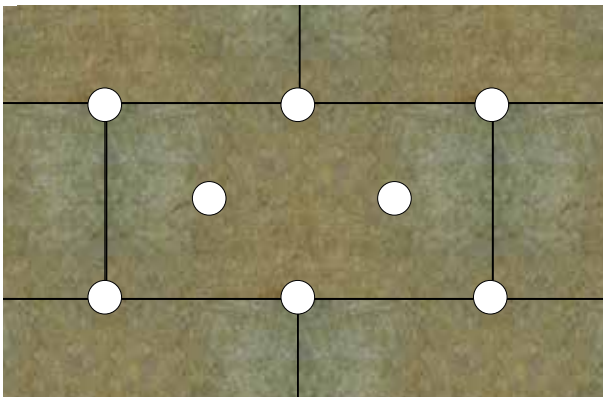
Exemplary arrangement of mechanical fixings



Number of mechanical fixings 4 pcs/m^2

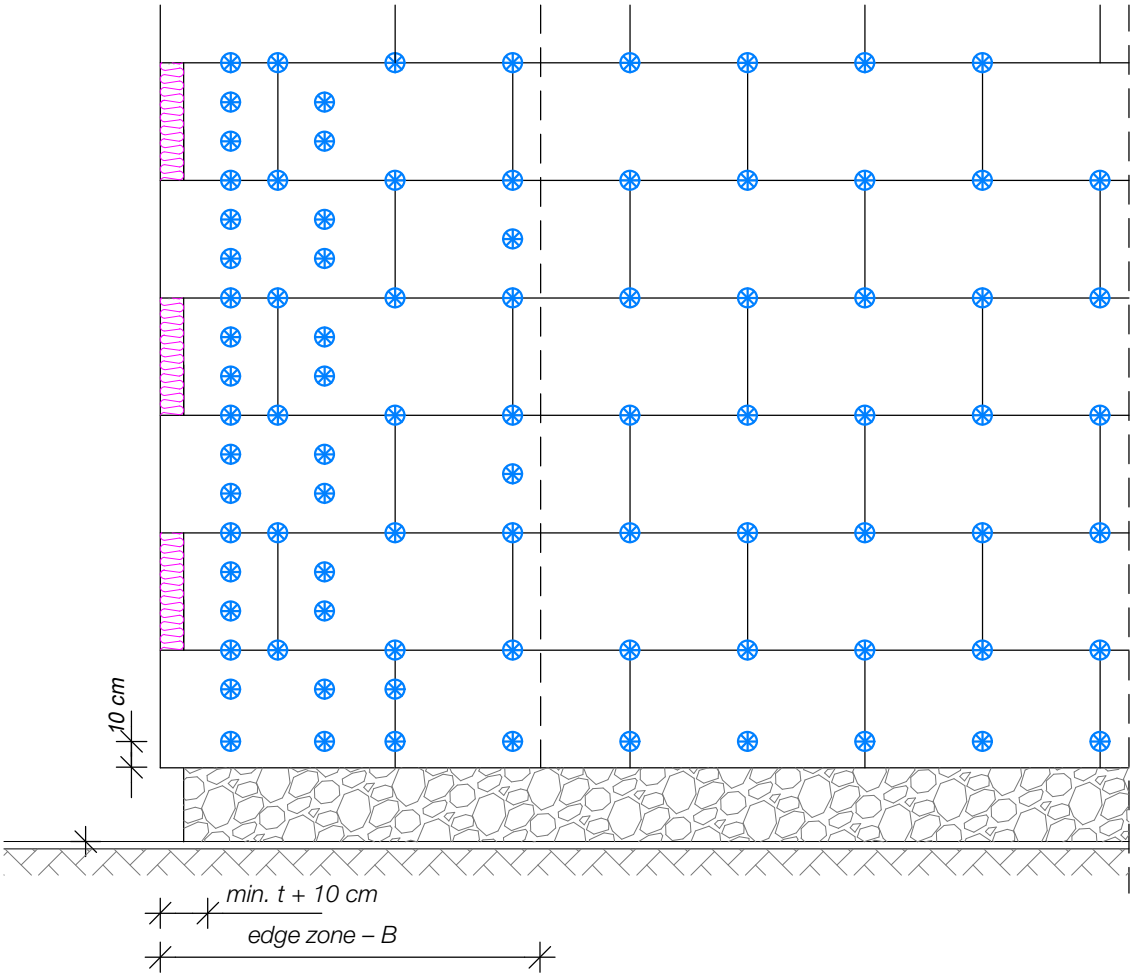


Number of mechanical fixings 6 pcs/m^2



Number of mechanical fixings 8 pcs/m^2

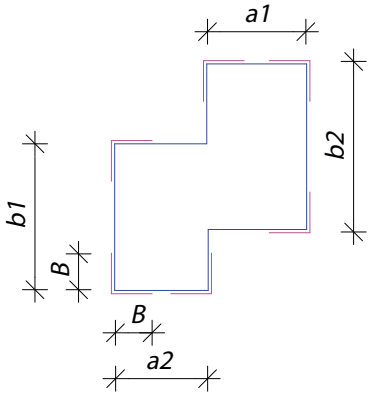
Exemplary densification of mechanical fixings at the edge zone:



Determination of the edge zone width

The width of the edge zone is 1/8 of the length of the shortest convex exterior wall of a given building, but not less than 1.0 m and not more than 2.0 m, i.e.
B = 1/8 x the shortest from [a1, a2, b1, b2] and 1.0 <B < 2.0 m.

t – mineral wool board thickness

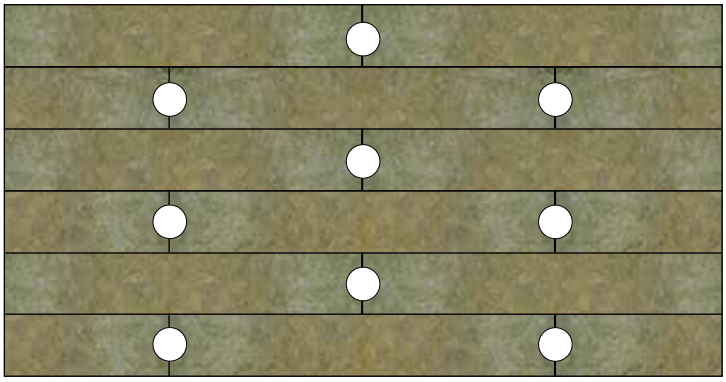


Note: The number of mechanical fixings depends on the wind load and in each case should result from the thermal insulation design.

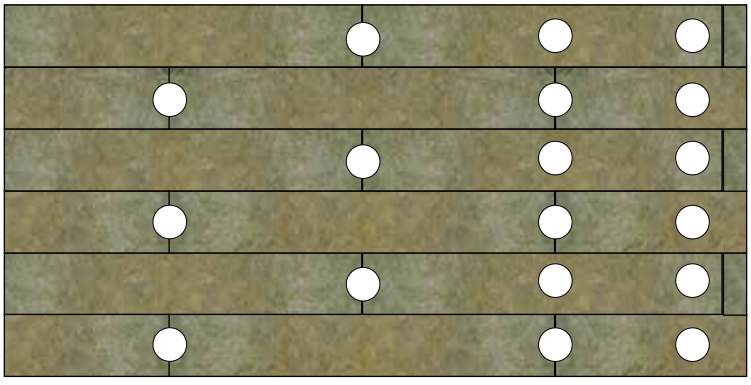
2.3

boards and mechanical fixings arrangement for lamella mineral wool boards

Exemplary arrangement of mechanical fixings

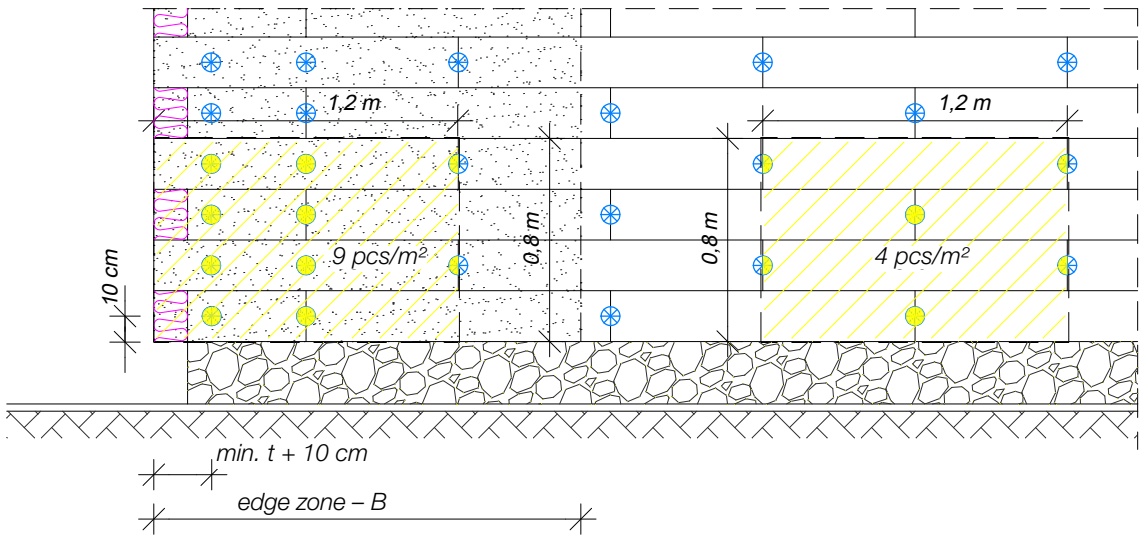


Number of mechanical fixings 4 pcs/m^2



Number of mechanical fixings 9 pcs/m^2

Exemplary densification of mechanical fixings at the edge zone:

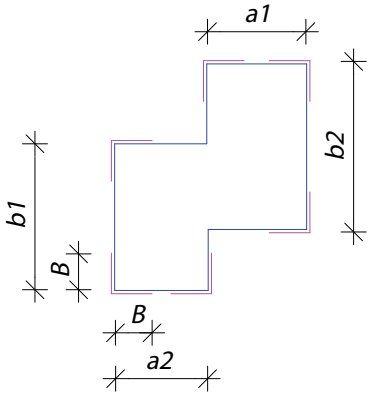


Determination of the edge zone width

The width of the edge zone is 1/8 of the length of the shortest convex exterior wall of a building, but not less than 1.0 m and not more than 2.0 m, i.e.
B = 1/8 x the shortest from [a1, a2, b1, b2] and 1.0 <B < 2.0 m.

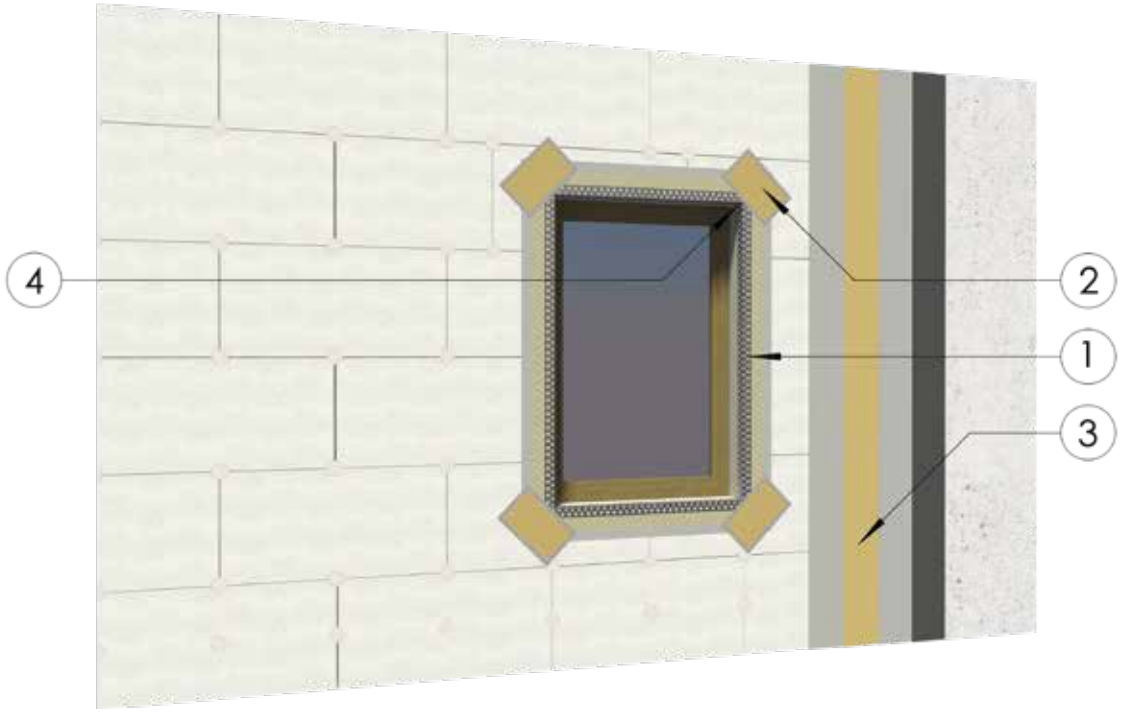
t – mineral wool board thickness

Note: The number of mechanical fixings depends on the wind load and in each case should result from the thermal insulation design.



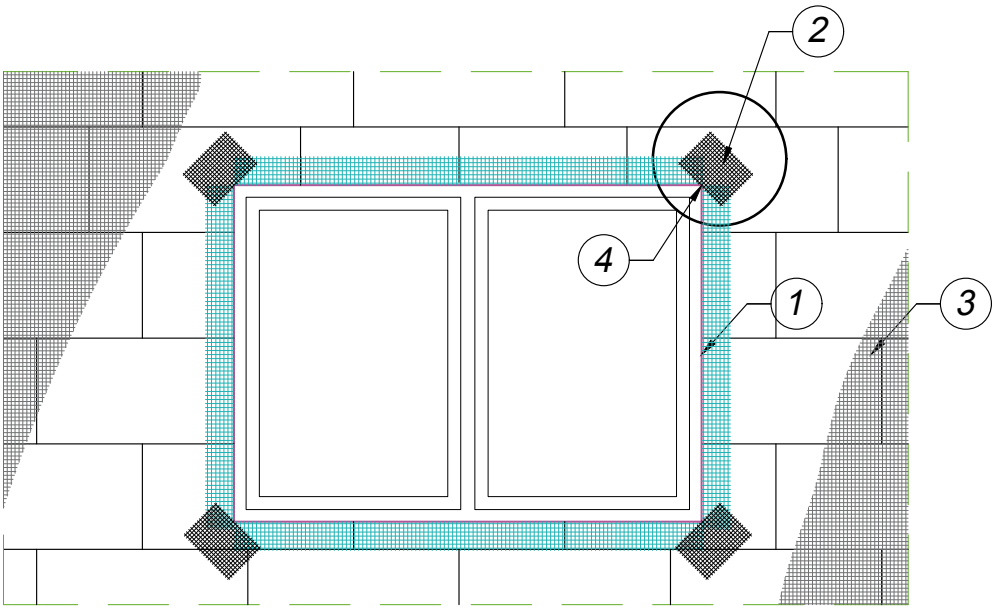
2.4

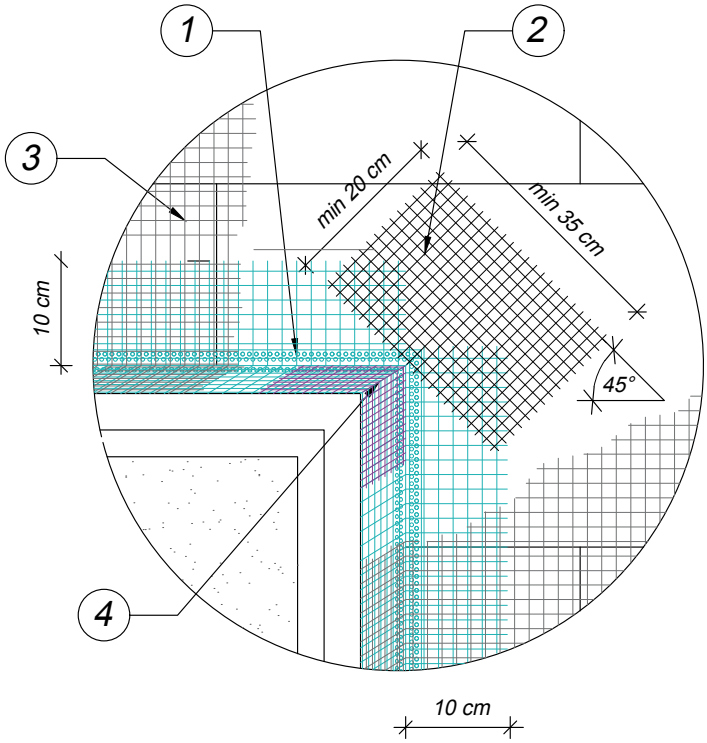
arrangement of reinforcing mesh around the reveals



Order of mesh application at the reveals:

1. **APPLICATION OF CORNER PROFILES WITH REINFORCING MESH EMBEDDED**
2. **APPLICATION OF MESH STRIPS WHICH DIAGONALLY REINFORCE THE CORNERS OF REVEALS**
3. **APPLICATION OF FULL-SIZE REINFORCING MESH**
4. **APPLICATION OF MESH REINFORCING THE CONCAVE CORNERS OF REVEALS**

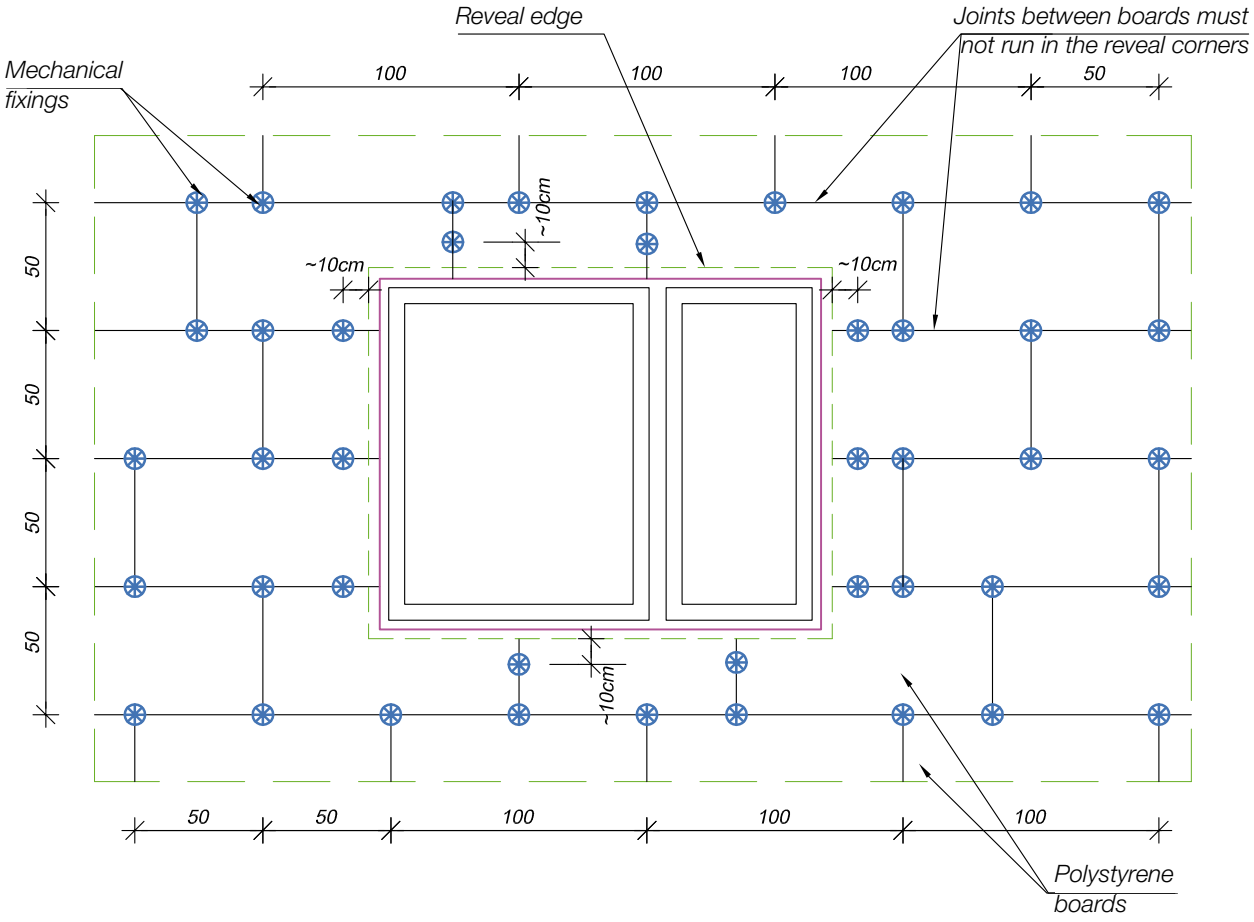

2
4
1
3


1
2
3
min 20 cm
min 35 cm
10 cm
45°
4
10 cm

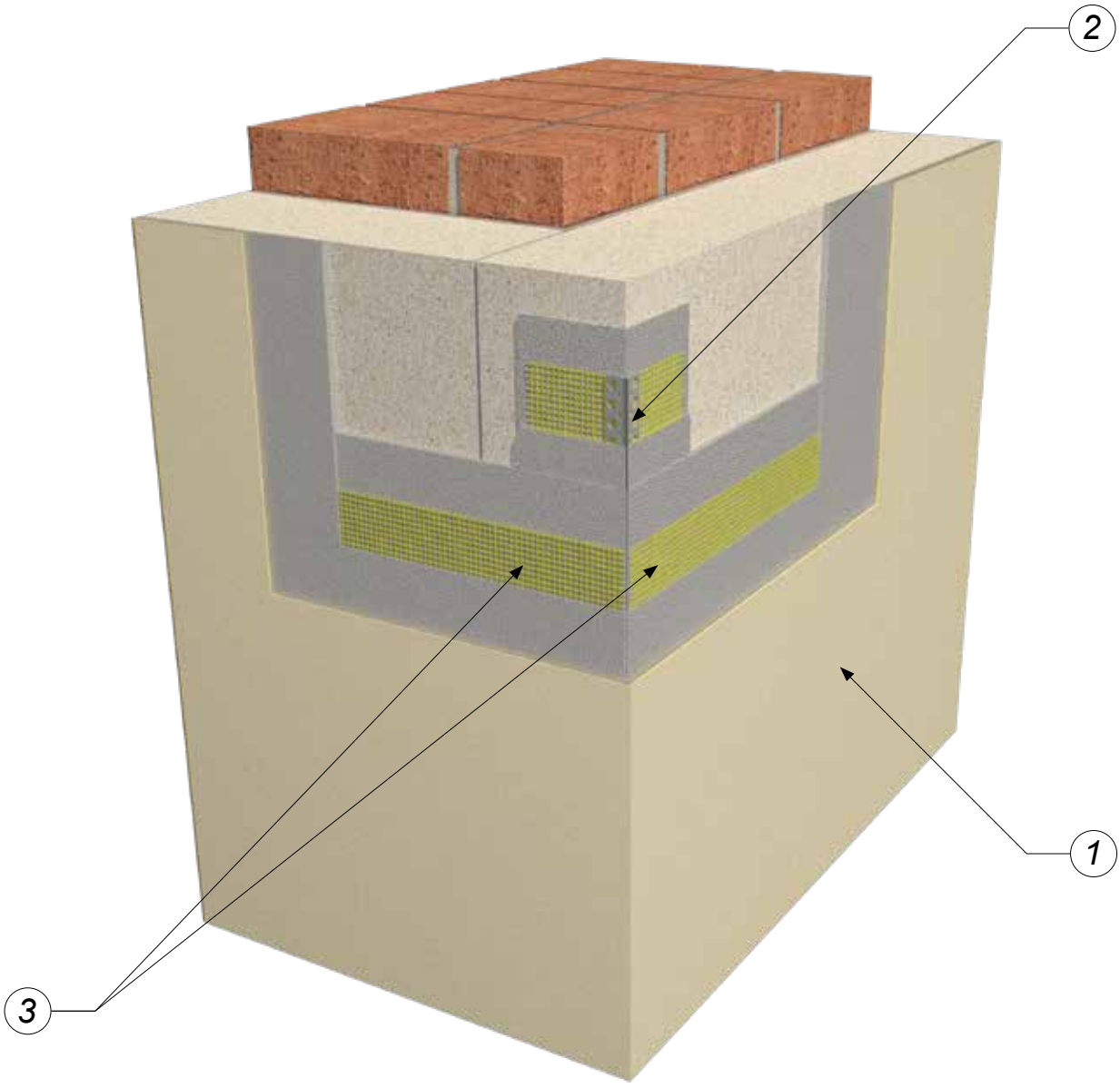
2.5

arrangement of boards and mechanical fixings around reveals

Recommended arrangement of additional mechanical fixings around window and door reveals



