TERRACE SYSTEMS

with aluminum eaves profiles

WATERTIGHTNESS

- protection of the edge zone
- dewatering holes inside the profile

DURABILITY

- made of aluminum
- varnish layer thickness ensures high resistance to corrosion

AESTHETICS

- system corners, connectors and endings
- three standard colours: grey, brown, graphite
- it is possible to order any colour from the RAL pallette

THE STRONGEST BUILDING BRAND IN POLAND

ATLAS

TERRACE SYSTEMS

with aluminum eaves profiles

Terrace is an element of a building constituting a design and installation challenge. In summer time sun can heat the terrace slab up to 70-80° C and sudden storm with strong rain may lead to significant drop of its temperature. Extreme thermal strains created this way may exist in winter time as well. Intensive sunlight during a day and construction cooling evening frost cause big temperature differences. In such cases, when there is lack of proper expansion joints and improper building products used, damage is inevitable.

The construction of a terrace requires from each participant of the construction process high-level competencies and attention to details. Proper execution of this building element leads to construction durability and enables to avoid troublesome refurbishments in future, which usually cause significant financial costs for an investor.

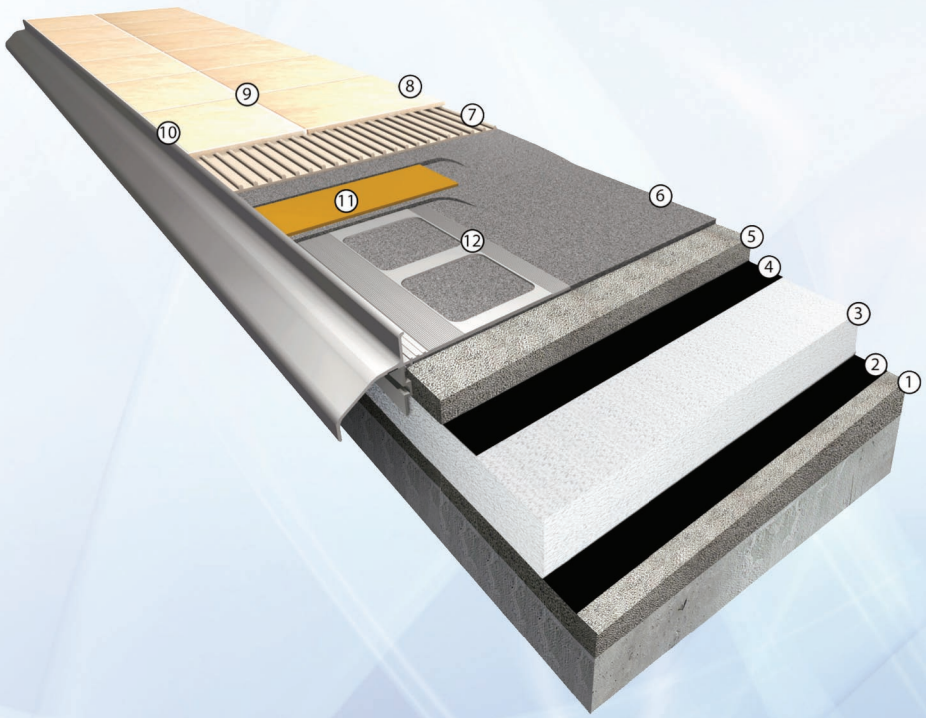
Proper and safe technological solution for terraces offer comprehensive ATLAS systems. They consist not only of materials of proper strength parameters, but also of products which, beside comfort in use, ensure aesthetic appearance.

The detailed information about our terrace system may be found in this folder. Beside characteristics of ATLAS products for terraces and balconies, we present visualization of terrace layers scheme (commonly called „terrace sandwich") with description of their functionality. We also insert colourful instruction of terrace installation with the use of aluminum eaves profiles.

We hope you enjoy reading this issue and wish you many beautiful moments at properly installed terraces.