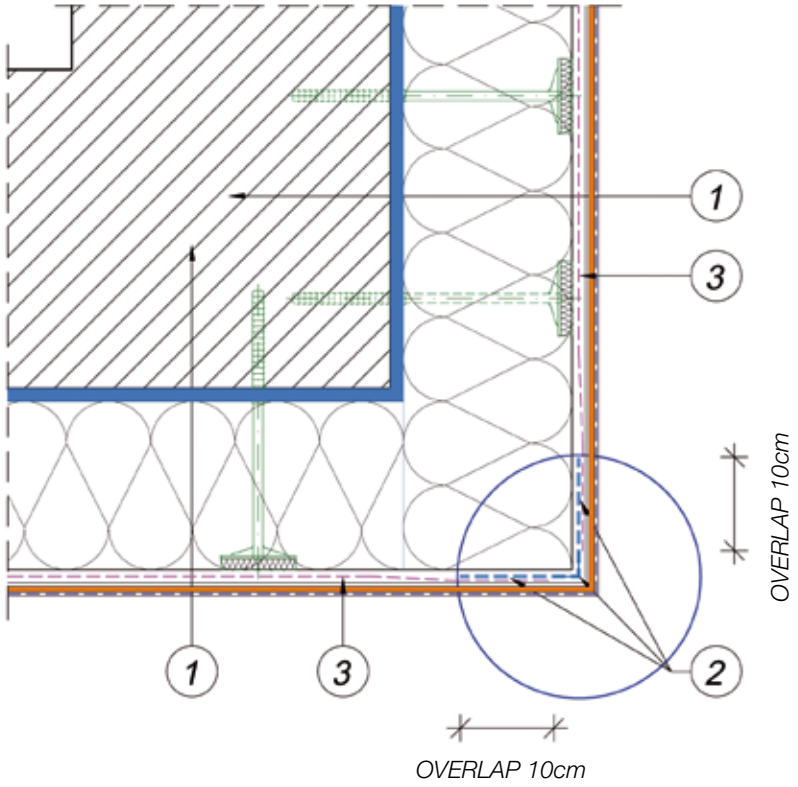
arrangement of reinforcing mesh at the outer corner

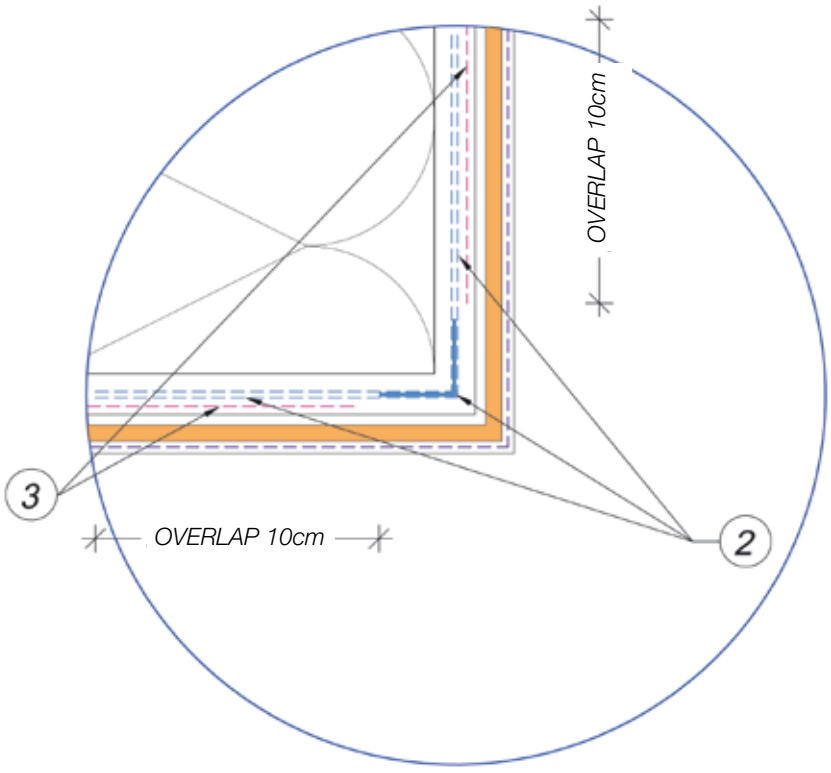


1. **WALL INSULATED WITH ATLAS SYSTEM, for example ATLAS ETICS PLUS – ATLAS PREMIUM SET:**
- ATLAS HOTER S (AVAL KT 53) adhesive for thermal insulation boards fixing
- polystyrene EPS 80
- mechanical fixings
- ATLAS STOPTER K-100 mortar with ATLAS 165 reinforcing mesh embedded
- ATLAS SILKON ANX priming mass beneath rendering coat
- ATLAS SILICONE RENDER (AVAL SILICONE RENDER)
- ATLAS SALTA N silicone paint

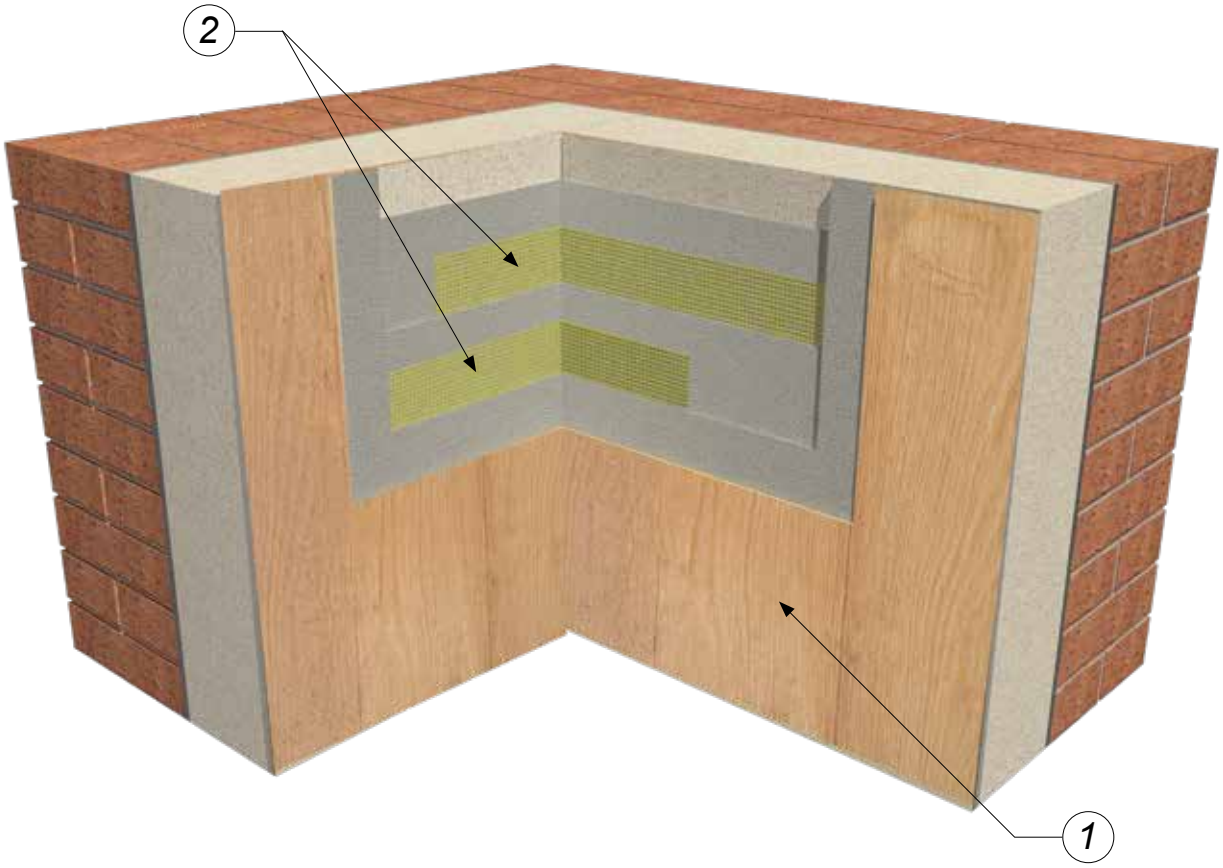
2. **CORNER PROFILE WITH MESH**

3. **REINFORCING FIBERGLASS MESH**


1
3
OVERLAP 10cm
1
3
2
OVERLAP 10cm


OVERLAP 10cm
3
OVERLAP 10cm
2

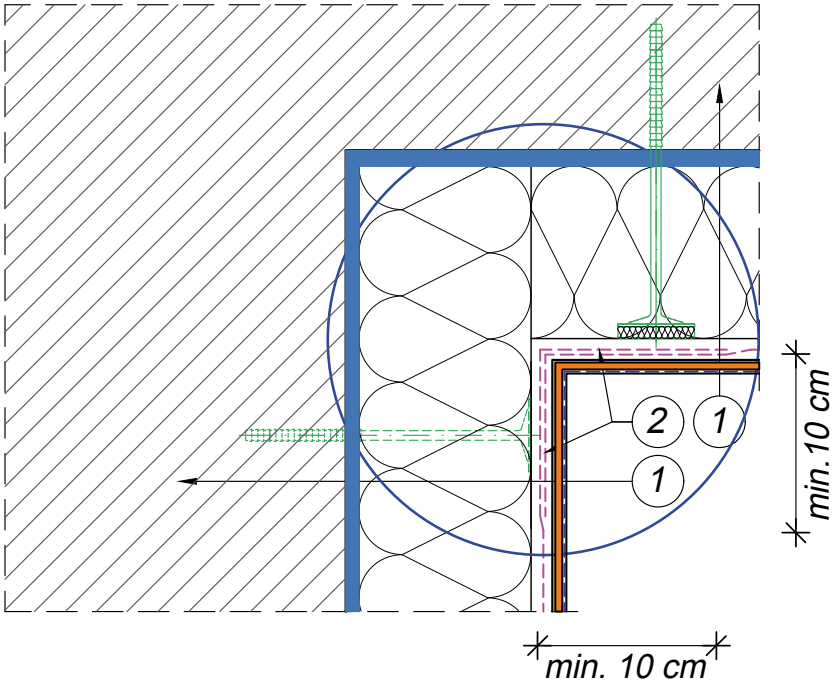
arrangement of reinforcing mesh at the inner corner

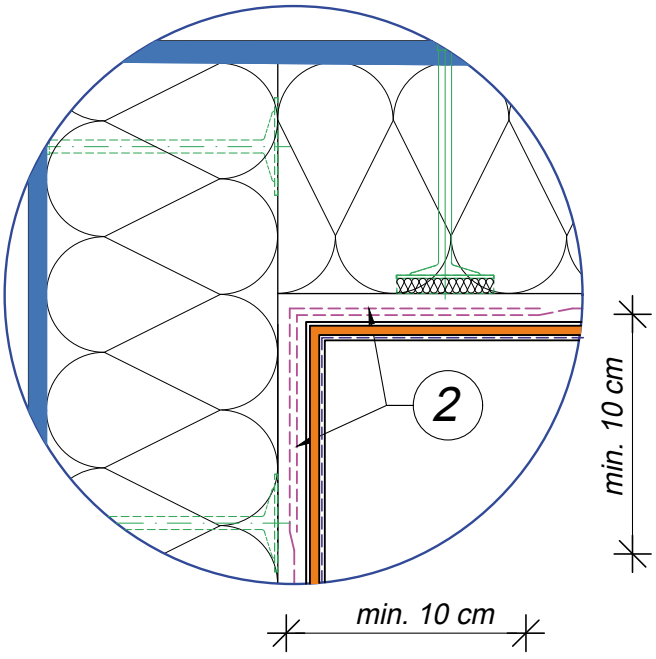


1. WALL INSULATED WITH ATLAS SYSTEM, for example ATLAS ETICS PLUS – DECORATIVE SET:

- ATLAS HOTER S (AVAL KT 53) adhesive for thermal insulation boards fixing
- polystyrene EPS 80
- mechanical fixings
- ATLAS HOTER U (AVAL KT 55) mortar with ATLAS 150 reinforcing mesh embedded
- ATLAS CERPLAST priming mass beneath rendering coat
- ATLAS CERMIT WN mineral render
- ATLAS BEJCA impregnant

2. REINFORCING FIBERGLASS MESH


2
1
1
min. 10 cm
min. 10 cm

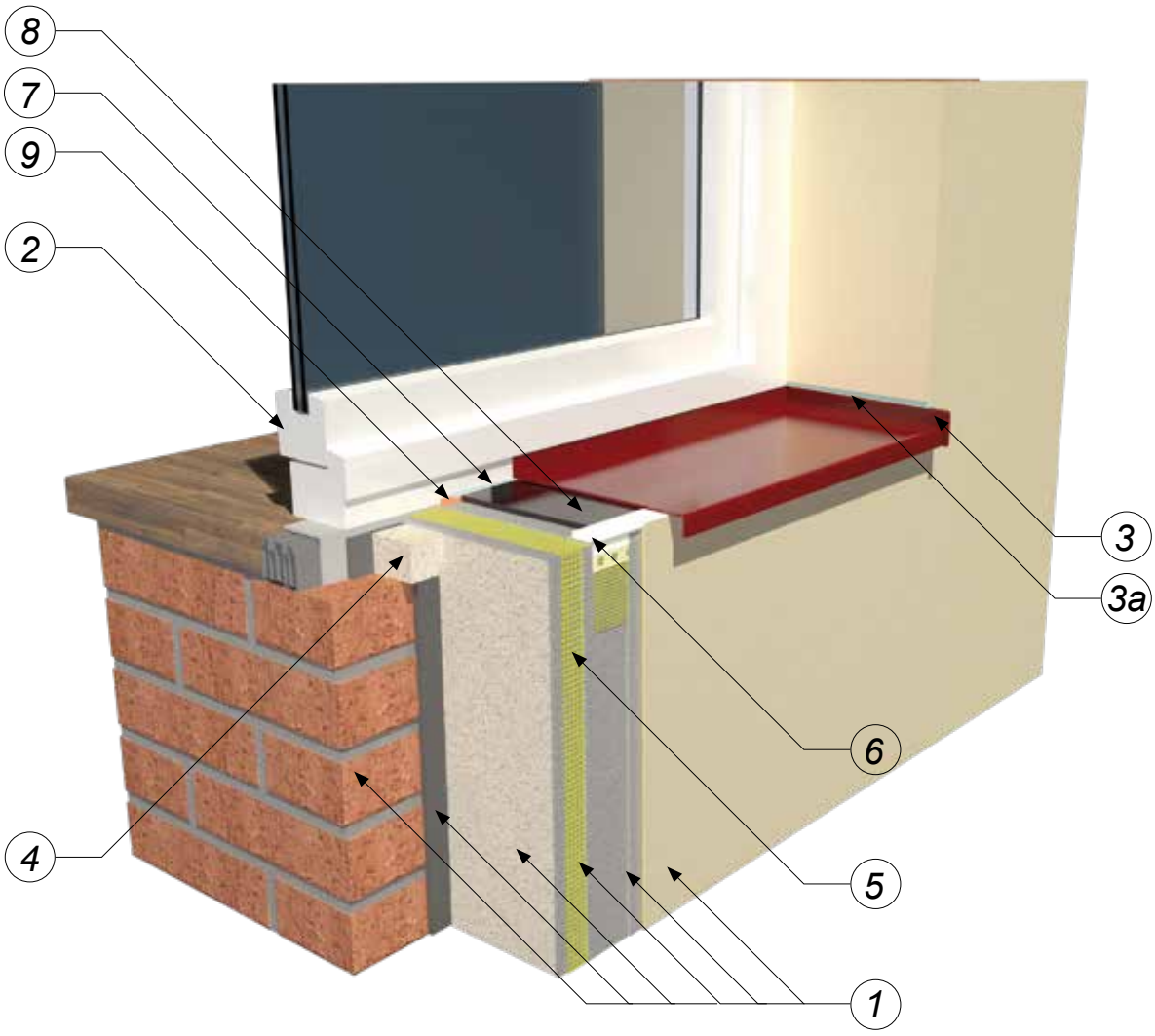

2
min. 10 cm
min. 10 cm

thermal insulation around reveals

3

3.1

thermal insulation of wall under reveal with inset window frame with the use of sill profile



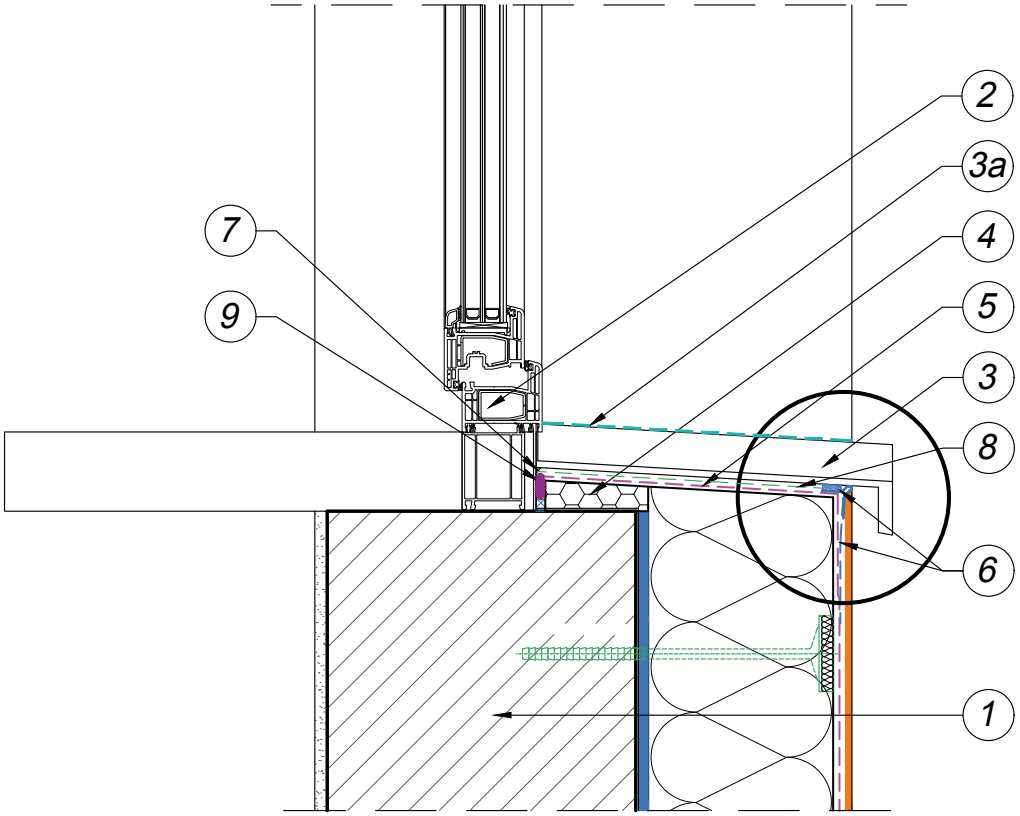
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **INSET WINDOW FRAME**
3. **EXTERNAL SILL**

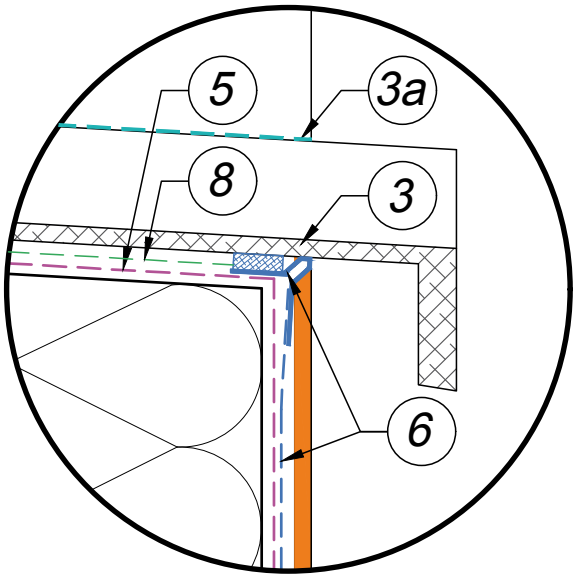
3a. **SEALING BETWEEN SILL AND RENDER, for example:**
– ATLAS ARTIS SILICONE

4. **SUPLEMENTARY FILLING OF THE GAP**
– polystyrene EPS

5. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
– dispersive adhesive: ATLAS STOPTER K-100
– mineral adhesive: ATLAS HOTER U (AVAL KT 55)

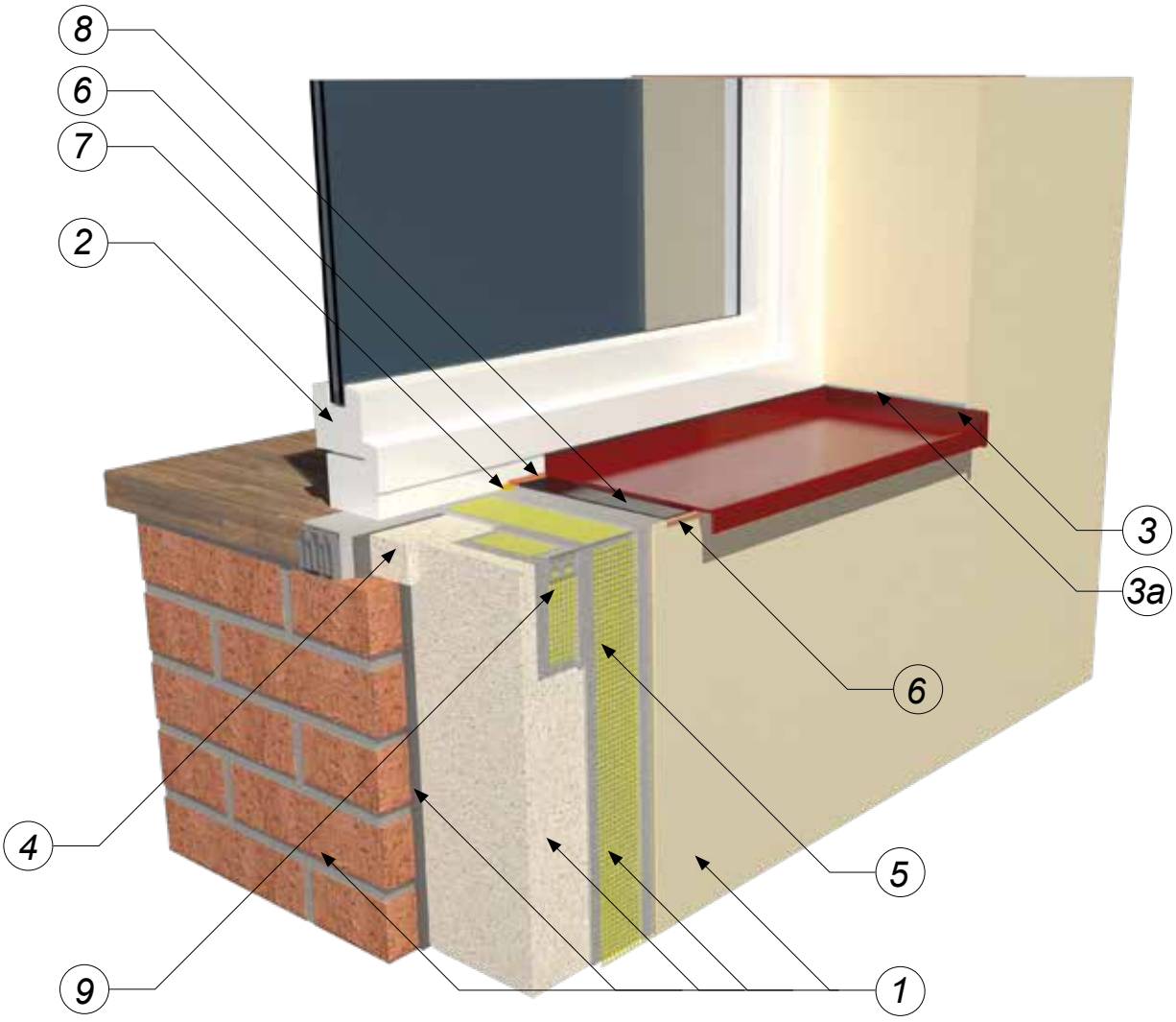
6. **SILL PROFILE WITH MESH**
7. **MASTIC SEALANT, for example:**
– ATLAS ARTIS SILICONE
8. **ADHESIVE FOR SILLS, for example:**
– IZOHAN STYROPUK ELEWACJA
9. **ATLAS BACKER ROD**


2
3a
4
5
3
8
6
1
7
9


5
3a
8
3
6

3.2

thermal insulation of wall under reveal with inset window frame with the use of corner profile



1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **INSET WINDOW FRAME**
3. **EXTERNAL SILL**

3a. **SEALING BETWEEN SILL AND RENDER, for example:**
- ATLAS ARTIS SILICONE

4. **SUPLEMENTARY FILLING OF THE GAP**
- polystyrene EPS

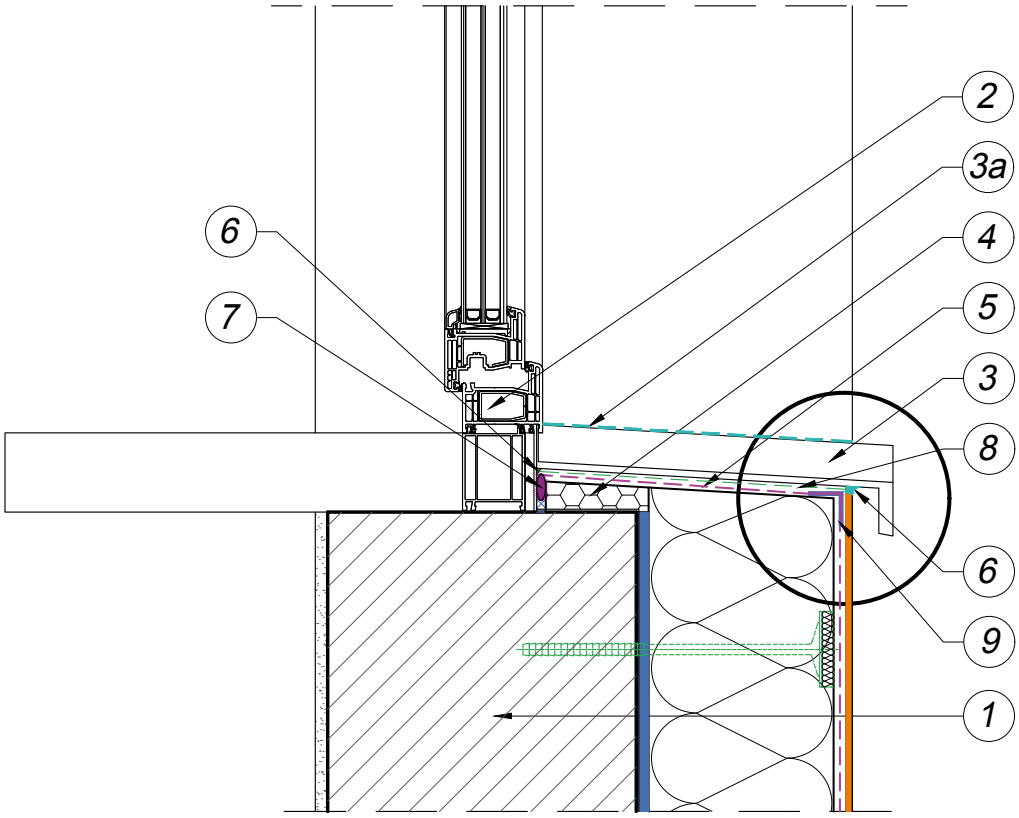
5. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
- dispersive adhesive: ATLAS STOPTER K-100
- mineral adhesive: ATLAS HOTER U (AVAL KT 55)

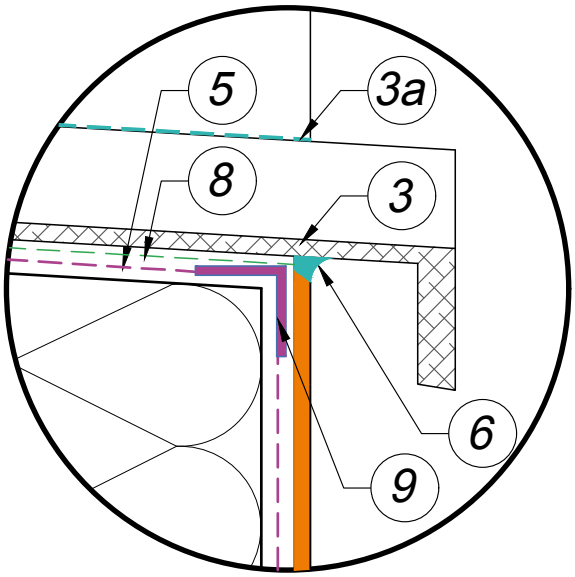
6. **MASTIC SEALANT, for example:**
- ATLAS ARTIS SILICONE

7. **ATLAS BACKER ROD**

8. **ADHESIVE FOR SILLS, for example:**
- IZOHAN STYROPUK ELEWACJA

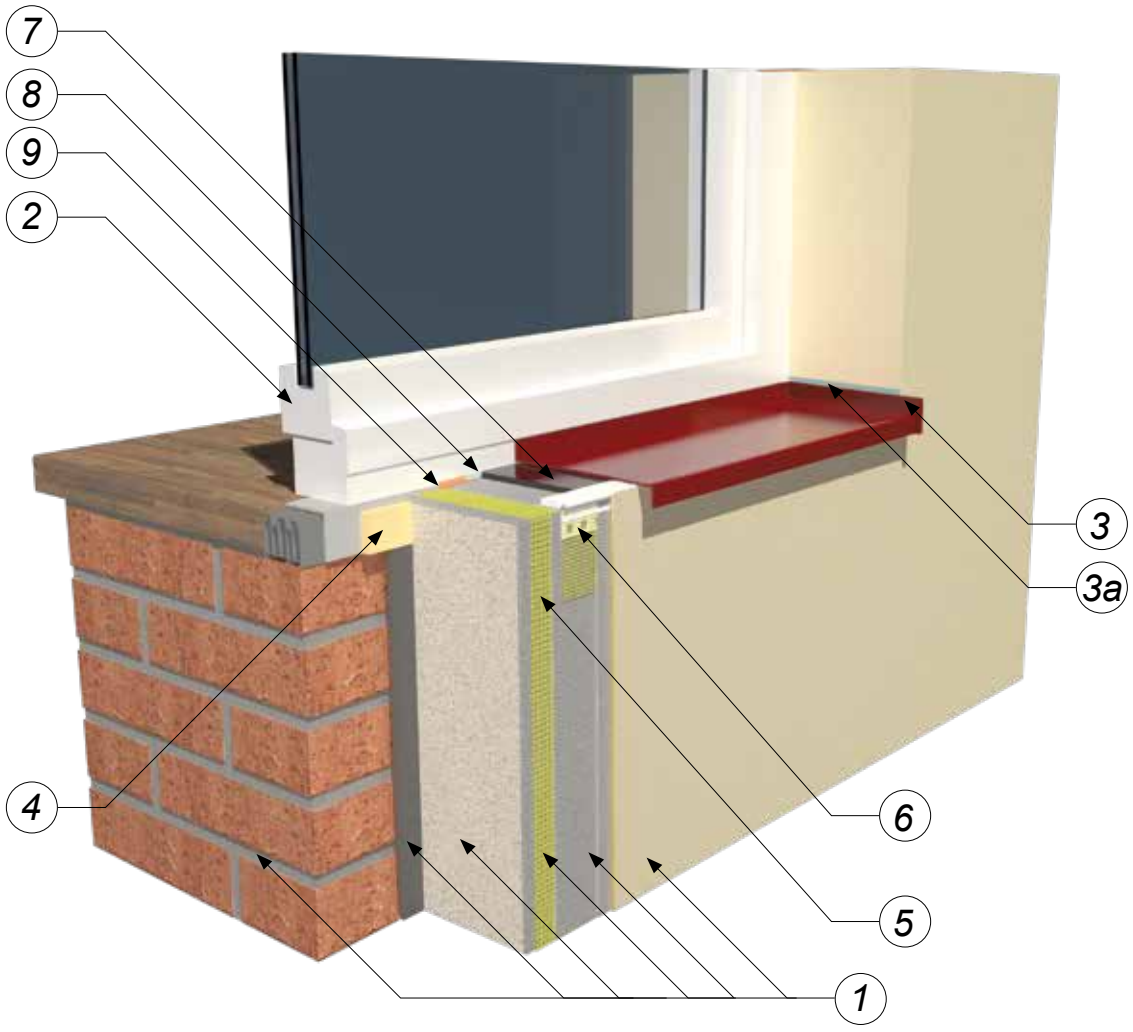
9. **CORNER PROFILE**


2
3a
4
5
3
8
6
9
1
6
7


5
3a
8
3
6
9

3.3

thermal insulation of wall under reveal with flush window frame with the use of sill profile



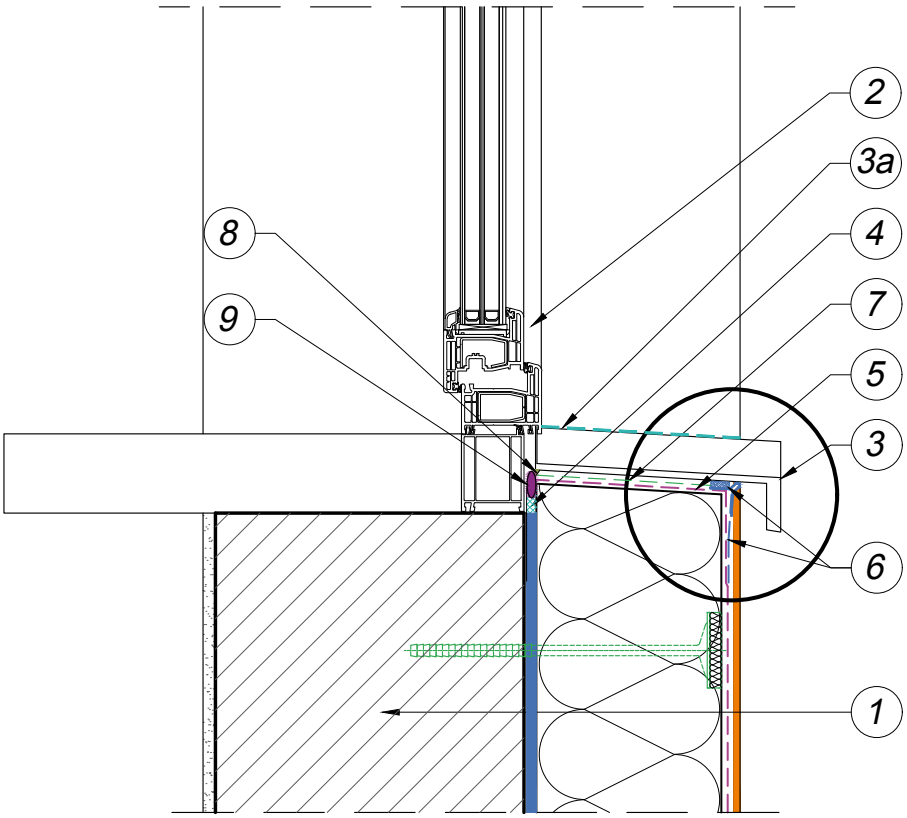
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **FLUSH WINDOW FRAME**
3. **EXTERNAL SILL**

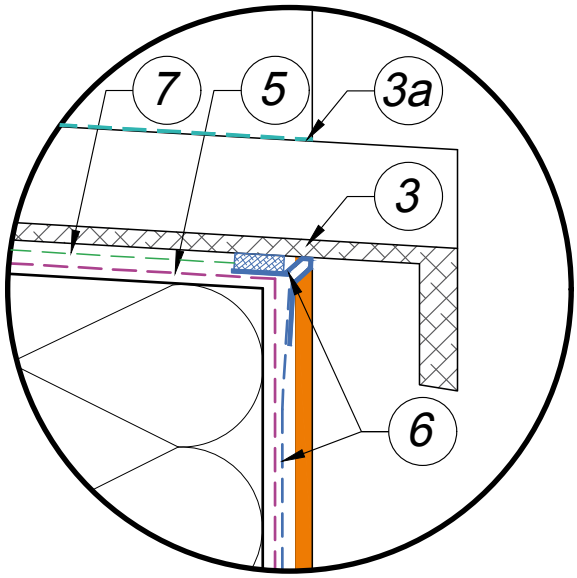
3a. **SEALING BETWEEN SILL AND RENDER, for example:**
– ATLAS ARTIS SILICONE

4. **LOW EXPANSION FOAM, for example:**
– IZOHAN STYROPUK ELEWACJA

5. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
– dispersive adhesive: ATLAS STOPTER K-100
– mineral adhesive: ATLAS STOPTER K-20 (AVAL KT 85)

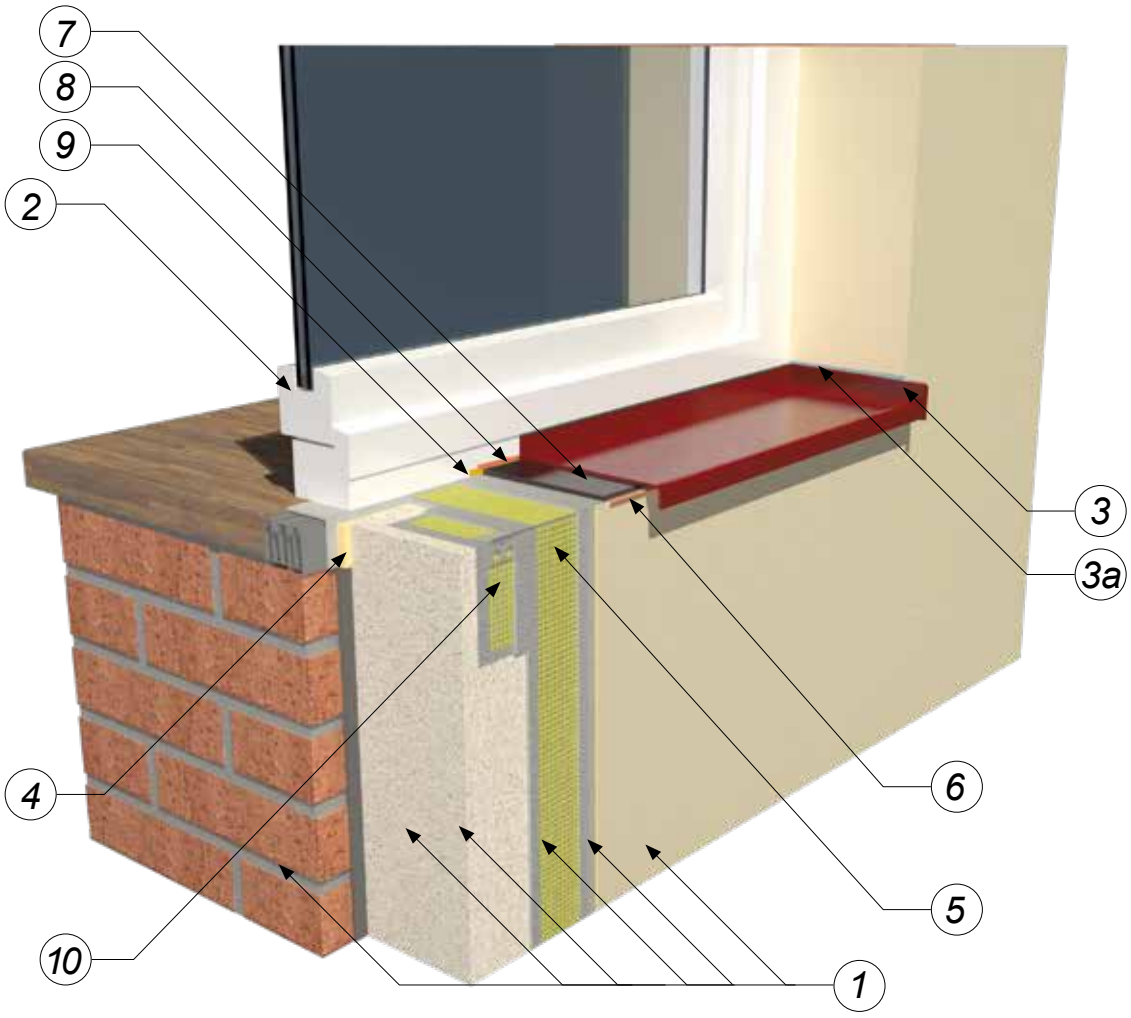
6. **SILL PROFILE WITH MESH**
7. **ADHESIVE FOR SILLS, for example:**
– IZOHAN STYROPUK ELEWACJA
8. **MASTIC SEALANT, for example:**
– ATLAS ARTIS SILICONE
9. **ATLAS BACKER ROD**


2
3a
8
4
9
7
5
3
6
1


7
5
3a
3
6

3.4

thermal insulation of wall under reveal with flush window frame with the use of corner profile



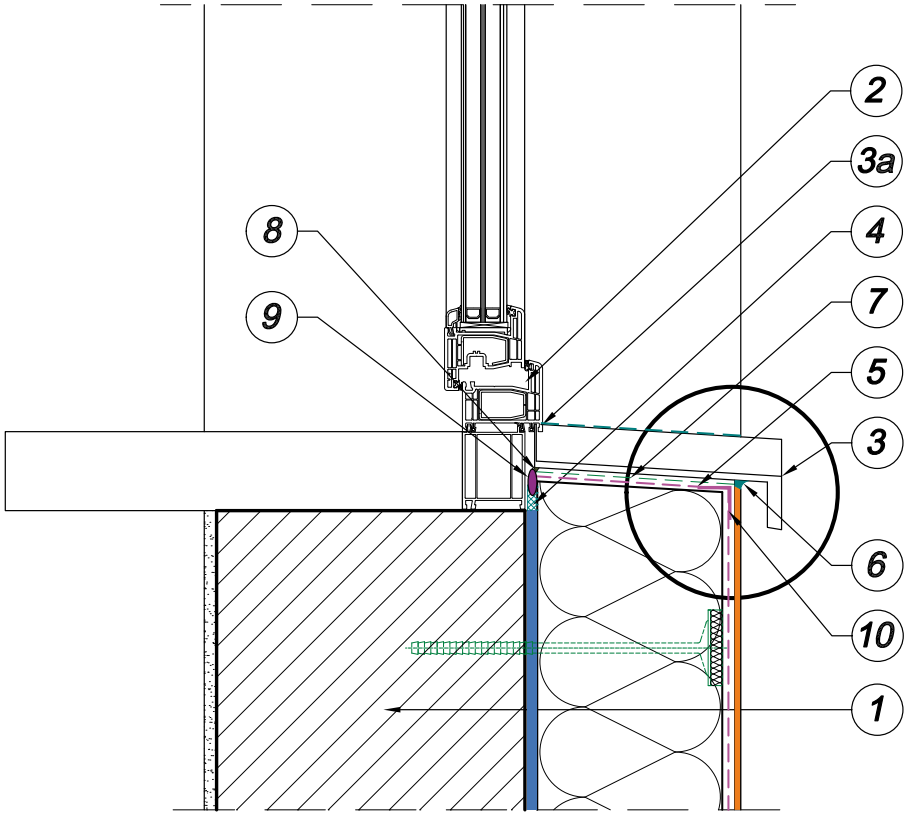
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **FLUSH WINDOW FRAME**
3. **EXTERNAL SILL**

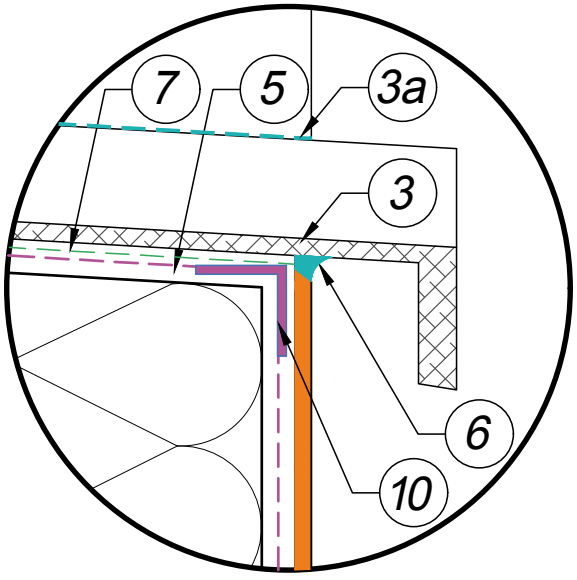
3a. **SEALING BETWEEN SILL AND RENDER, for example:**
– ATLAS ARTIS SILICONE

4. **LOW EXPANSION FOAM, for example:**
– IZOHAN STYROPUK ELEWACJA

5. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
– dispersive adhesive: ATLAS STOPTER K-100
– mineral adhesive: ATLAS HOTER U (AVAL KT 55)

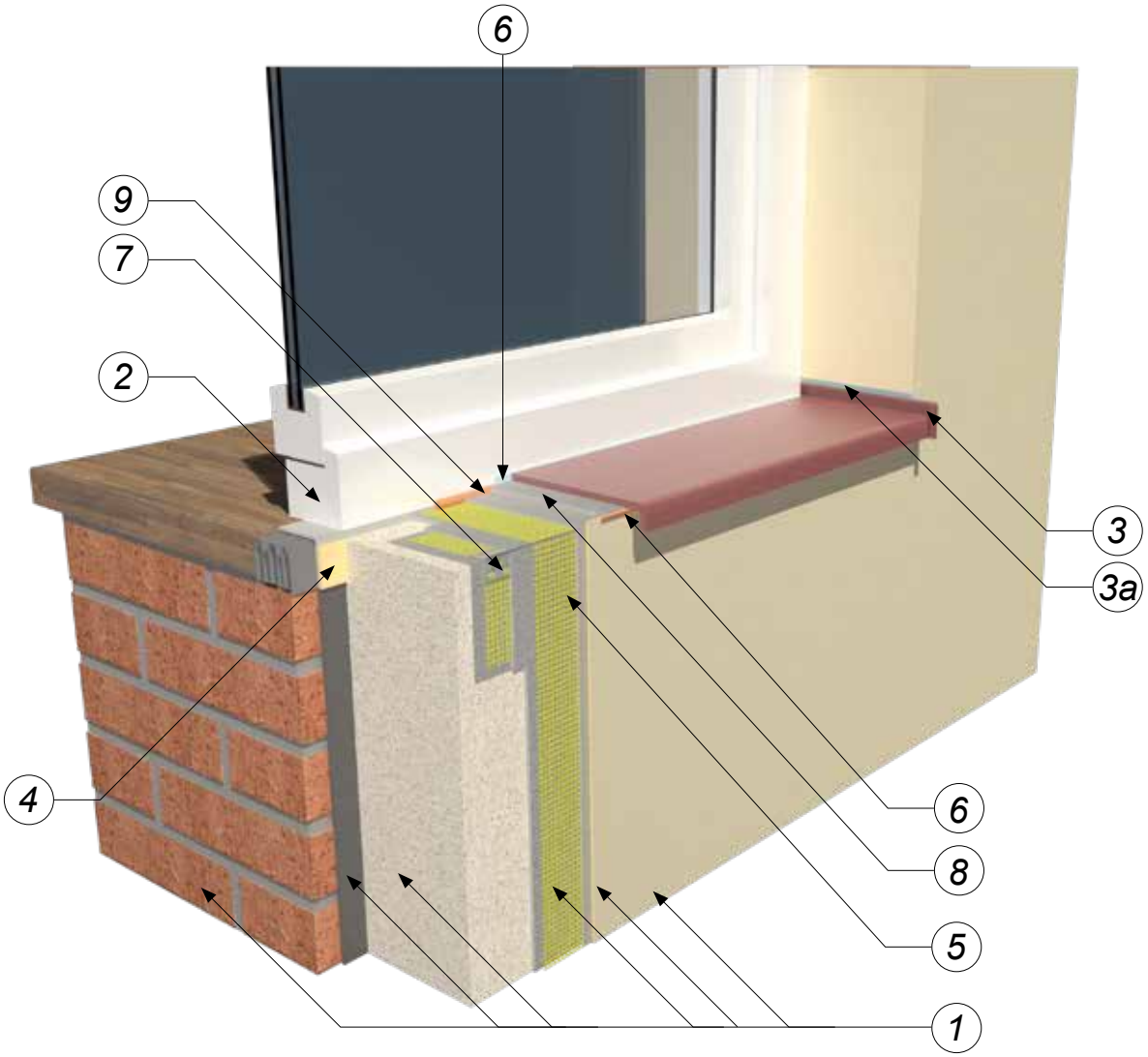
6. **MASTIC SEALANT, for example:**
– ATLAS ARTIS SILICONE
7. **ADHESIVE FOR SILLS, for example:**
8. **ATLAS BACKER ROD**
9. **CORNER PROFILE**


2
3a
8
4
9
7
5
3
6
10
1


7
5
3a
3
6
10

3.5

thermal insulation of wall under reveal with ceramic sill



1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **WINDOW**
3. **EXTERNAL CERAMIC SILL**