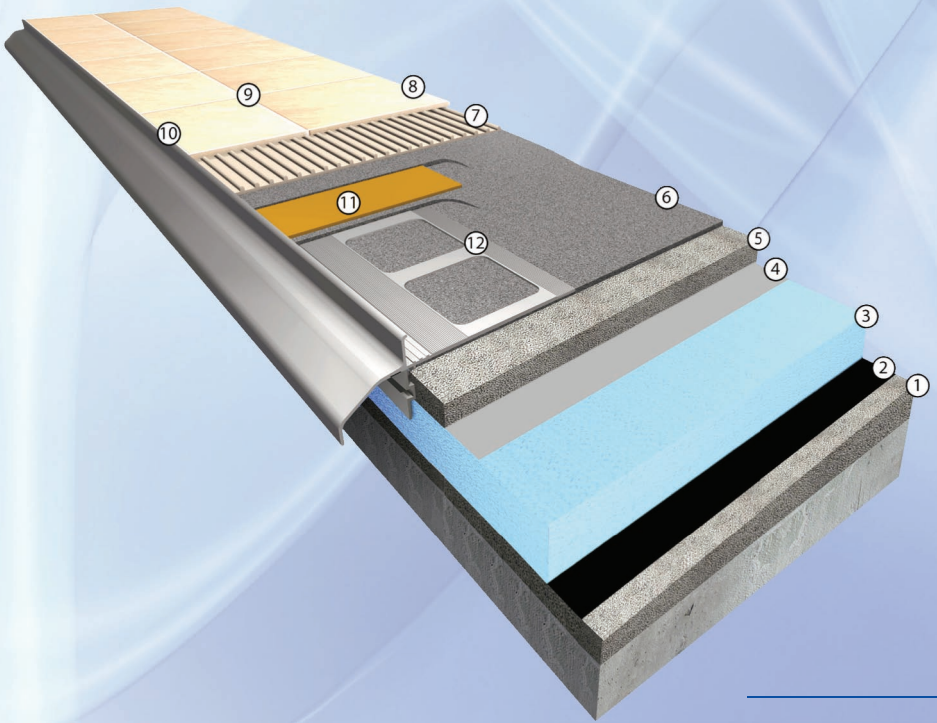
ATLAS TEAM

ATLAS 150 PROFILE
TERRACE LAYERS SCHEME



OPTION A

1. POSTAR 20/ POSTAR 40/ POSTAR 80/ TEN -10 + Atlas ADHER
2. ATLAS SMB membrane
3. EPS polystyrene
4. ATLAS SMB membrane
5. POSTAR 20/ POSTAR 40/ POSTAR 80
6. ATLAS WODER DUO/ WODER S
7. ATLAS PLUS MEGA/ PLUS/ PLUS EXPRESS
8. CERAMIC CLADDING
9. ATLAS ARTIS GROUT
10. ATLAS ARTIS SILICONE
11. ATLAS HYDROBAND 3G
12. MAIN PROFILE ATLAS 150



OPTION B

1. POSTAR 20/ POSTAR 40/ POSTAR 80/ TEN -10 + Atlas ADHER
2. ATLAS SMB membrane
3. XPS polystyrene
4. PE foil
5. POSTAR 20/ POSTAR 40/ POSTAR 80
6. ATLAS WODER DUO/ WODER S
7. ATLAS PLUS MEGA/ PLUS/ PLUS EXPRESS
8. CERAMIC CLADDING
9. ATLAS ARTIS GROUT
10. ATLAS ARTIS SILICONE
11. ATLAS HYDROBAND 3G
12. MAIN PROFILE ATLAS 150

TERRACE SYSTEMS
with aluminum eaves profiles

TERRACE INSTALLATION MANUAL

PHASE 1: Installation of structural layers with thermal insulation

1. Contact layer

Aim:
To increase the adhesion to the substrate

Product:
- ATLAS ADHER
- Elastic Emulsion ATLAS + Postar 20/ Postar 40/ Postar 80 / TEN-10 in proportions indicated in the Technical Data Sheets

Installation advices:
The properly aged substrate (terrace construction slab, ceiling or concrete screed) should be free of cracks and layers that may limit the adhesion (bituminous substances, paints, oils, etc.) and cleaned of dust and dirt. Brush the contact layer onto previously wetted substrate.

2. Slope layer

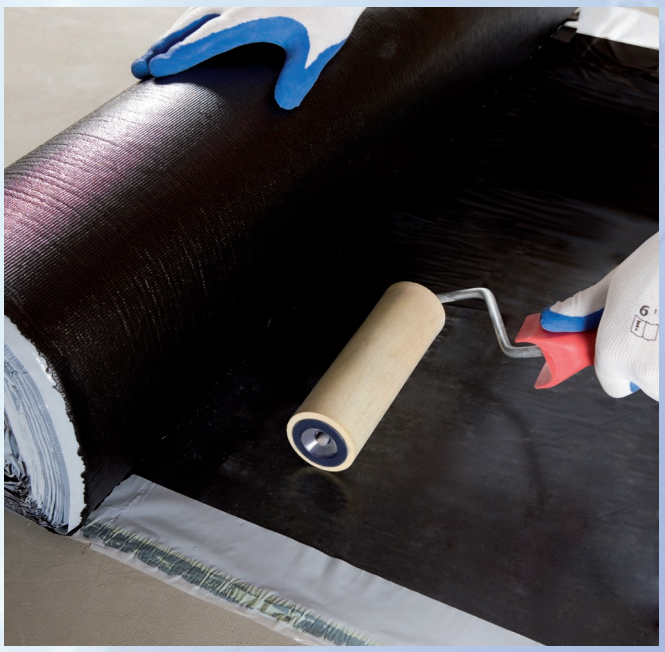
Aim:
Proper shaping of a slope of subsequent layers in order to drain the rainwater