3a. **SEALING BETWEEN SILL AND RENDER, for example:**
- ATLAS ARTIS SILICONE

4. **LOW EXPANSION FOAM, for example:**
- IZOHAN STYROPUK ELEWACJA

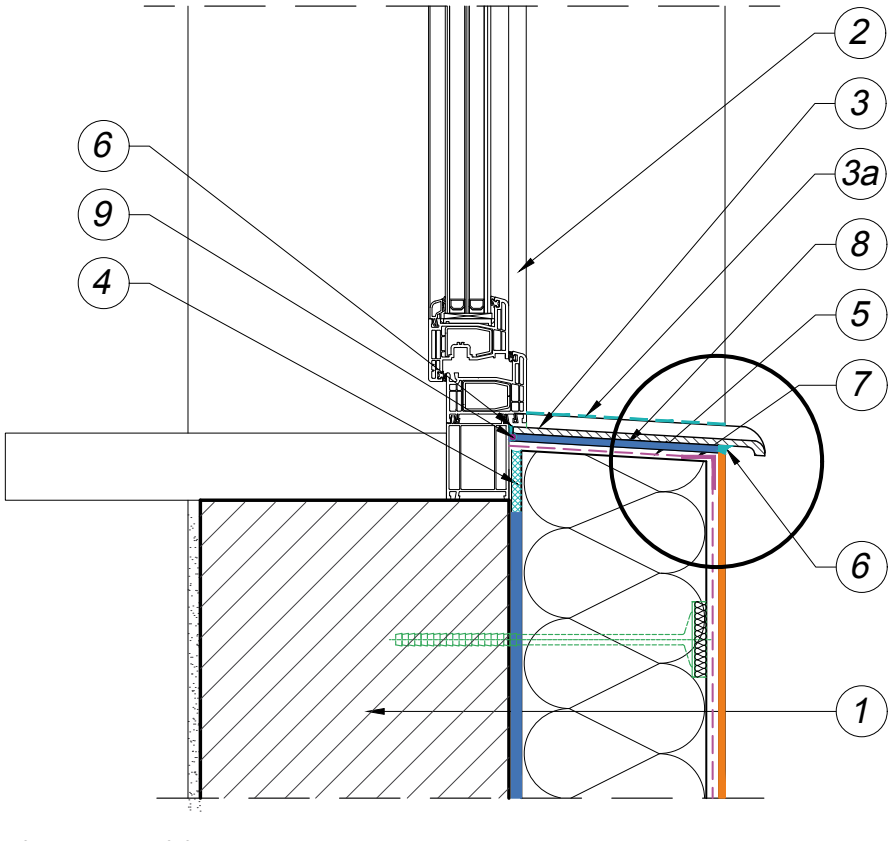
5. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
- dispersive adhesive: ATLAS STOPTER K-100
- mineral adhesive: ATLAS HOTER U (AVAL KT 55)

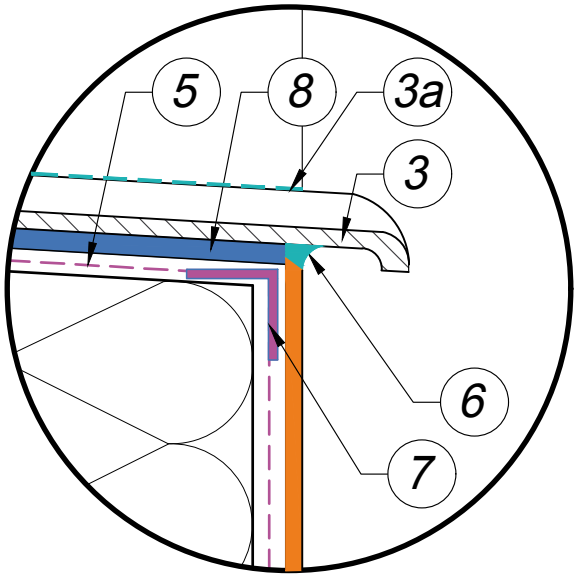
6. **MASTIC SEALANT, for example:**
- ATLAS ARTIS SILICONE

7. **ATLAS ARTIS SILICONE**

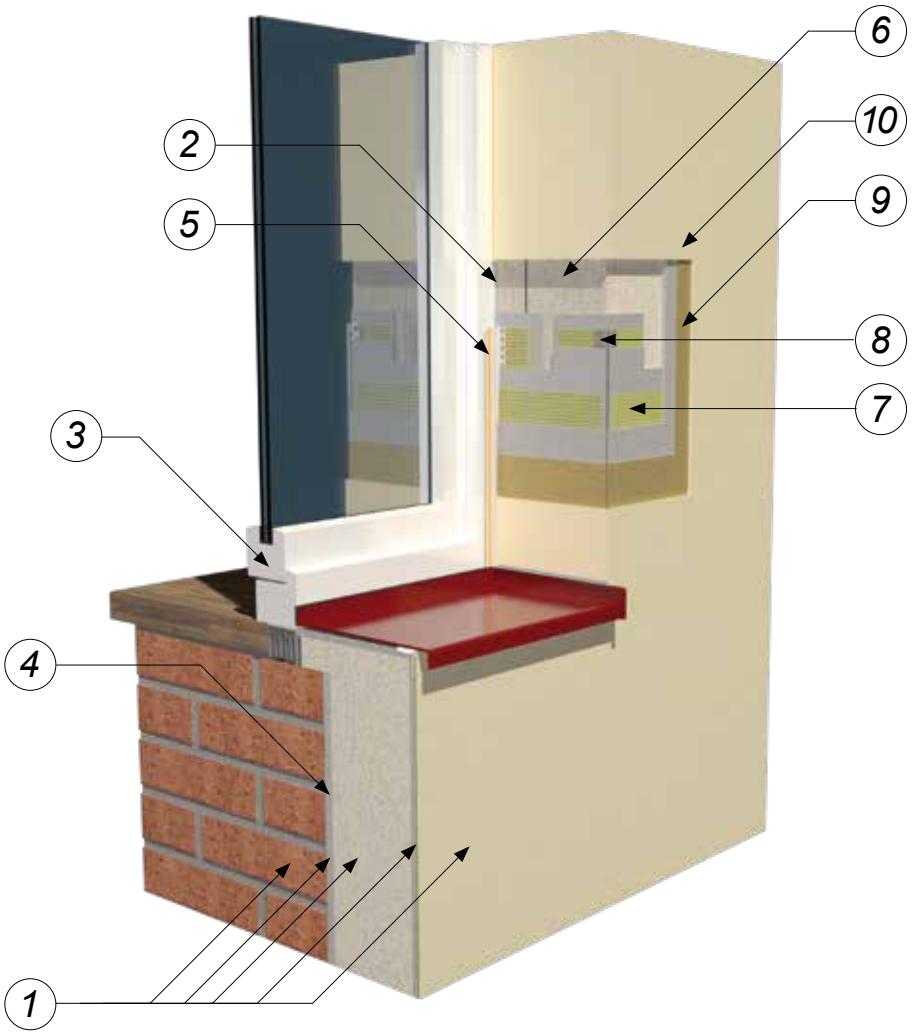
8. **ADHESIVE FOR TILES OF C2T CLASS, for example:**
- ATLAS ULTRA GEOFLEX C2TES1 (gel adhesive)
- ATLAS PLUS WHITE (AVAL KM 15) C2TES1
- ATLAS PLUS (AVAL KM 17) C2TES1
- ATLAS GEOFLEX WHITE C2TE (gel adhesive)
- ATLAS GEOFLEX WHITE C2TE (gel adhesive)

9. **ATLAS BACKER ROD**

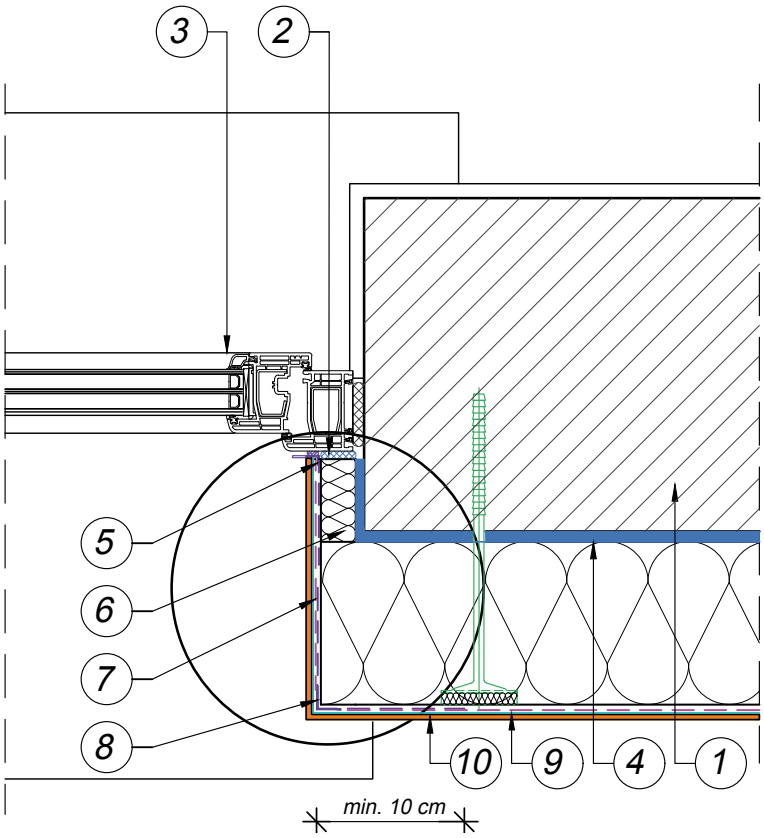

2
3
3a
8
5
7
6
9
4
6
1

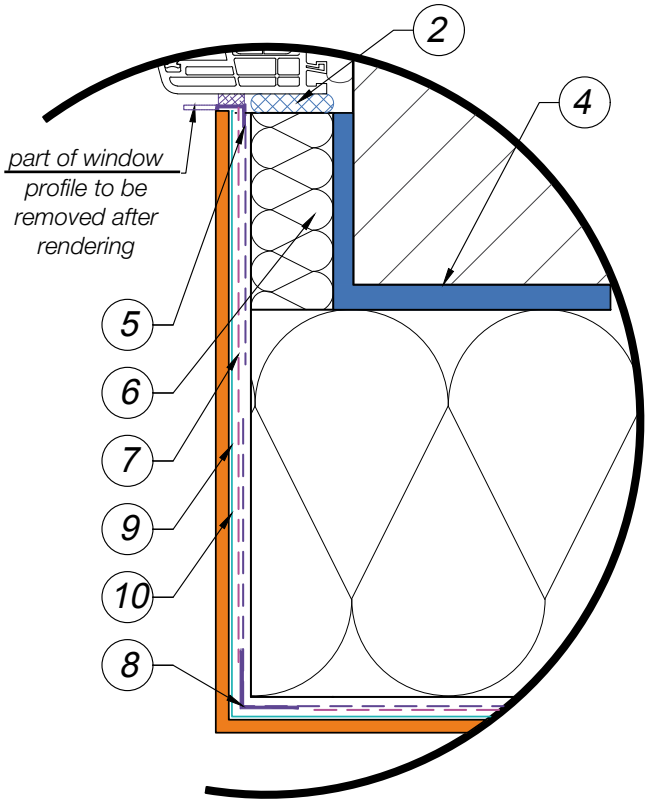

5
8
3a
3
6
7

thermal insulation of inset reveal with the use of window profile



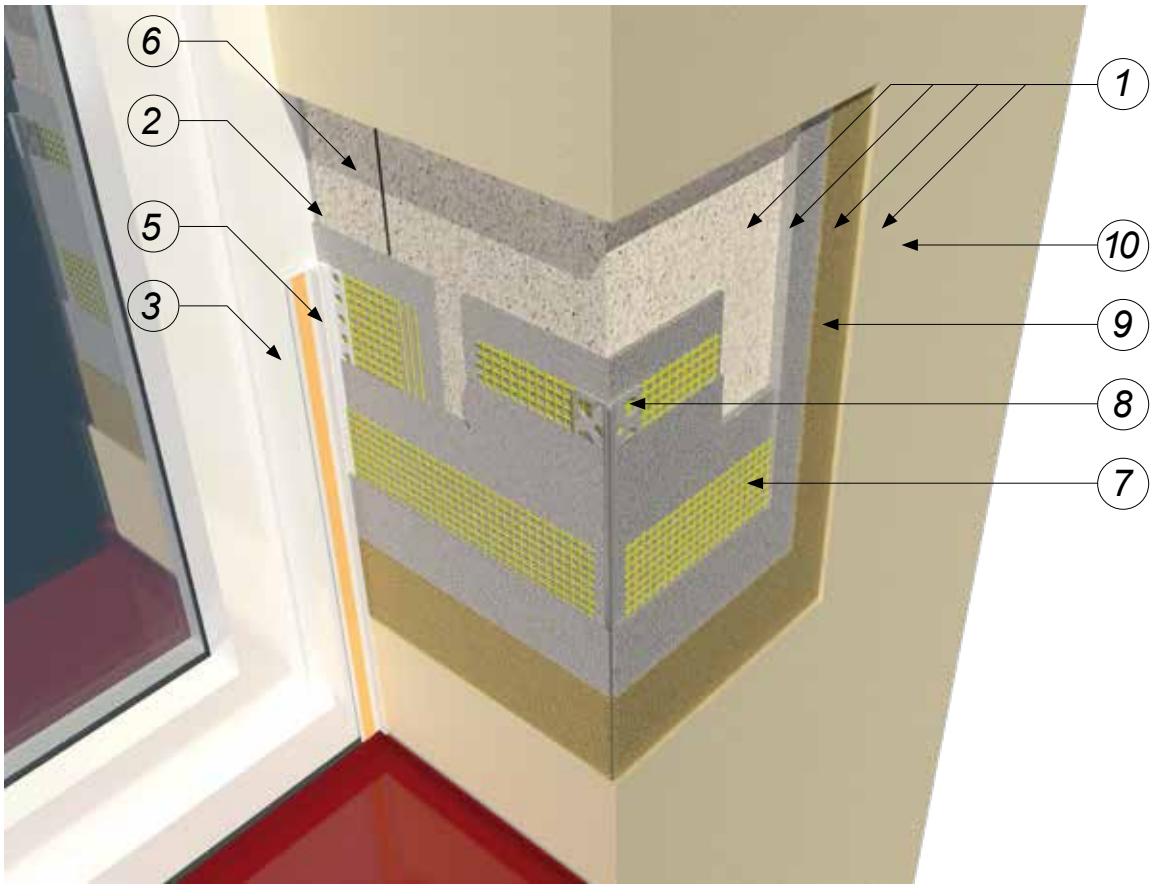
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **LOW EXPANSION FOAM, for example:**
   – IZOHAN STYROPUK ELEWACJA
3. **INSET WINDOW FRAME**
4. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive: ATLAS HOTER U (AVAL KT 55)
5. **WINDOW PROFILE WITH MESH**
6. **SUPLEMENTARY INSULATION WITH EPS POLYSTYRENE**
7. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
   – dispersive adhesive: ATLAS STOPTER K-100
   – mineral adhesive: ATLAS HOTER U (AVAL KT 55)
8. **CORNER PROFILE WITH MESH**
9. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKON ANX (AVAL KT 76)
10. **RENDERING COAT, for example:**
    – ATLAS SILICONE RENDER (AVAL SILICONE RENDER)


3
2
5
6
7
8
10
9
4
1
min. 10 cm

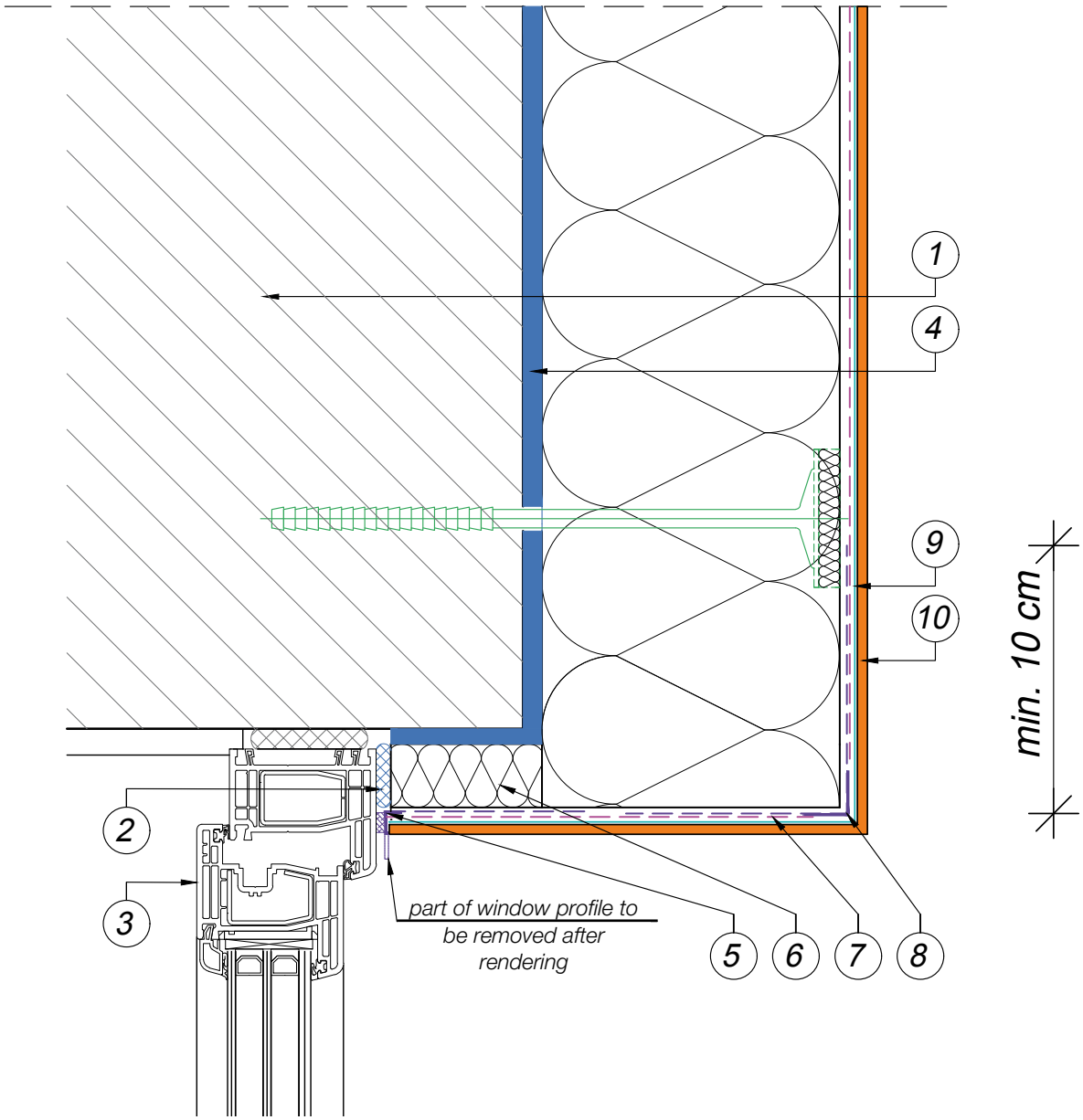

2
4
part of window
profile to be
removed after
rendering
5
6
7
9
10
8

3.7

thermal insulation of inset reveal with the use of window profile

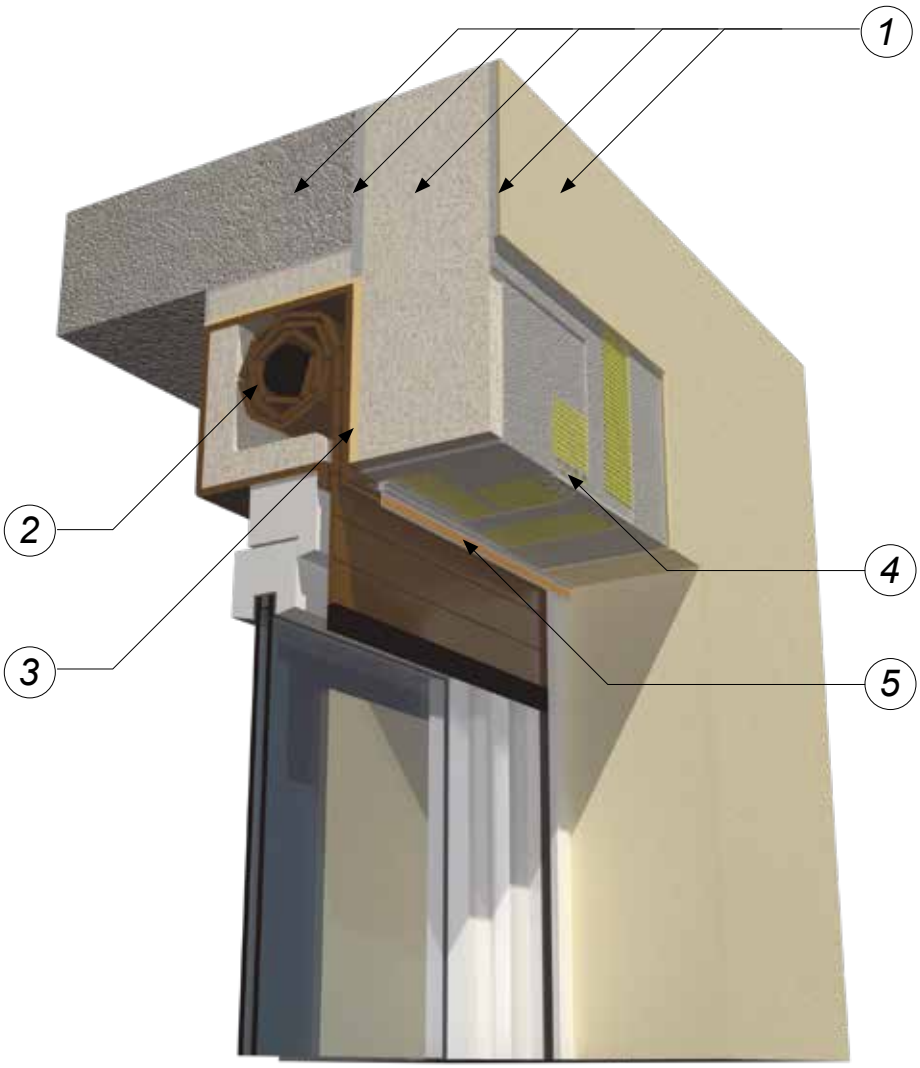


1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS**
2. **LOW EXPANSION FOAM, for example:**
   – IZOHAN STYROPUK ELEWACJA
3. **INSET WINDOW FRAME**
4. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive: ATLAS STOPTER K-20 (AVAL KT 85)
5. **WINDOW PROFILE WITH MESH**
6. **SUPLEMENTARY INSULATION WITH EPS POLYSTYRENE**
7. **ADHESIVE MORTAR FOR THE REINFORCING LAYER WITH REINFORCING MESH EMBEDDED (DEPENDING ON ATLAS SYSTEM), for example:**
   – dispersive adhesive: ATLAS STOPTER K-100
   – mineral adhesive: ATLAS STOPTER K-20 (AVAL KT 85)
8. **CORNER PROFILE WITH MESH**
9. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKON ANX
10. **CORNER PROFILE WITH MESH**
11. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKON ANX (AVAL KT 76)
12. **RENDERING COAT, for example:**
   – ATLAS SILICONE-SILICATE RENDER

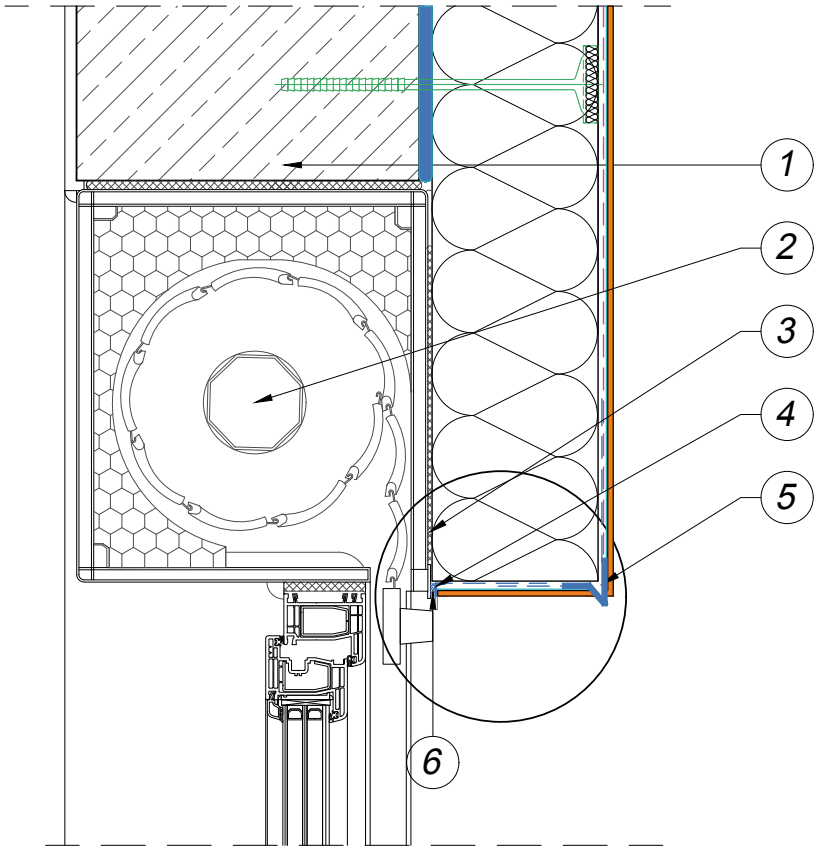

1
4
9
10
min. 10 cm
2
3
part of window profile to be removed after rendering
5
6
7
8