Product:
• Postar 20 • Postar 40 • Postar 80 • TEN-10

Installation advices:
The construction of the terrace should commence with the slope keeping in the structural layer. It is installed in a form of bonded floor - durably bonded to the substrate. Slope should be 1.5-2%.

Subsequent works phases may commence after:
- **ca. 5 days*** : in case of Postar 20
- **ca. 3 weeks***: in case of Postar 40
- **ca. 24 hours***: in case of Postar 80
- **ca. 24 hours***: in case of TEN-10

*In 20°C and 55% humidity. Time above may differ depending on the temperature and humidity actual conditions. Lower temperature and higher humidity can lead to longer drying time.



3. Installation of the bituminous membrane

Aim:
Option A: EPS polystyrene
Option B: XPS extruded polystyrene

Product:
ATLAS SMB bituminous membrane

Installation advices:
- The substrate under the membrane should be primed with the product ATLAS General-purpose Bituminous Compound (Bitum Uniwersalny Atlas)
- The membrane should be overlapped onto the wall (under thermal insulation) over the designed final level of all terrace or balcony layers. It is advised to pull the membrane to the height of ca. 20 cm over the floor surface.
- In the area of passage of the membrane from horizontal into vertical surface, keep the rounding of radius r = 4 cm.
- When applying the membrane keep the lap ca. 9 cm wide along the band and ca. 12 cm wide on the joint perpendicular to the membrane length. Each time check the correctness of the joints of the membrane on laps after application works.
- In order to eliminate the air bubbles, smooth the applied membrane surface with a special deaeration roller.

4. Thermal insulation

Aim:
Thermal protection of a building

Product:
Option A: EPS polystyrene
Option B: XPS extruded polystyrene

Installation advices:
- Important parameter when choosing the EPS polystyrene is the tensile strength. In case of high loads the use of materials of too low tensile strength will lead to dangerous deformations. For thermal insulation of floors under the screed of functional load up to 2.0 kN/m^2, EPS 100 is recommended. EPS 200 is recommended for floors exposed to high loads. In order to choose proper material, conduct adequate calculations.
- In Option A the EPS polystyrene should be protected against water logging with the ATLAS SMB bituminous membrane. When applying the ATLAS SMB bituminous membrane follow the guidelines listed in point 3 of this manual.
- In Option B the XPS polystyrene does not have to be directly protected against water. In this option the membrane is applied on the slope layer only. On XPS the PE foil is applied, which will act as the separating layer for the screed.

5. Pressure layer

Aim:
Transfer of loads planned in a design

Product:
• Postar 20 • Postar 40 • Postar 80

Installation advices:
- It is advised to use screeds min. 40 mm thick (for loads < 2.0 kN/m^2 and for screed of flexural strength class F4). In case of higher loads, adequate calculations should be made or ask the designer for advice. The screed may be reinforced with steel mesh additionally. In such case the reinforcement should be installed in mid-thickness of the screed. It is unacceptable to apply the mesh directly on the separating layer.
- In the point of expansion joint the reinforcement should be obligatorily cut. The screed should have expansion joints at the building walls - the edge joint ca. 10 mm thick should be executed. Remember about the intermediate expansion joints. The area of working pads depends on the object shape, its location, type and size of facings and materials used. The pads should not exceed 10 m^2. The side ratio should not exceed 2:1.
- Depending on the material used and atmospheric conditions, the subsequent work phase may start after:

  ca. 5 days* : in case of Postar 20
  ca. 3 weeks* : in case of Postar 40
  ca. 24 hours* : in case of Postar 80