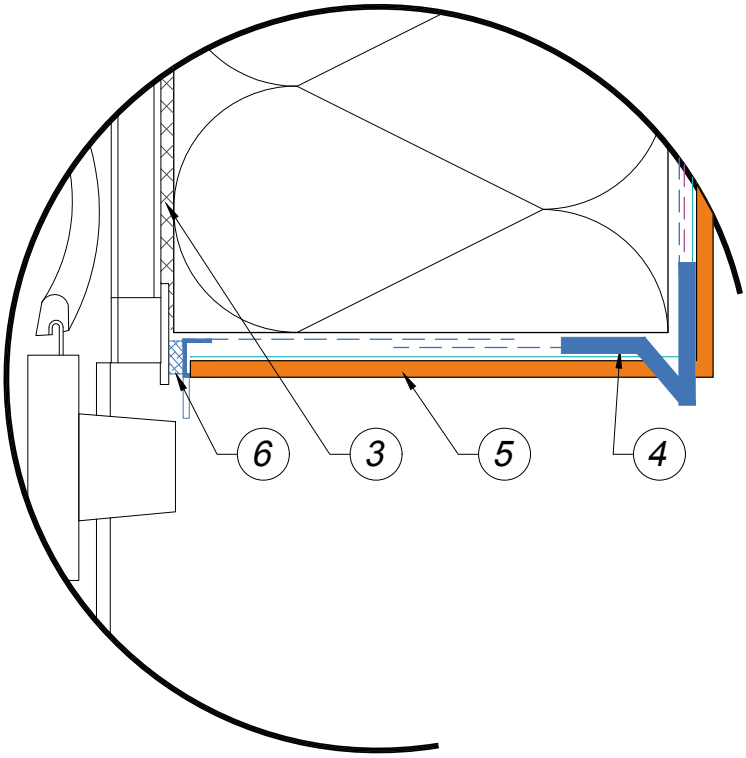
3.8

lintel thermal insulation with window blind hidden



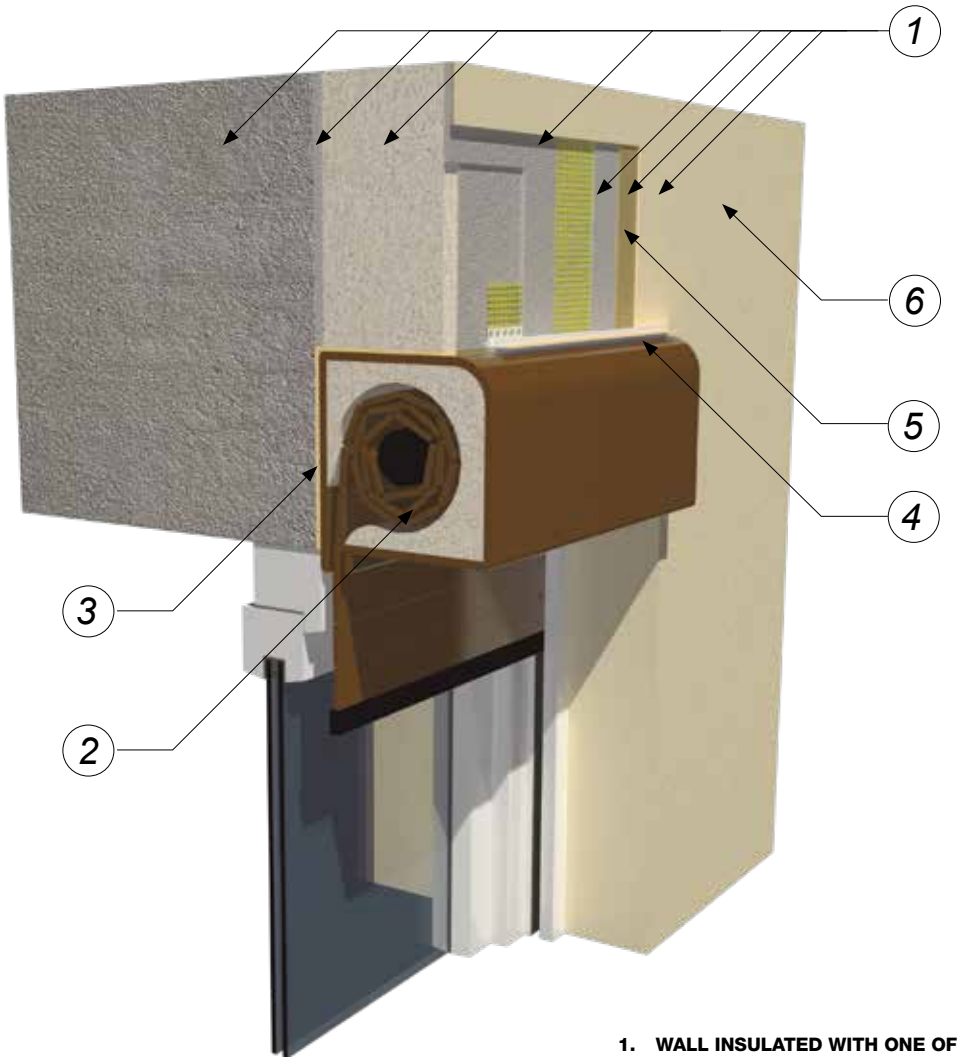
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, for example ATLAS ETICS – SUMMER SET:**
   - ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS HOTER U (AVAL KT 55) adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS SILKON ANX (AVAL KT 76) priming mass for render
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER) + ATLAS HOTER DL – summer additive for dispersive renders
2. **WINDOW BLIND**
3. **LOW EXPANSION FOAM, for example:**
   - IZOHAN STYROPUK ELEWACJA
4. **SILL PROFILE WITH MESH**
5. **WINDOW PROFILE WITH MESH**


1
2
3
4
5
6

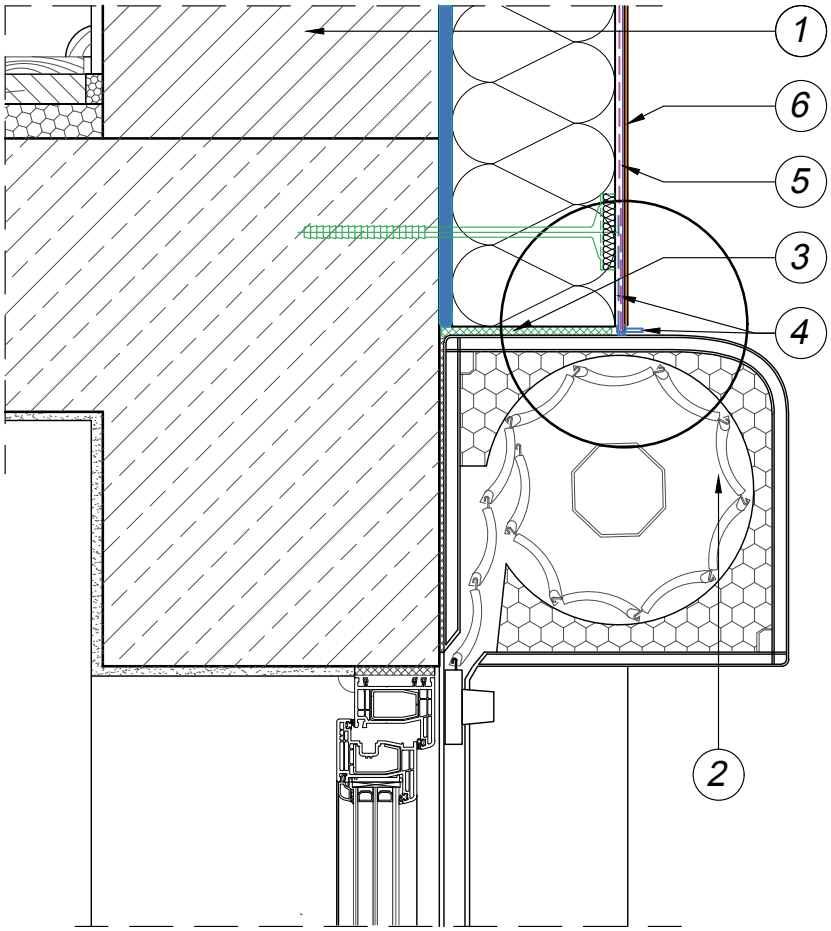

6
3
5
4

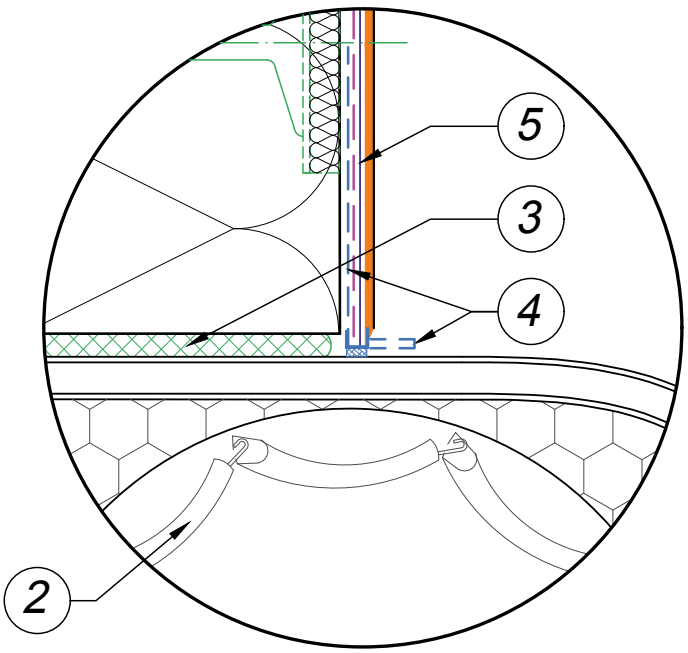
3.9

lintel thermal insulation with external window blind



1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, for example ATLAS ETICS – WINTER SET:**
   - ATLAS STOPTER K-20 (AVAL KT 85) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS STOPTER K-20 (AVAL KT 85) adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS SILKON ANX (AVAL KT 76) priming mass for render
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER) + ATLAS ESKIMO – winter additive for dispersive renders
2. **WINDOW BLIND**
3. **LOW EXPANSION FOAM, for example:**
   - IZOHAN STYROPUK ELEWACJA
4. **WINDOW PROFILE WITH MESH**
5. **PRIMING MASS FOR RENDERS, for example:**
   - ATLAS SILKON ANX (AVAL KT 76)
6. **RENDERING COAT, for example:**
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER)


1
6
5
3
4
2

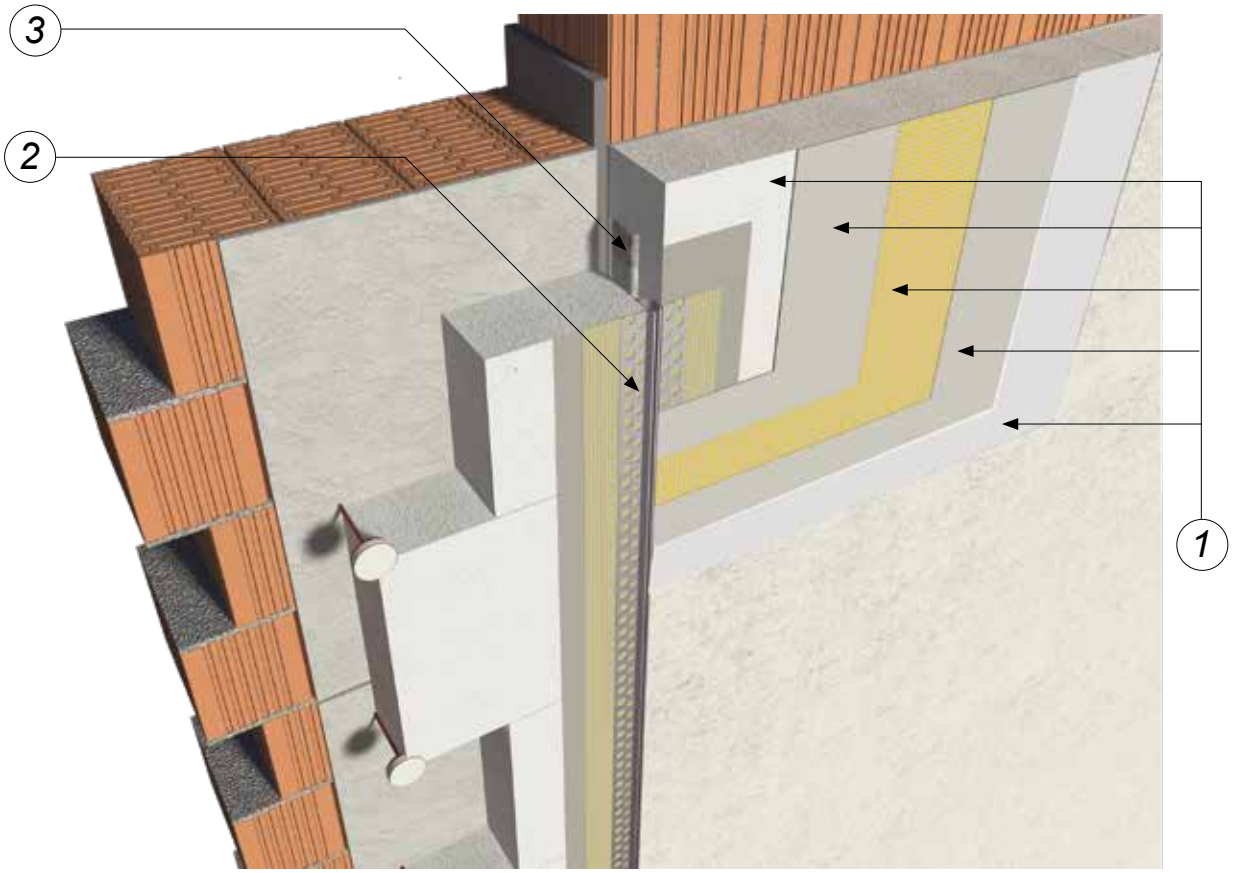

5
3
4
2

expansion joints, joints between systems, rustication

4

4.1

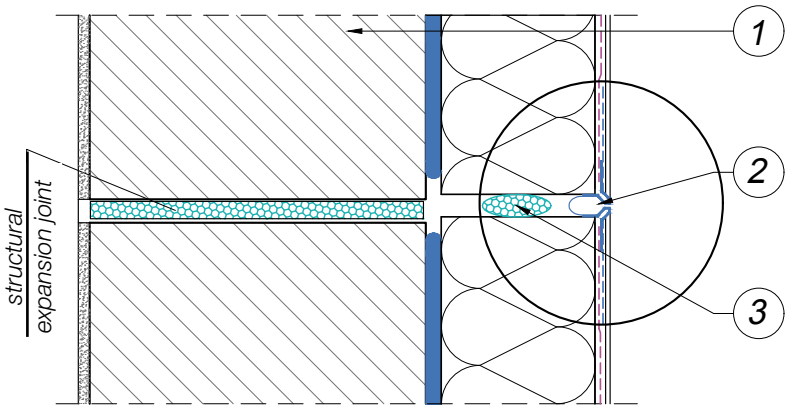
expansion joints with the use of straight expansion joint profile

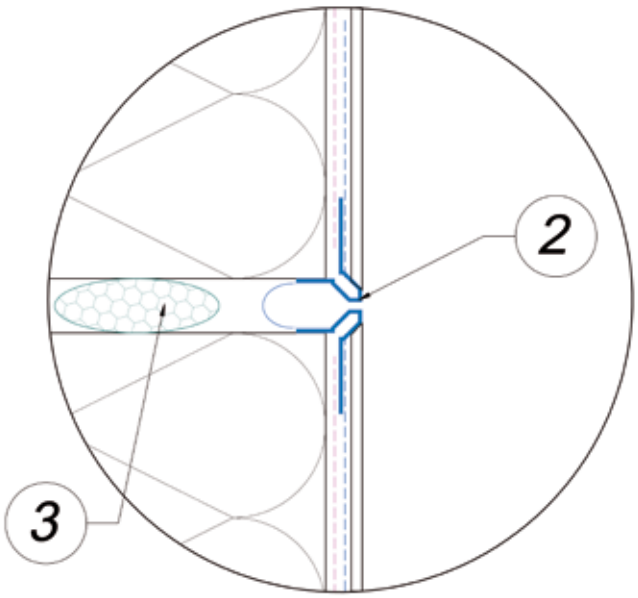


1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, for example ATLAS ETICS – EXPRESS SET:**
- ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
- polystyrene EPS 80
- mechanical fixings
- ATLAS U WHITE adhesive mortar with ATLAS 150 reinforcing mesh embedded
- ATLAS SILICONE RENDER (AVAL SILICONE RENDER)

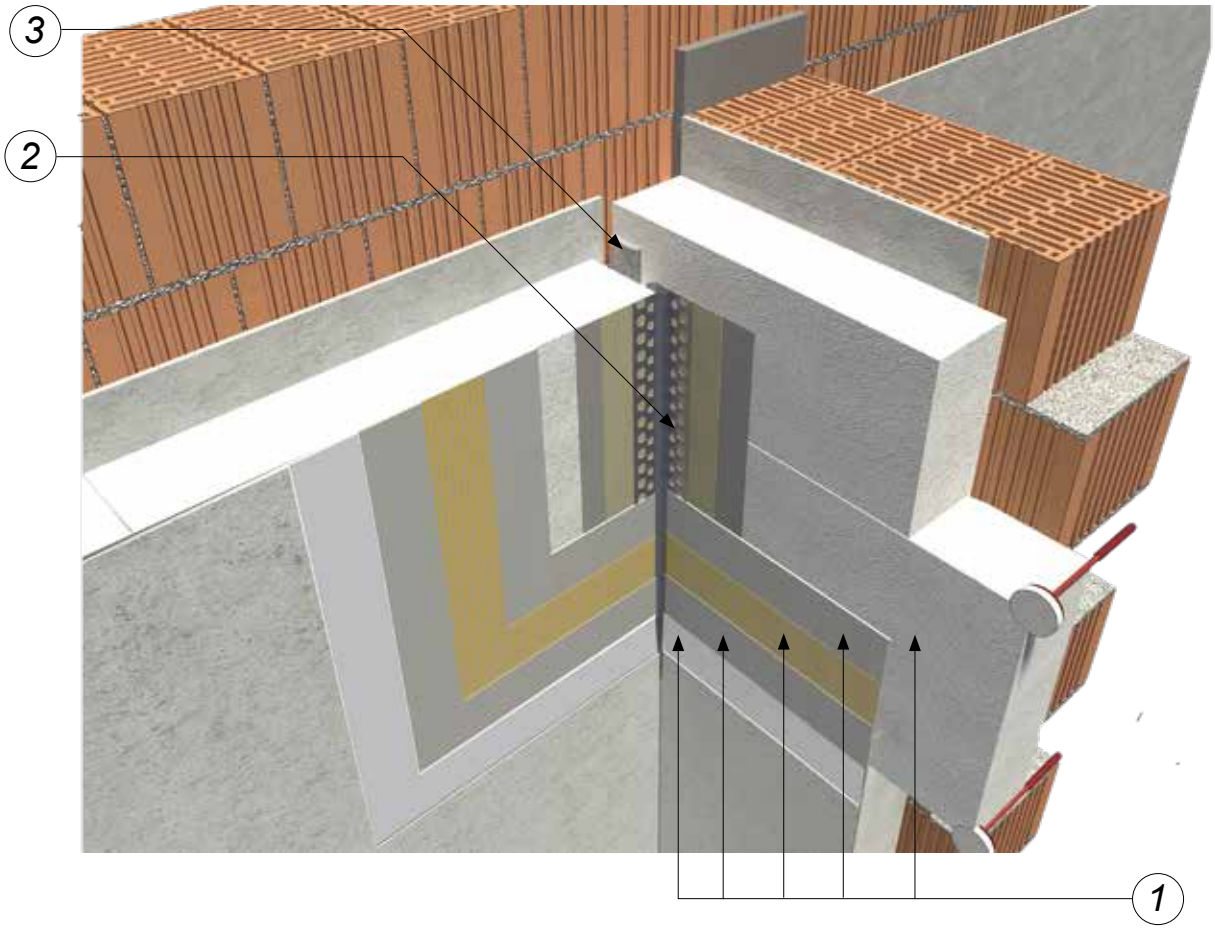
2. **STRAIGHT EXPANSION JOINT PROFILE WITH MESH**

3. **ATLAS BACKER ROD**

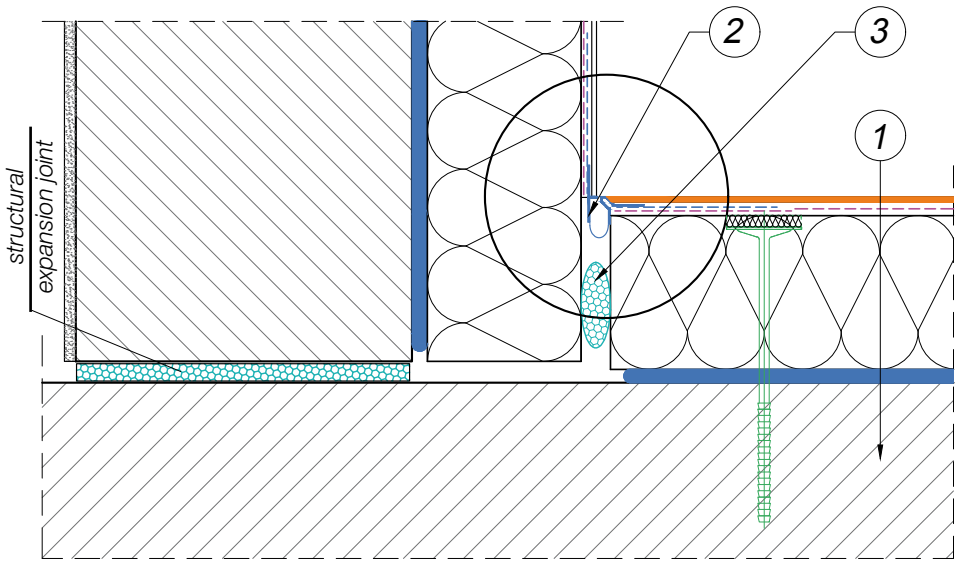

1
2
3
structural
expansion joint

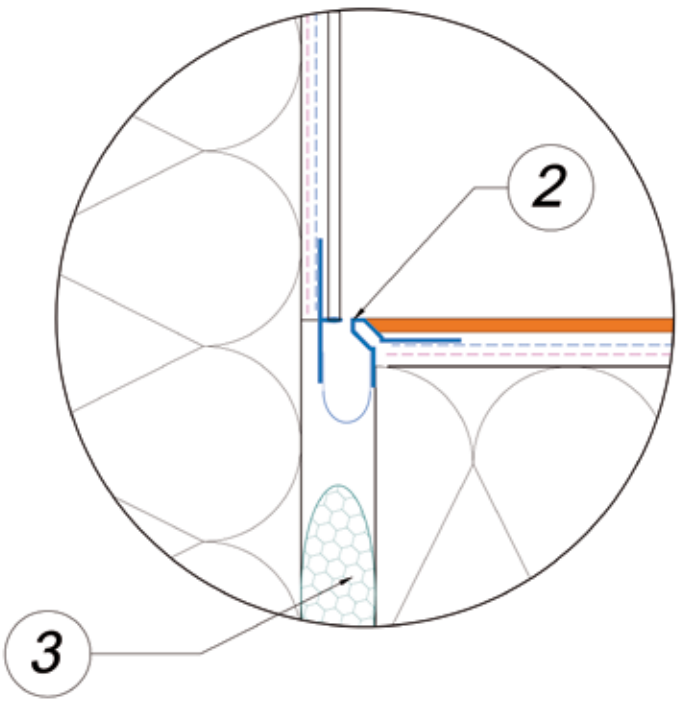

2
3

expansion joint with the use of corner expansion joint profile



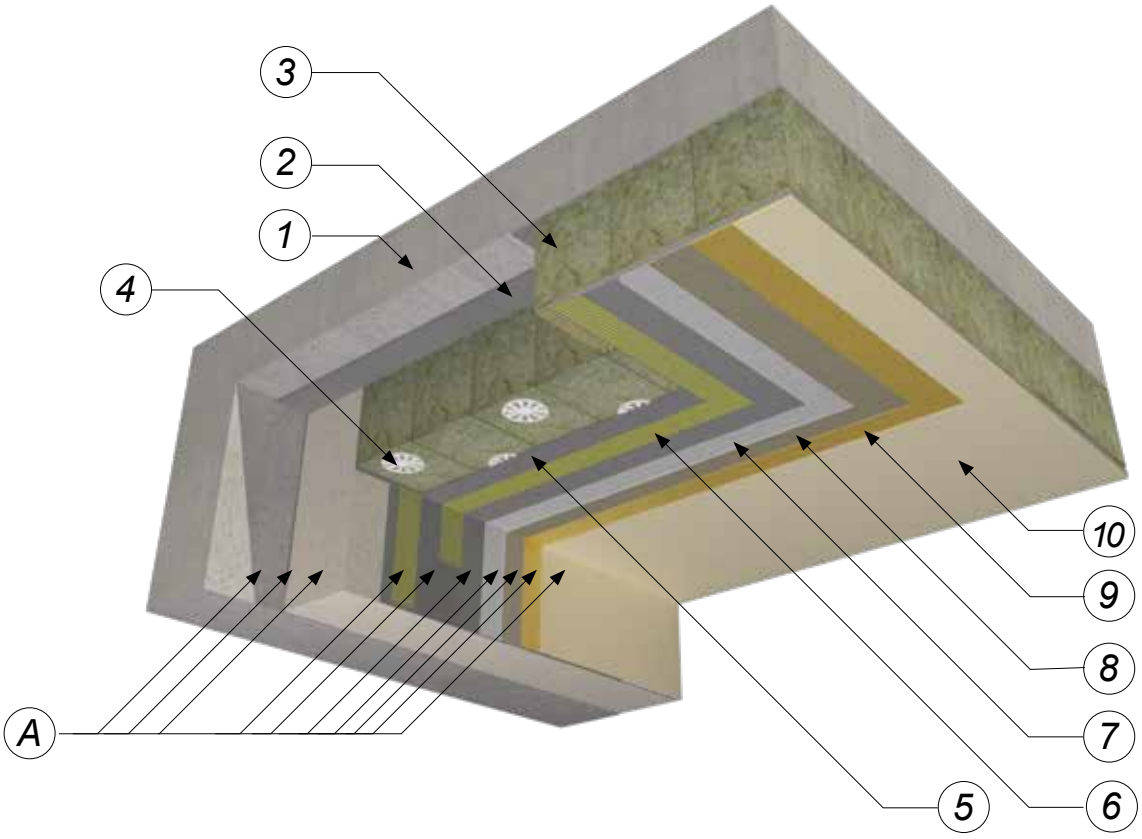
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, for example ATLAS ETICS – PROPERTY DEVELOPER SET:**
   - ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS HOTER U (AVAL KT 55) adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS CERPLAST (AVAL KT 16) priming mass
   - ATLAS ACRYLIC-SILICONE RENDER (AVAL ACRYLIC-SILICONE RENDER)
2. **CORNER EXPANSION JOINT PROFILE WITH MESH**
3. **ATLAS BACKER ROD**


structural
expansion joint
1
2
3


2
3

4.3

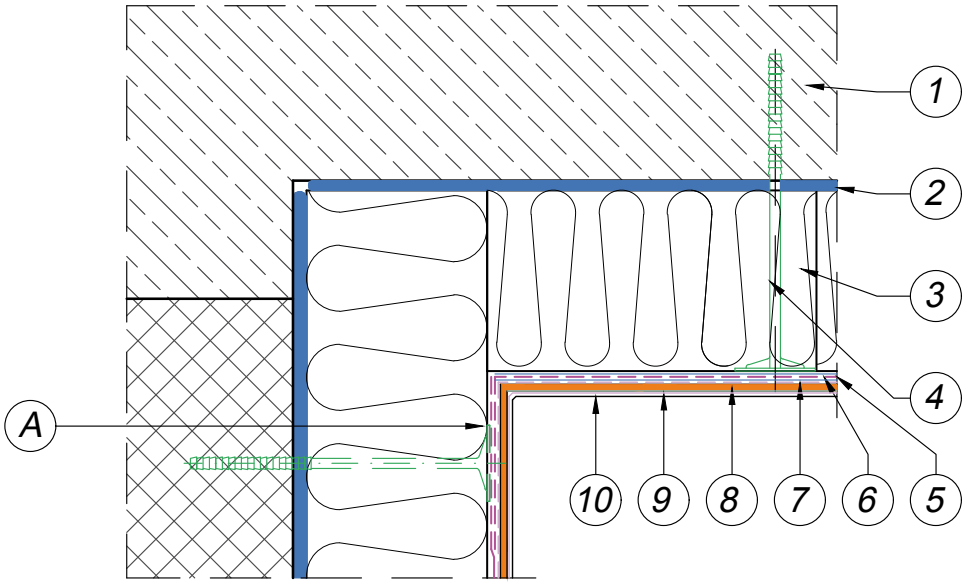
joint between wall and ceiling thermal insulation – inner corner between Atlas ROKER G (option II) and Atlas ETICS System



Thermal insulation of horizontal surfaces: ATLAS ROKER G (option II) system

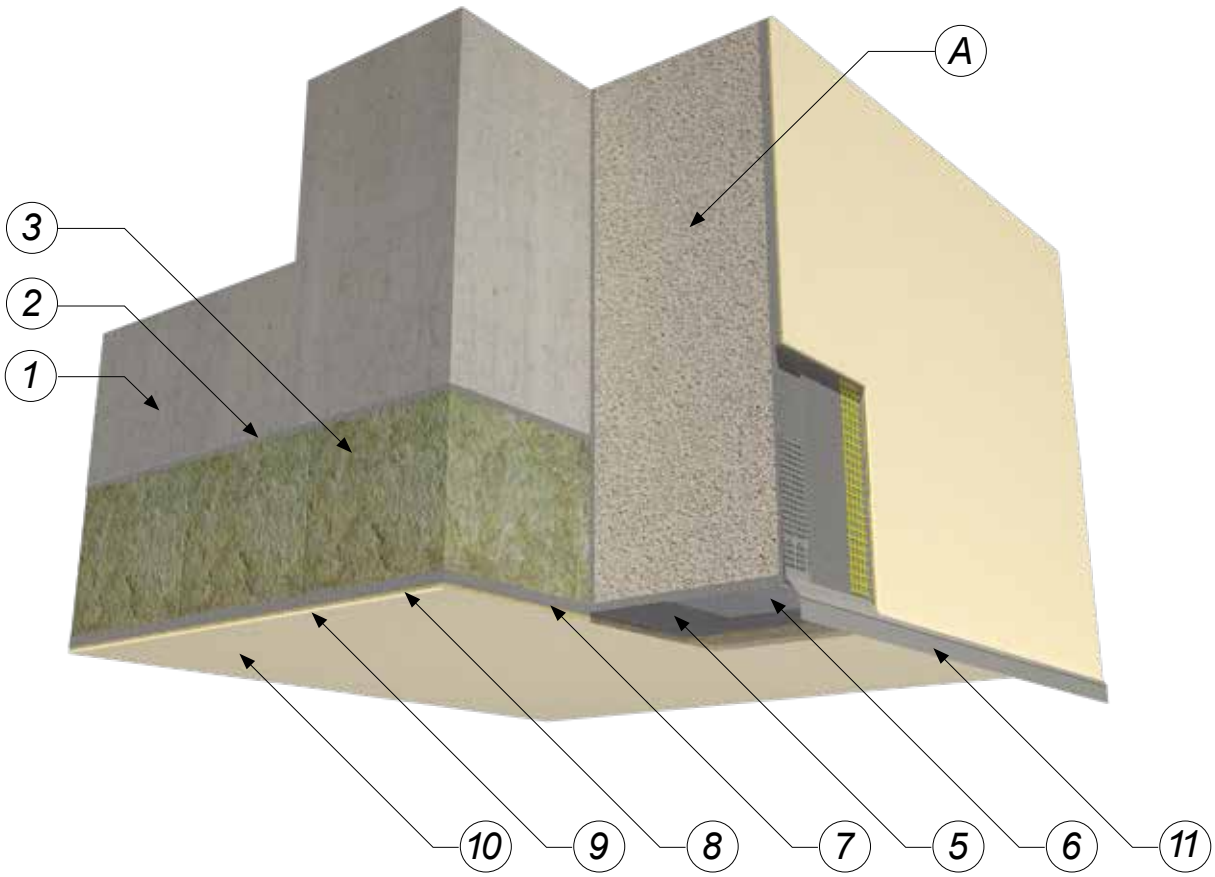
1. **CEILING**
   – e.g. monolithic concrete slab or prefabricated concrete elements
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS ROKER U
3. **THERMAL INSULATION, for example:**
   – mineral wool boards of thickness according to heat calculations
   – lamella wool boards of thickness according to heat calculations
4. **SUPPLEMENTARY FIXING:**
   – mechanical fixings determined in the thermal insulation design, approved for marketing and use
5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive: ATLAS ROKER U
6. **REINFORCING FIBERGLASS MESH**
7. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKAT ASX
8. **RENDERING COAT, for example:**
   – silicate: ATLAS SILICATE RENDER
9. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
   – ATLAS ARKOL SX
10. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
    – silicate: ATLAS SALTA S

A. Thermal insulation of vertical surfaces with ATLAS ETICS System


1
2
3
4
5
6
7
8
9
10
A

4.4

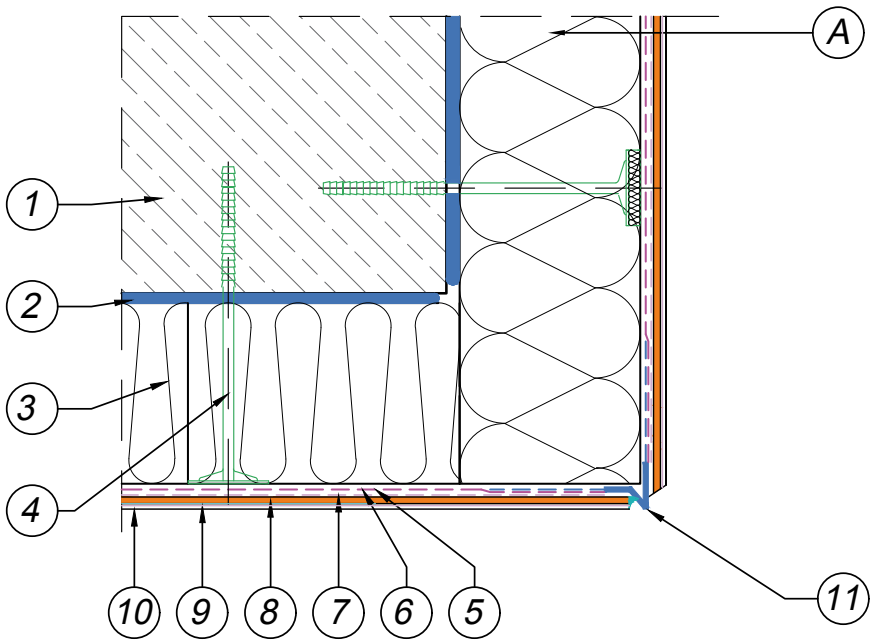
joint between wall and ceiling thermal insulation – outer corner between Atlas ROKER G (option II) and Atlas ETICS System



Thermal insulation of horizontal surfaces: ATLAS ROKER G (option II) system

1. **CEILING**
   – concrete
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS ROKER U
3. **THERMAL INSULATION, for example:**
   – mineral wool boards of thickness according to heat calculations
   – lamella wool boards of thickness according to heat calculations
4. **SUPPLEMENTARY FIXING:**
   – mechanical fixings determined in the thermal insulation design, approved for marketing and use
5. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive mortar: ATLAS ROKER U
6. **REINFORCING FIBERGLASS MESH**
7. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS SILKON ANX
8. **RENDERING COAT, for example:**
   – silicone: ATLAS SILICONE RENDER
9. **PRIMERS FOR PAINTS (DEPENDING ON PAINT TYPE), for example:**
   – ATLAS ARKOL NX
10. **FAÇADE PAINT, for example:**
    – silicone: ATLAS SALTA N

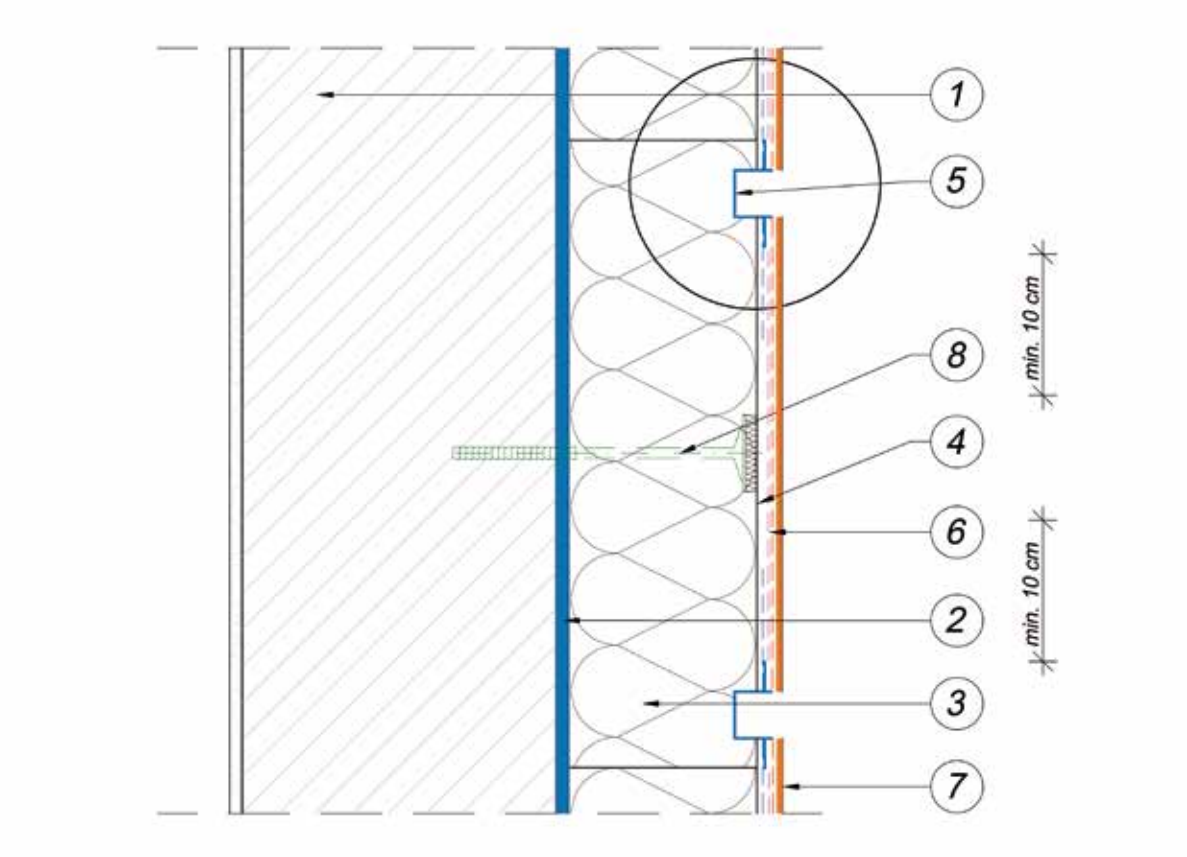
A. Thermal insulation of vertical surfaces with ATLAS ETICS System

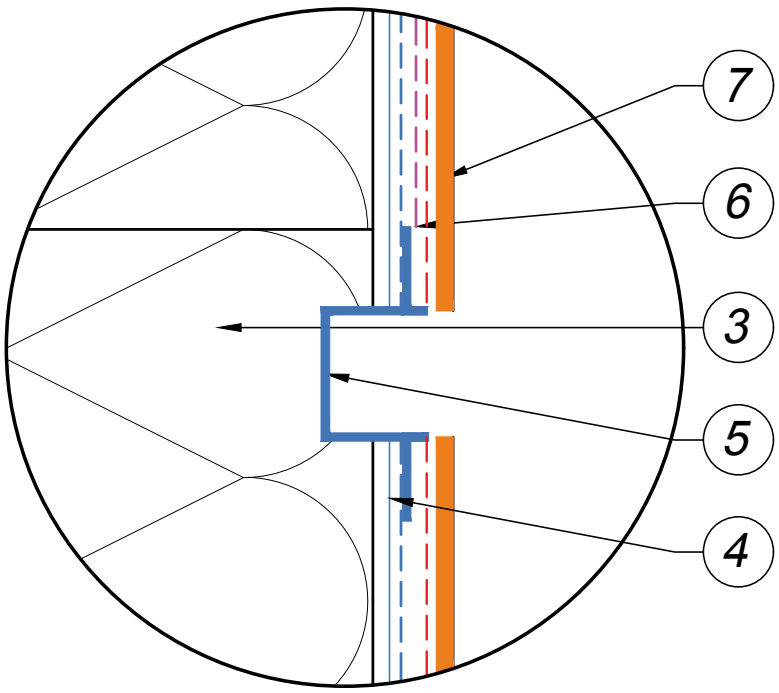

A
1
2
3
4
10
9
8
7
6
5
11

4.5

rustication with the use of prefabricated elements

1. **WALL**
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS HOTER S (AVAL KT 53)
3. **THERMAL INSULATION, for example:**
   – EPS boards of thickness according to heat and humidity calculations
   – XPS boards of thickness according to heat and humidity calculations
4. **MORTAR FOR REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive mortar: ATLAS HOTER U (AVAL KT 55)
5. **PREFABRICATED RUSTICATION ELEMENT WITH MESH**
6. **REINFORCING FIBERGLASS MESH**
7. **RENDERING COAT, for example:**
   – mineral render: ATLAS CERMIT ND
8. **SUPPLEMENTARY FIXING**
   – mechanical fixings determined in the thermal insulation design, approved for marketing and use


1
5
8
4
6
2
3
7
min. 10 cm
min. 10 cm

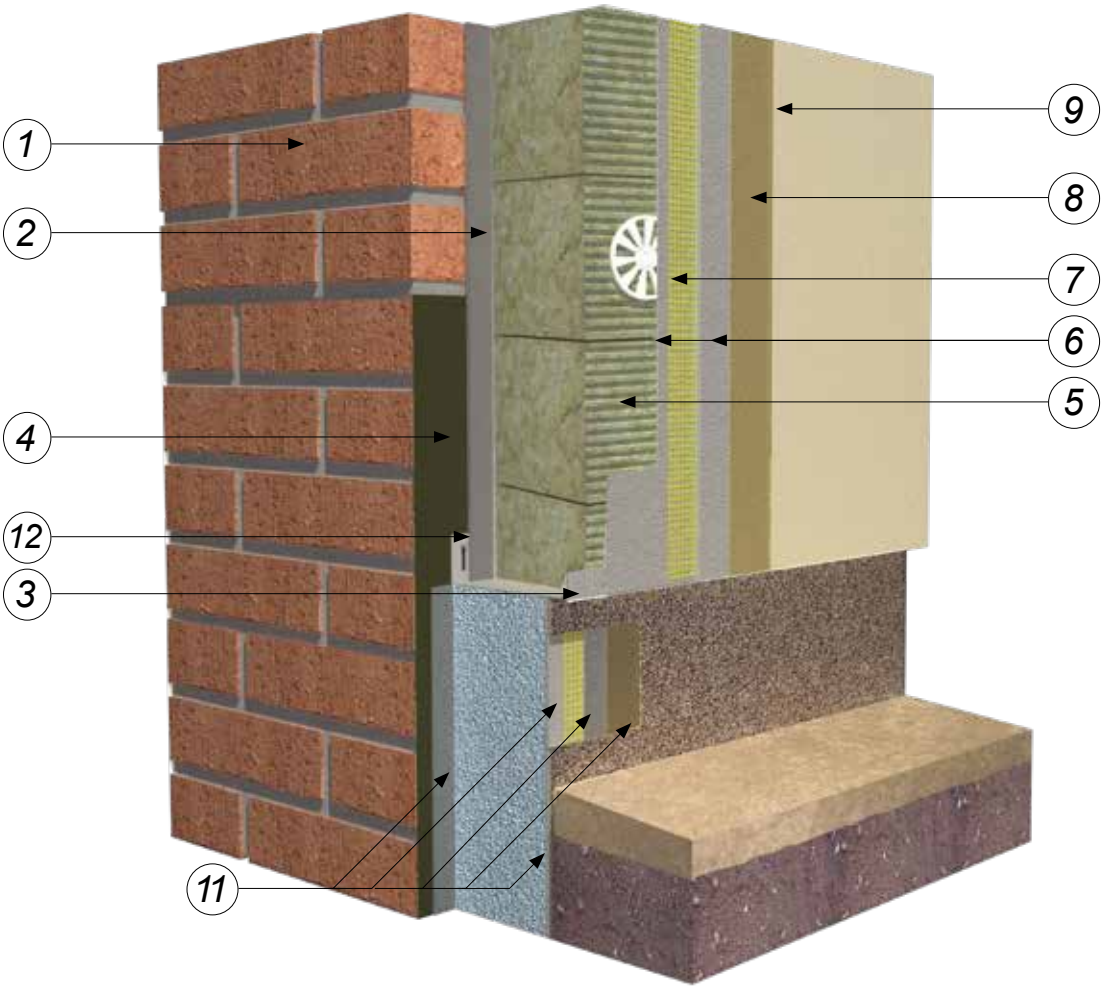

7
6
3
5
4

plinth thermal insulation

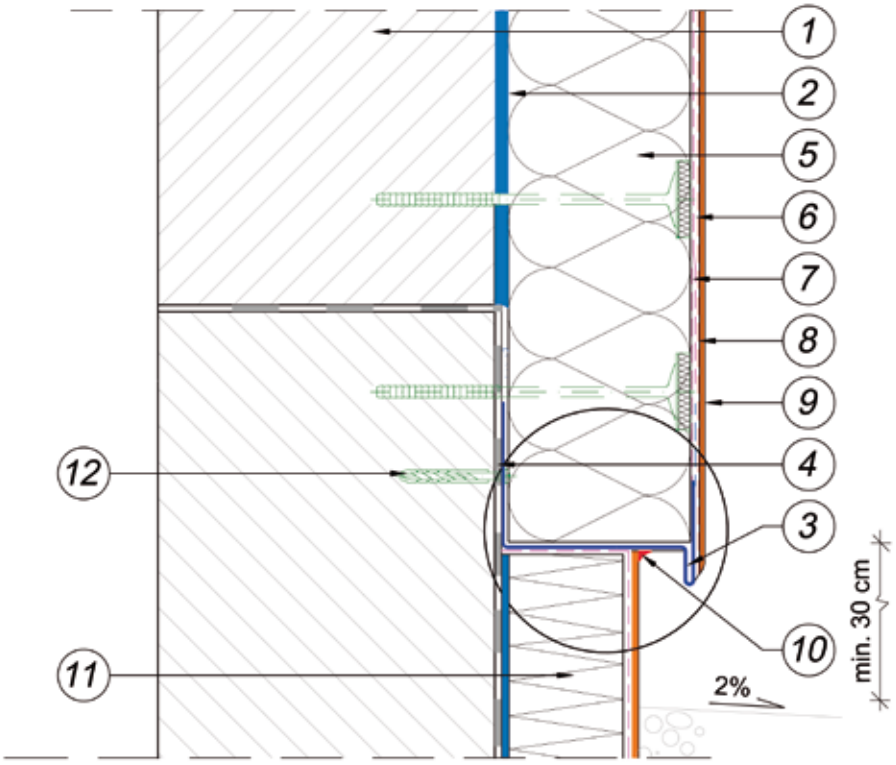
5

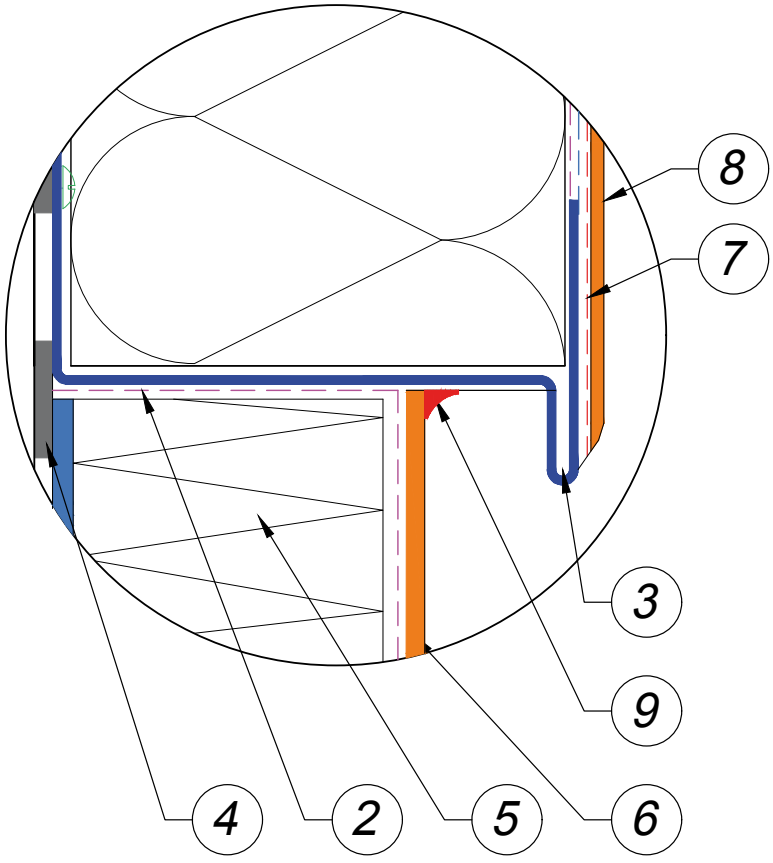
5.1

wall and plinth thermal insulation – option with starter track

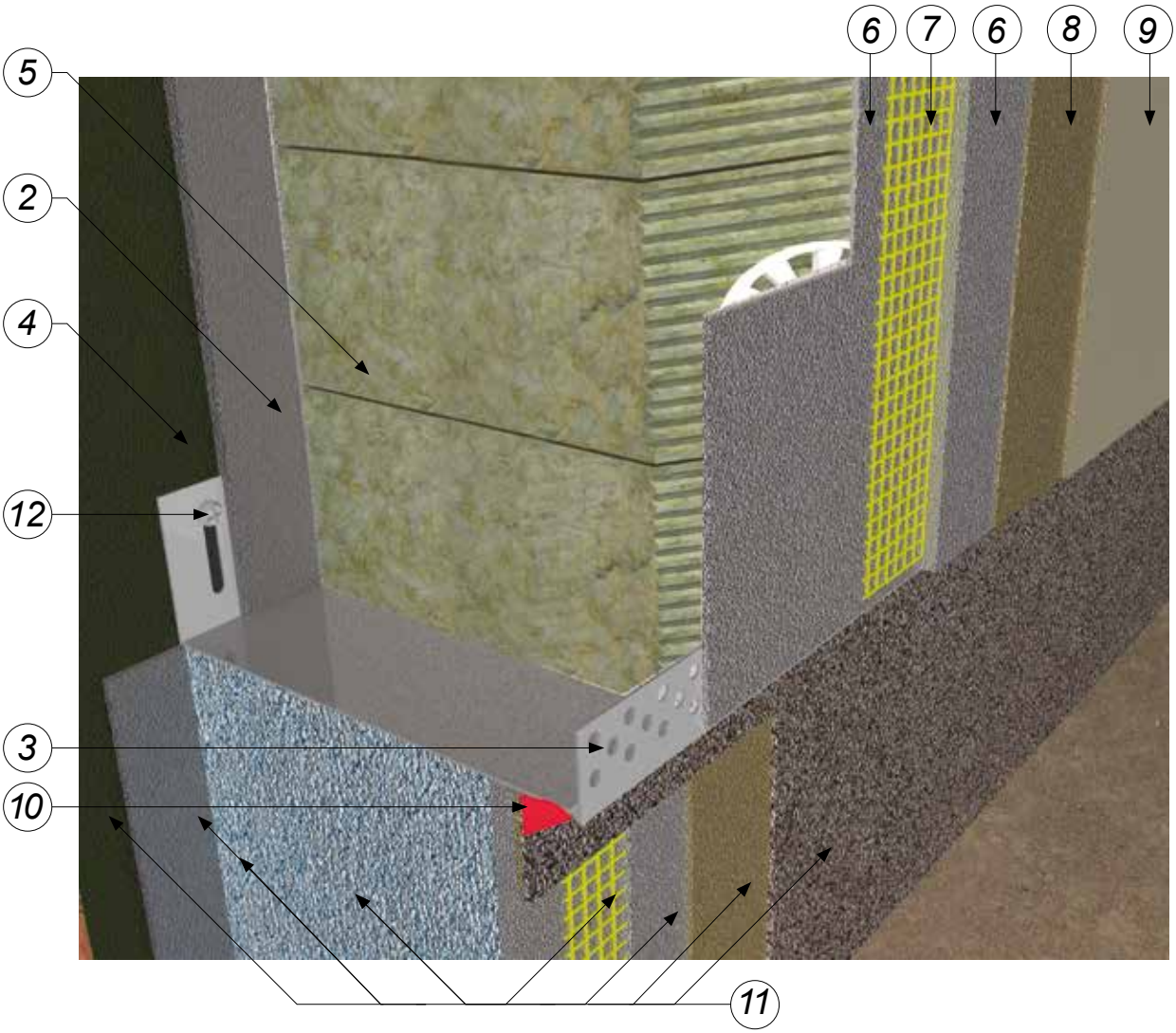


1. **WALL**
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS ROKER W
3. **STARTER TRACK**
4. **DAMP PROOFING, for example:**
   – ATLAS WODER DUO
5. **THERMAL INSULATION, for example:**
   – mineral wool boards of thickness according to heat and humidity calculations
   – lamella wool boards of thickness according to heat and humidity calculations
6. **MORTAR FOR THE REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive mortar: ATLAS ROKER U
7. **REINFORCING FIBERGLASS MESH**
8. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS CERPLAST (AVAL KT 16)
9. **RENDERING COAT, for example:**
   – mineral render: ATLAS CERMIT ND
10. **MASTIC SEALANT, for example:**
    – ATLAS ARTIS SILICONE
11. **WALL THERMAL INSULATION WITH ATLAS XPS SYSTEM BENEATH THE STARTING TRACK**
12. **STUD MOUNTING THE STARTER TRACK**

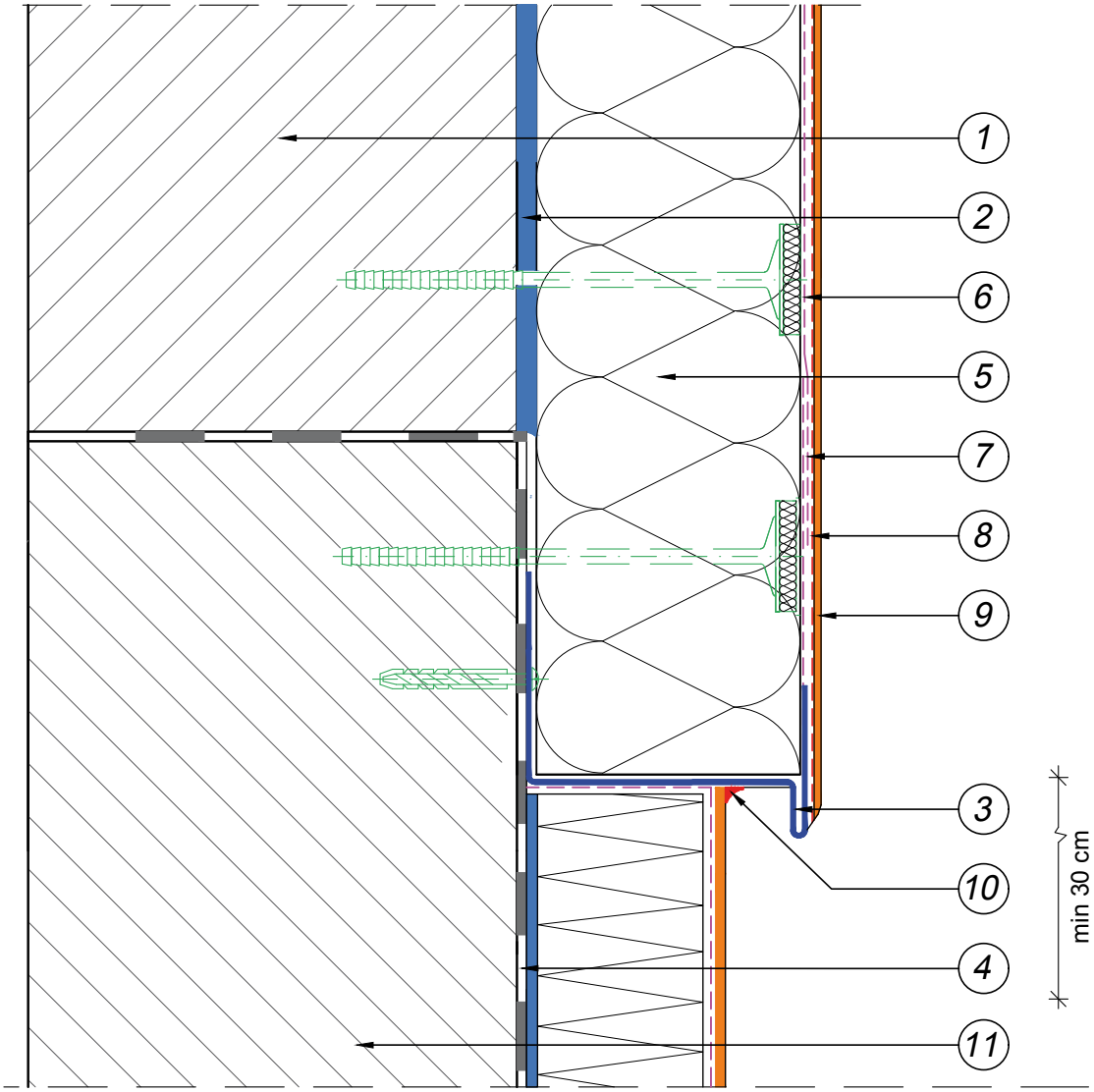

1
2
5
6
7
8
9
12
4
3
10
11
min. 30 cm
2%


8
7
3
9
4
2
5
6

wall and plinth thermal insulation – option with starter track



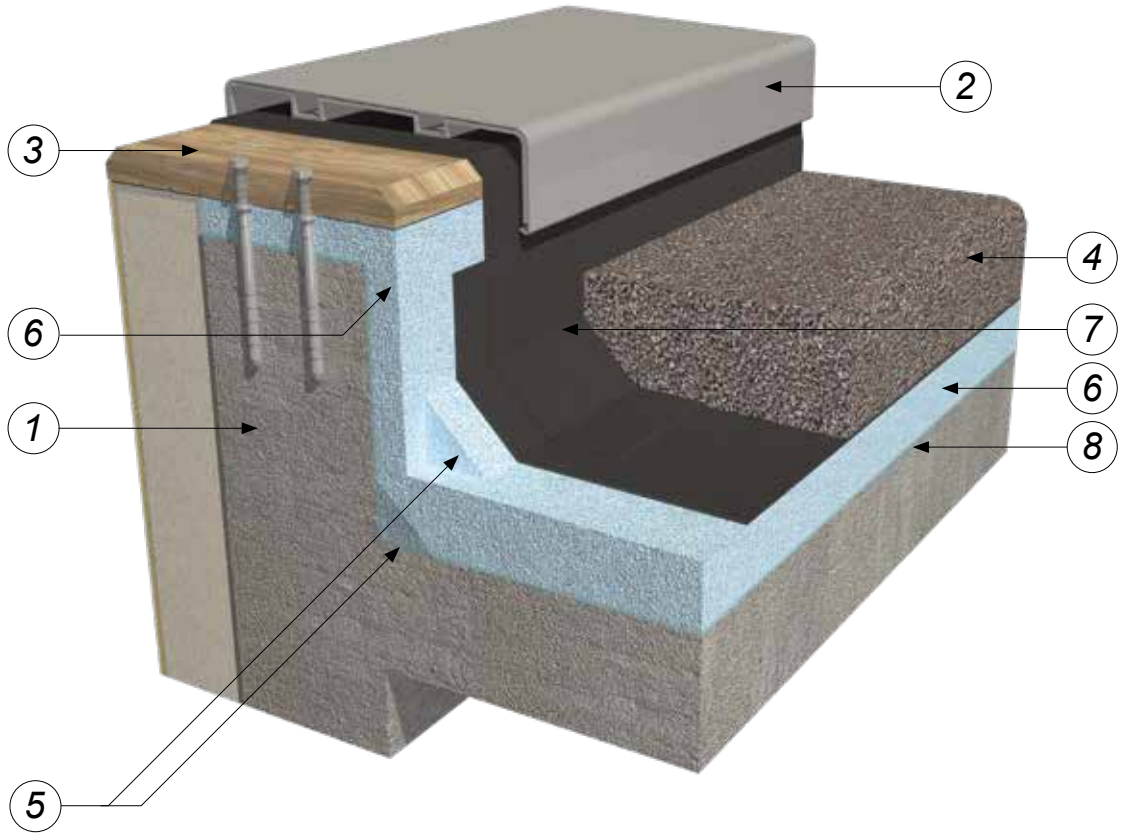
1. **WALL**
2. **ADHESIVE FOR THERMAL INSULATION BOARDS FIXING, for example:**
   – mineral adhesive mortar: ATLAS ROKER W
3. **STARTER TRACK**
4. **DAMP PROOFING, for example:**
   – ATLAS WODER DUO
5. **THERMAL INSULATION, for example:**
   – mineral wool boards of thickness according to heat and humidity calculations
   – lamella wool boards of thickness according to heat and humidity calculations
6. **MORTAR FOR THE REINFORCING LAYER (BASE COAT) APPLICATION, for example:**
   – mineral adhesive mortar: ATLAS ROKER U
7. **REINFORCING FIBERGLASS MESH**
8. **PRIMING MASS FOR RENDERS (DEPENDING ON RENDER TYPE), for example:**
   – ATLAS CERPLAST (AVAL KT 16)
9. **RENDERING COAT, for example:**
   – mineral render: ATLAS CERMIT ND
10. **MASTIC SEALANT, for example:**
    – ATLAS ARTIS SILICONE
11. **WALL THERMAL INSULATION WITH ATLAS XPS SYSTEM BENEATH THE STARTING TRACK**
12. **STUD MOUNTING THE STARTER TRACK**


1
2
6
5
7
8
9
3
10
4
11
min 30 cm

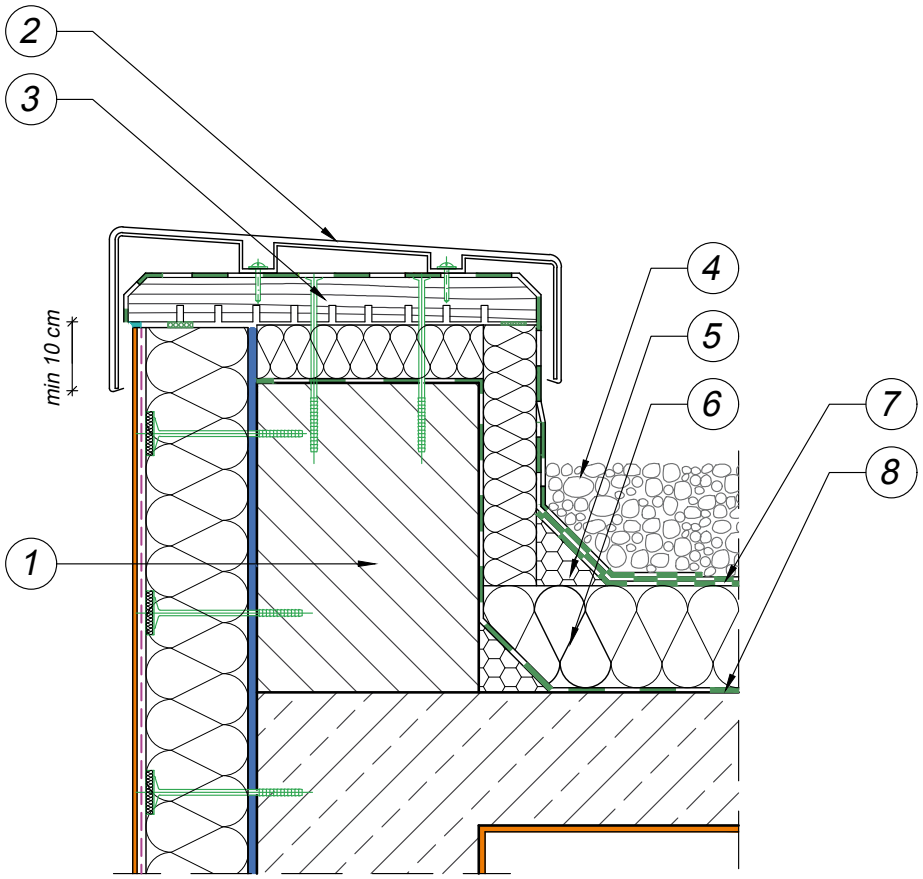
thermal insulation at flat or steep roof

6

thermal insulation of flat roof attic (joint between wall thermal insulation and existing parapet wall thermal insulation)

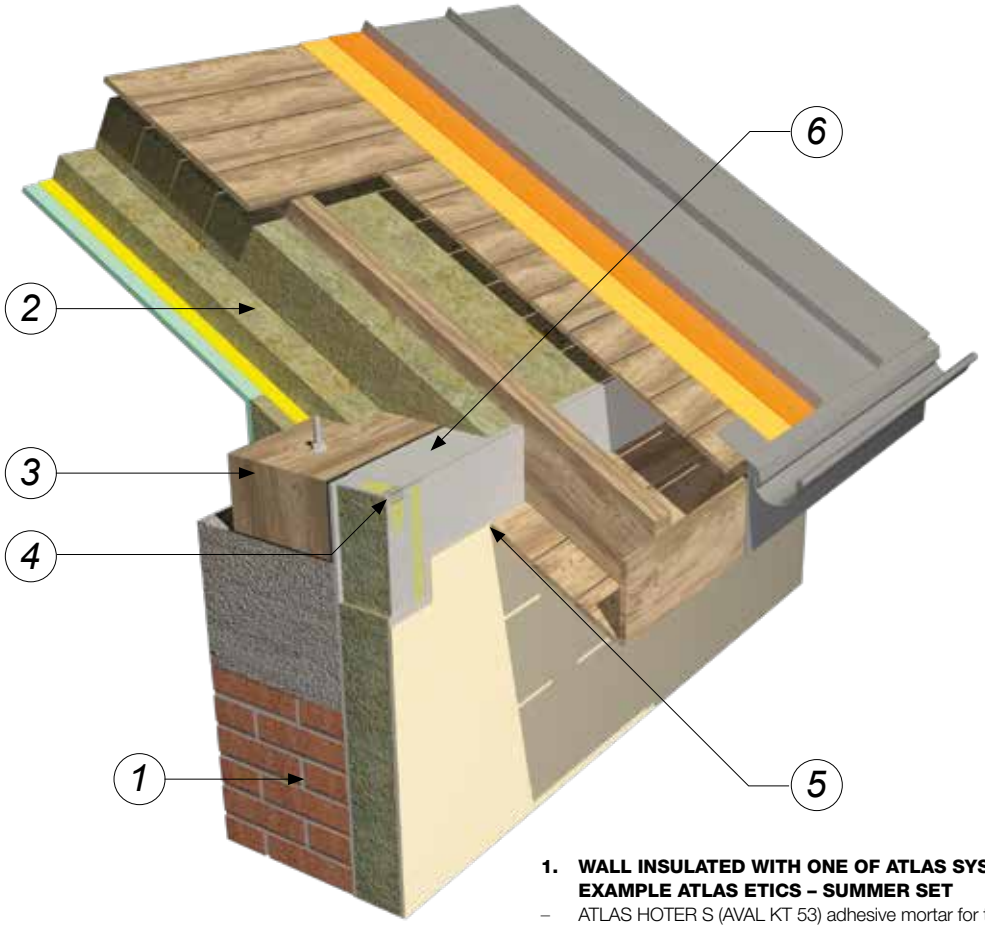


1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, FOR EXAMPLE ATLAS ETICS – DECORATIVE SET :**
   - ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS HOTER U (AVAL KT 55) adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS CERPLAST (AVAL KT 16) priming mass
   - ATLAS CERMIT WN – mineral render
   - ATLAS BEJCA impregnant
2. **PARAPET WALL FLASHING**
3. **BOARD**
4. **GRAVEL – LOAD LAYER**
5. **WEDGE:**
   - extruded polystyrene XPS
6. **THERMAL INSULATION**
   - extruded polystyrene XPS
7. **WATERPROOFING**
   - 2 x heat welded roofing membrane or ATLAS SMB BITUMINOUS MEMBRANE
8. **WATER VAPOUR BARRIER, for example:**
   - ATLAS SMB BITUMINOUS MEMBRANE on the substrate primed with ATLAS GENERAL-PURPOSE BITUMEN MASS

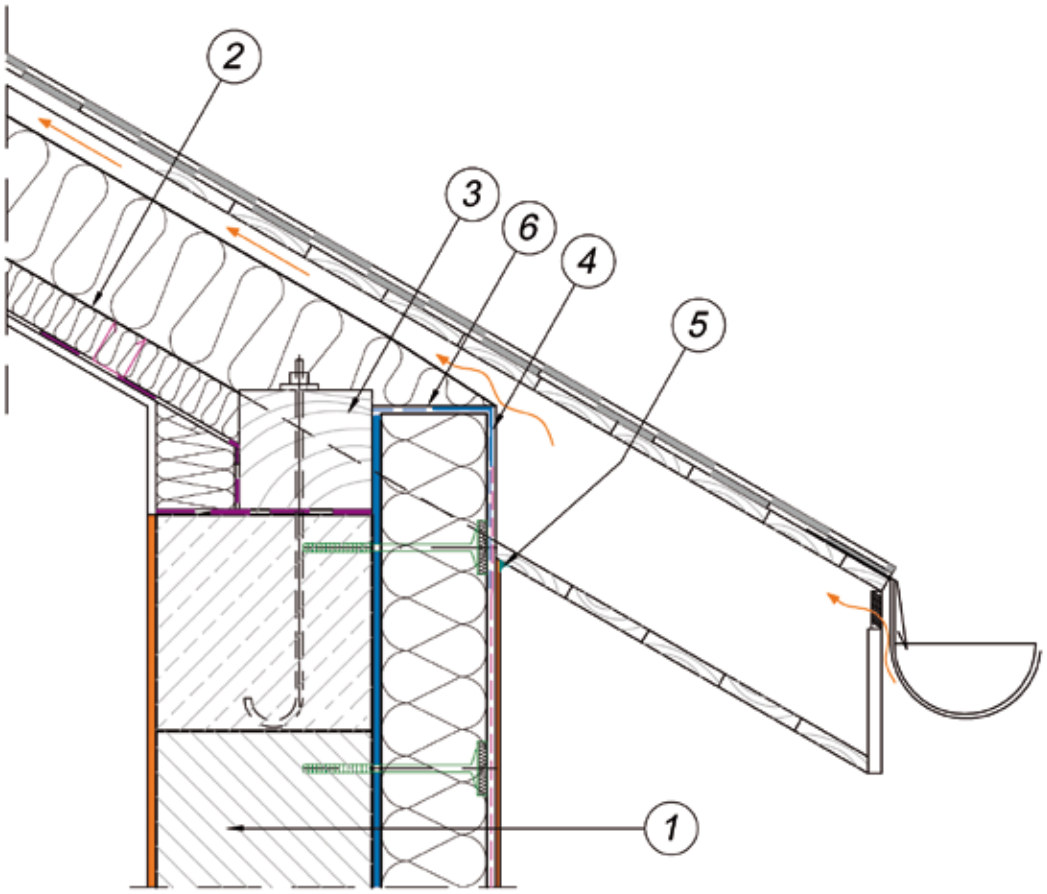

2
3
4
5
6
7
8
1
min 10 cm

6.2

joint between wall thermal insulation and steep roof with thermal insulation within its structure

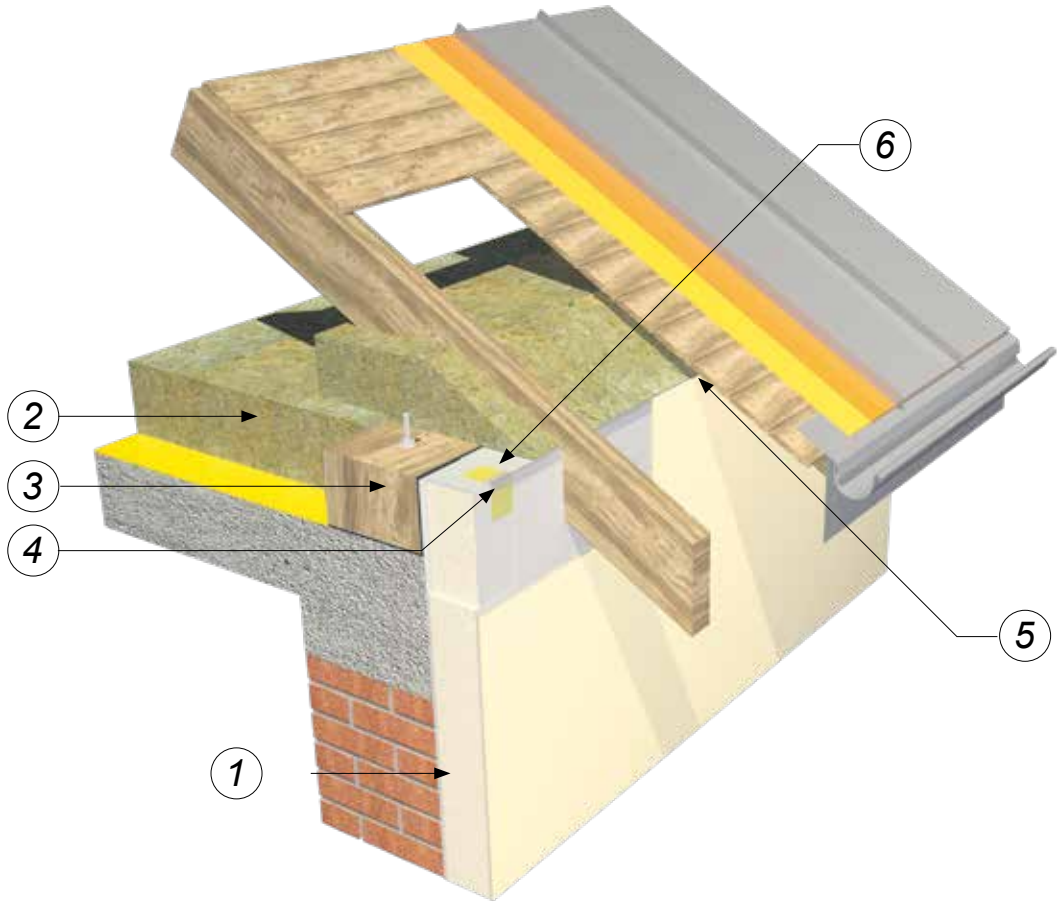


1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, FOR EXAMPLE ATLAS ETICS – SUMMER SET**
   - ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS HOTER U adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS SILKON ANX (AVAL KT 76) priming mass
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER) + summer additive for dispersive render ATLAS HOTER DL
2. **THERMAL INSULATION WITHIN STEEP ROOF STRUCTURE, for example:**
   - mineral wool boards of thickness according to thermal calculations
3. **WALL PLATE**
4. **CORNER PROFILE WITH MESH**
5. **5. VENTILATING GAP WITH MASKING BEAD**
   - ATLAS ARTIS SILICONE
6. **ETICS CLOSURE**
   - ATLAS HOTER U adhesive mortar with ATLAS 150 reinforcing mesh embedded

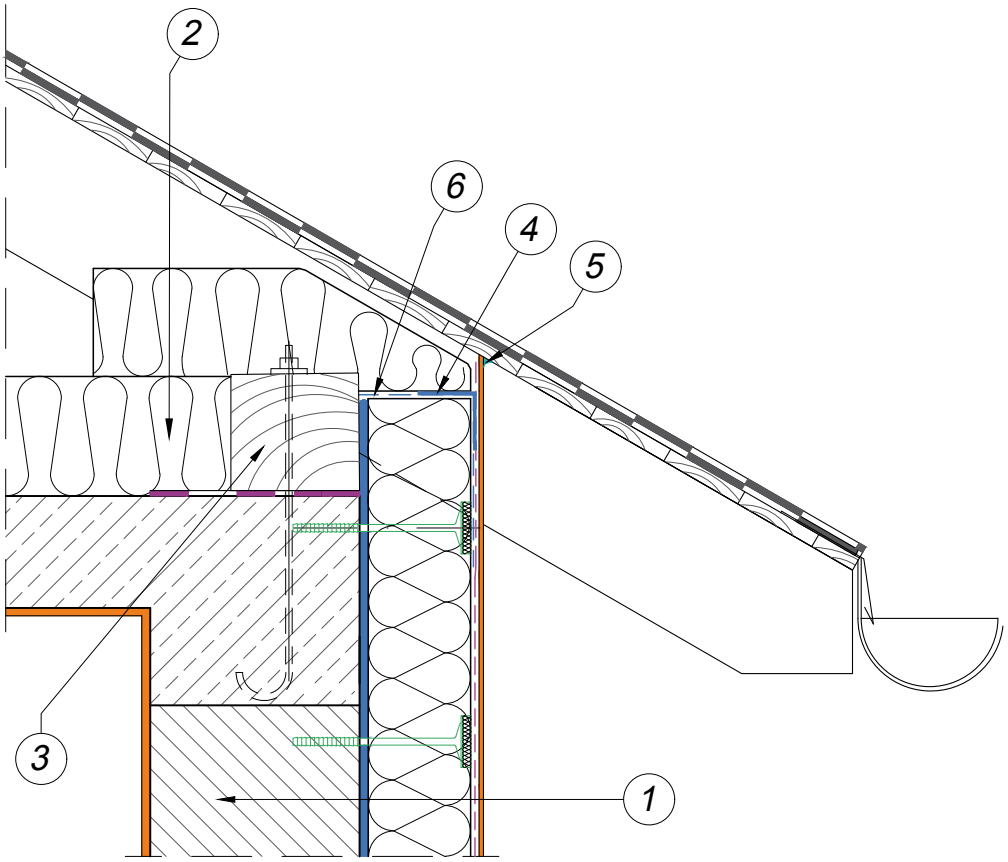

2
3
6
4
5
1

6.3

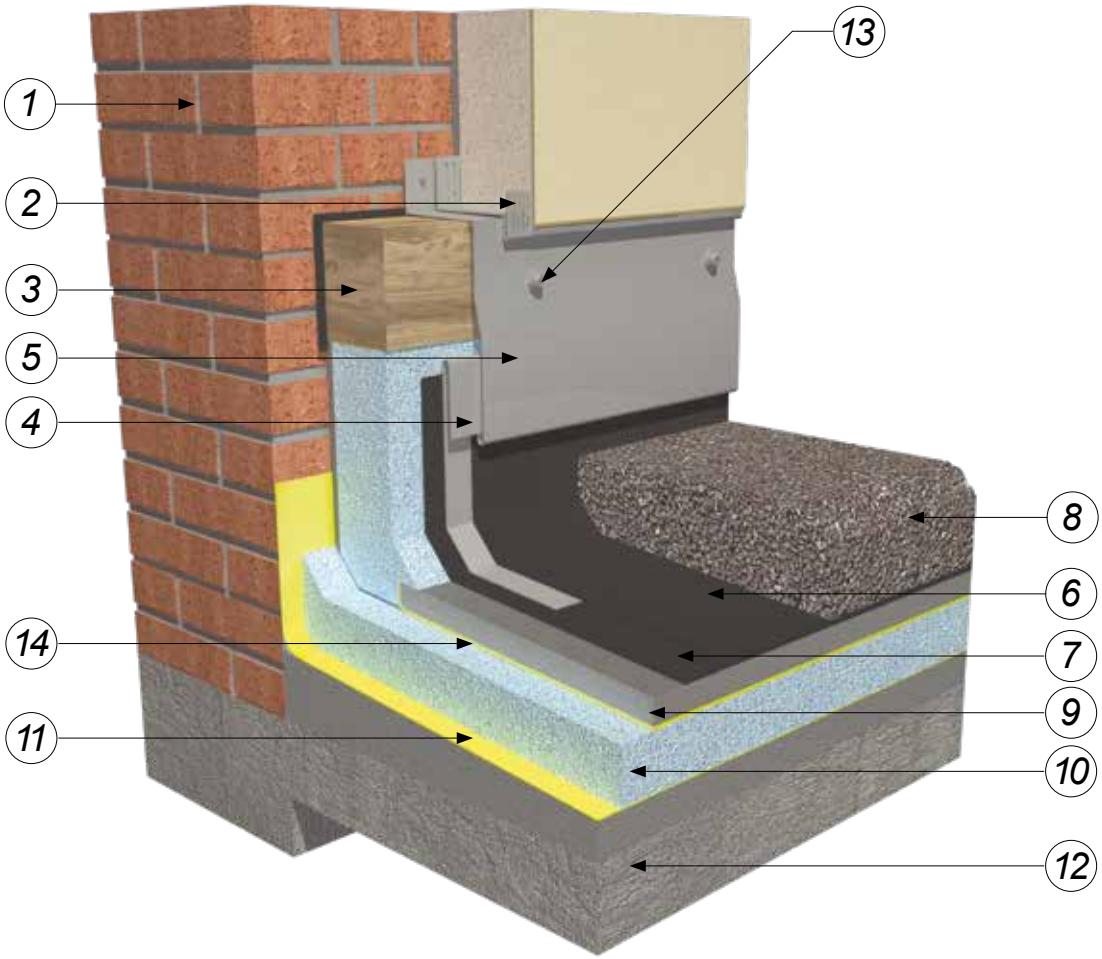
joint between wall thermal insulation and thermal insulation within the ceiling above the last storey



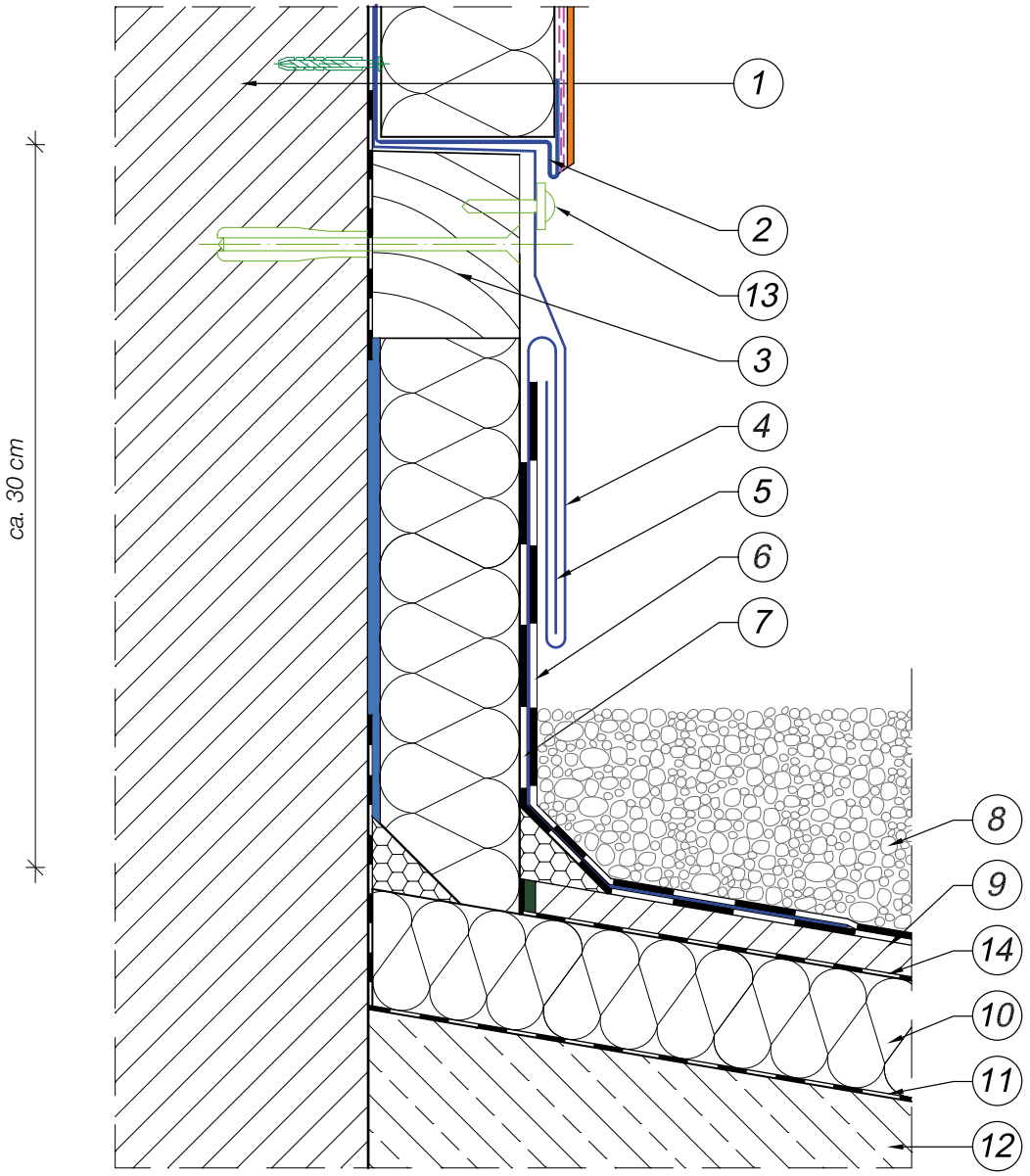
1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, FOR EXAMPLE ATLAS ETICS – WINTER SET**
   - ATLAS STOPTER K-20 (AVAL KT 85) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS STOPTER K-20 (AVAL KT 85) adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS SILKON ANX (AVAL KT 76) priming mass
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER) + winter additive for dispersive render ATLAS ESKIMO
2. **THERMAL INSULATION WITHIN THE CEILING STRUCTURE, for example:**
   - mineral wool boards of thickness according to thermal calculations
3. **WALL PLATE**
4. **CORNER PROFILE WITH MESH**
5. **VENTILATING GAP WITH MASKING BEAD**
6. **ETICS CLOSURE**
   - ATLAS HOTER U adhesive mortar with ATLAS 150 reinforcing mesh embedded


2
6
4
5
3
1

inverted roof insulation – joint with external wall



1. **WALL INSULATED WITH ONE OF ATLAS SYSTEMS, FOR EXAMPLE ATLAS ETICS – EXPRESS SET**
   - ATLAS HOTER S (AVAL KT 53) adhesive mortar for thermal insulation boards fixing
   - polystyrene EPS 80
   - mechanical fixings
   - ATLAS HOTER U WHITE adhesive mortar with ATLAS 150 reinforcing mesh embedded
   - ATLAS SILICONE RENDER (AVAL SILICONE RENDER)
2. **STARTER TRACK**
3. **BASE BOARD (FIXED MECHANICALLY TO THE WALL)**
4. **CONNECTION BETWEEN FLASHINGS**
5. **FLASHING**
6. **TOP BITUMEN MEMBRANE, for example:**
   - IZOLMAT PLAN PYE PV250 S5.2 SS
7. **BASE BITUMEN MEMBRANE, for example:**
   - IZOLMAT PLAN PYE PV250 S5,0
8. **GRAVEL – LOAD LAYER (OPTIONALLY)**
9. **LOAD SCREED (OPTIONALLY), for example:**
   - ATLAS POSTAR 80
10. **INSULATION OF CEILING AND PARAPET WALL PLINTH**
    - extruded polystyrene XPS of thickness according to heat and humidity calculations
11. **WATER VAPOUR BARRIER, for example:**
    - ATLAS SMB BITUMINOUS MEMBRANE
12. **LOAD BEARING STRUCTURE**
13. **SHEETING SCREWS FOR FLASHINGS**
14. **SEPARATING LAYER, for example:**
    - PE MEMBRANE 0.2 mm thick


ca. 30 cm
1
2
13
3
4
5
6
7
8
9
14
10
11
12

thermal insulation sets

ATLAS

thermal insulation sets ATLAS
COMPARISON

SET NAME	SET DESCRIPTION	INSULATION MATERIAL	ADHESIVE	REINFORCING MESH
PREMIUM ATLAS	HIGH IMPACT RESISTANCE INTENSIVE COLOURS SELF-CLEANING EFFECT	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 165
DECORATIVE	AESTHETICS WIDE RANGE OF TEXTURES SELECTION OF COMPOSITIONS	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
SUMMER	FOR USE IN TEMP. UP TO +35°C EASY APPLICATION RESISTANT TO UV	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
WINTER	FOR USE IN TEMP DOWN TO 0°C SAFE APPLICATION RESISTANCE TO LONG-TERM RAINFALLS	EPS	ATLAS STOPTER K-20 AVAL KT 85	ATLAS 150
EXPRESS	NO PRIMING REQUIRED EXCELLENT WORKABILITY RESISTANCE TO HUMIDITY	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
DEVELOPER	IDEAL FOR BIG INVESTMENTS QUICK APPLICATION RESISTANT TO ALGAE	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
DEVELOPER GENERAL-USE	WITH MINERAL WOOL AND POLYSTYRENE NO PRIMING REQUIRED RESISTANT TO ATMOSPHERIC CONDITIONS	MINERAL WOOL EPS	ATLAS STOPTER K-50	ATLAS 150
ECONOMICAL DISPERSIVE	VERY COMPETITIVE PRICE EXCELLENT WORKABILITY HIGH FLEXIBILITY AND STRENGTH	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
ECONOMICAL MINERAL	VERY COMPETITIVE PRICE EASY APPLICATION RESISTANT TO ALGAE AND FUNGI GROWTH	EPS	ATLAS HOTER S AVAL KT 53	ATLAS 150
DIFFUSSIVE	HIGH WATER VAPOUR PERMEABILITY COMFORT AND SAFETY RESISTANT TO ALGAE AND FUNGI GROWTH	MINERAL WOOL	ATLAS ROKER W	ATLAS 150

RECOMMENDED PRODUCTS

ADHESIVE FOR REINFOR-CING LAYER	PRIMING MASS FOR FAÇADE RENDERS	FAÇADE RENDER	PRIMER FOR FAÇADE PAINT	FAÇADE PAINT	MODYFING ADDITIVES
ATLAS STOPTER K-100	ATLAS SILKON ANX AVAL KT 76	ATLAS SILICONE RENDER AVAL SILICONE RENDER		ATLAS SALTA N (OPTIONAL)	
ATLAS HOTER U AVAL KT 55	ATLAS CERPLAST AVAL KT 16	ATLAS CERMIT WN ATLAS CERMIT PS ATLAS CERMIT N100 ATLAS DEKO M AVAL KT 77		ATLAS BEJCA	
ATLAS HOTER U AVAL KT 55	ATLAS SILKON ANX AVAL KT 76	ATLAS SILICONE RENDER AVAL SILICONE RENDER			ATLAS HOTER DL summer additive for dispersive renders
ATLAS STOPTER K-20 AVAL KT 85	ATLAS SILIKON ANX AVAL KT 76	ATLAS SILICONE RENDER AVAL SILICONE RENDER			ATLAS ESKIMO winter additive for dispersive renders
ATLAS HOTER U WHITE		ATLAS SILICONE RENDER AVAL SILICONE RENDER			
ATLAS HOTER U AVAL KT 55	ATLAS CERPLAST AVAL KT 16	ATLAS SILICONE RENDER AVAL SILICONE RENDER			
ATLAS STOPTER K-50		ATLAS SILICONE RENDER AVAL SILICONE RENDER			
ATLAS HOTER U AVAL KT 55	ATLAS CERPLAST AVAL KT 16	ATLAS ACRYLIC RENDER AVAL ACRYLIC RENDER			
ATLAS HOTER U AVAL KT 55	ATLAS CERPLAST AVAL KT 16	ATLAS CERMIT ND	ATLAS ARKOL NX	ATLAS SALTA AVAL KT 46	
ATLAS ROKER U	ATLAS SILKAT ASX / CERPLAST	ATLAS SILICATE RENDER ATLAS CERMIT ND to be painted with a façade paint	ATLAS ARKOL SX	ATLAS SALTA S	

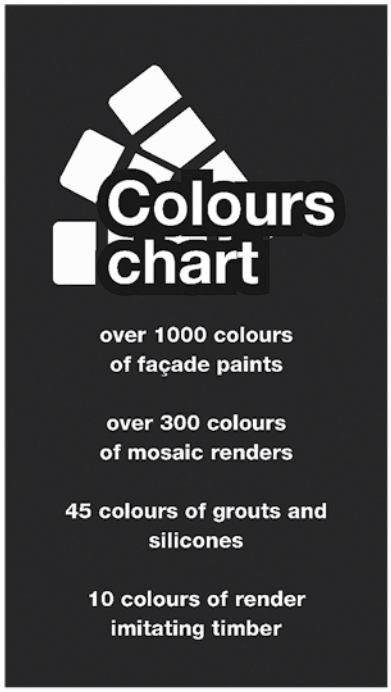
tools and support

ATLAS belongs to the leading manufacturers of products for thermal insulation of buildings. As one of the few it offers external wall insulation systems allowing for free choice of sets of materials, i.e. various adhesives, priming masses, renders and paints covered with the same TECHNICAL APPROVAL. ATLAS ETICS Systems have been given the Type III Environmental Declaration, which is crucial for high grade evaluation of buildings (e.g. LEED, BREAM, etc.). Each thermal insulation product is subject to numerous tests, executed both by our laboratories and ordered outside, led in the most demanding conditions which the product could face in the natural environment.

The development of ATLAS materials, from design until application, is supervised by specialists and professionals: in ATLAS R&D laboratories, validation departments, training units and quality control laboratories.

Our specialists, advisors, technical representatives are ready to support you and advice at any construction problems. Almost any information concerning the use of ATLAS products can also be found on our web site www.atlas.com.pl/en together with some helpful tools.

tools and support
ONLINE APPS



“COLOURS CHART” APP

Allows for selection of colours of façade renders and paints, mosaic renders, renders imitating timber as well as grouts and silicones. The charts enables choice and comparison of selected colours. It also informs about the diffused light reflection coefficient, which is helpful during façade works.

“CHECK CONSUMPTION” APP

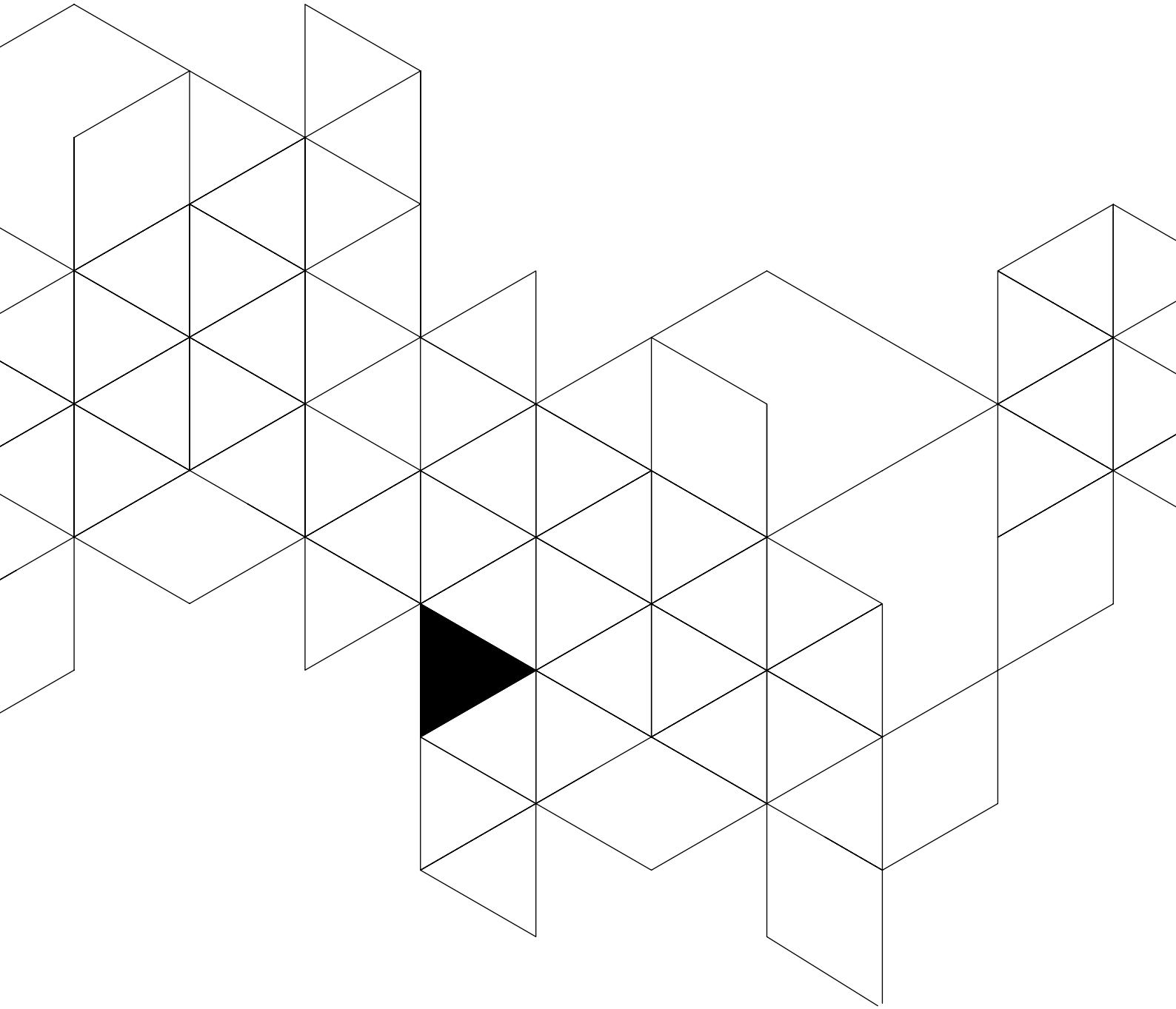
Helps to calculate consumption of particular products and materials necessary for a given solution or system. Therefore the materials cost and coverage can be estimated.

English version of the app will be available shortly.

Detailed information on ATLAS products and solutions can also be given by our technical advisors and representatives listed on our web site www.atlas.com.pl/en.

ATLAS EXPORT DEPARTMENT:
export@atlas.com.pl
Tel.: +48 42 714 0792
Fax.: +48 42 714 0807

Foreign Sales Director – Atlas Group Coordinator (West):
Michał Gosławski
mgoslawski@atlas.com.pl
Mob.: +48 607 781 018
Tel.: +48 42 714 0802



ATLAS

NO. 1 IN POLAND