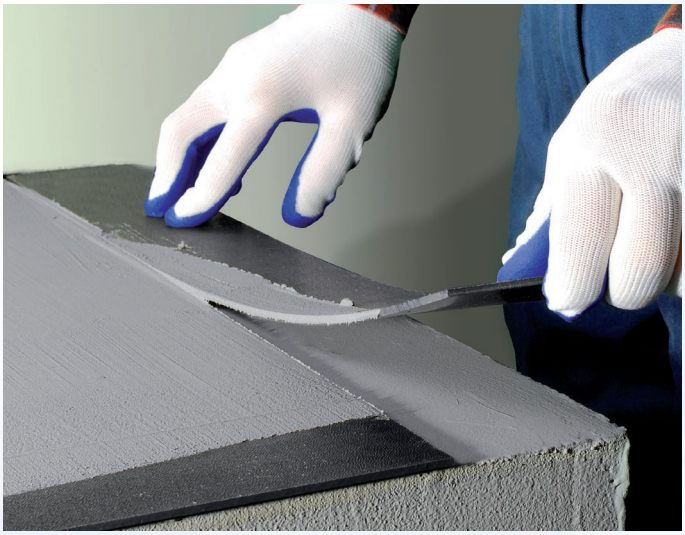
  *In 20°C and 55% humidity.

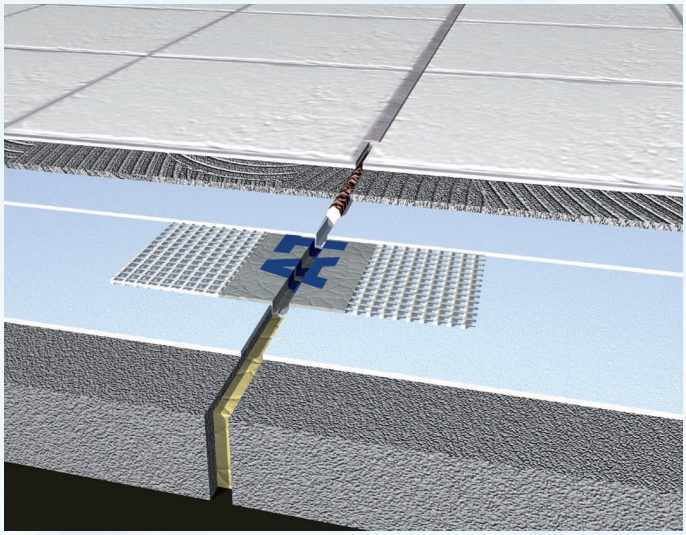
- In the final work phase place the ABS template on the surface of the pressure layer. It shapes the site of the ATLAS aluminum profiles assembling and is added to each ATLAS 100 and ATLAS 150 Main Profile.

Caution!
Due to low vapour permeability coefficient μ of waterproofing mortars Woder S and Woder DUO (μ < 500), it is possible to apply these mortars onto the substrate earlier. It depends on the actual weather conditions mainly.

TERRACE INSTALLATION MANUAL

PHASE II: Execution of surface layers of a TERRACE/BALCONY





6. Balcony/terrace slab preparation

Installation advices:
When starting the profiles assembling, remove the ABS template which has been placed on the pressure layer surface.

7. Sealing of the construction joints

Installation advices:
Before commencement of works sealing of any expansion joints should be executed - the edge, as well as the intermediate ones. The tape in the joint should be formed in the shape of letter Ω. It enables free transfer of moves, which may emerge due to thermal and mechanical strains. So-formed tape enables filling the joint with the expansion joint backer rod ATLAS and enables proper shaping of the elastic sealant, e.g. silicone ATLAS ARTIS.

8. Marking the holes for assembling the ATLAS 100 External Corner 90°

Installation advices:
The assembling of the eaves profiles ATLAS 100 and ATLAS 150 should start from the corner.

9. Holes drilling

Installation advices:
Make sure not to drill the hole throughout the pressure screed. Possible drilling through the screed layer leads to ATLAS SMB bituminous membrane damage.

10. ATLAS 100 External Corner 90° assembling. ATLAS 100 Main Profile length setting.

Caution!
In standard ATLAS portfolio external and internal corners of edge 90° and 135° are available. It is possible to make a „curved" corner - please contact ATLAS advisor and provide proper template.

11. ATLAS 100 Main Profile cutting to expected length.

Installation advices:
Use the tools not causing thermal effect for profiles cutting. Sudden increase of temperature may lead to anti-corrosion coat damage causing microcracking and loosening. Therefore the profile should be cut manually or mechanically - with a special saw for aluminum cutting.

12. Assembling the ATLAS 100 Ending onto the Main Profile.

Installation advices:
Apply the system ending onto the profile directly joining the wall. This element ensures not only expansion joint, but also facilitates draining of rainwater, which protects against bleeding on the façade.

13. Application of waterproof insulation WODER DUO on which the Main Profile and ATLAS 100 system elements will be fixed

Installation advices:
In order to even the surface and provide proper profiles supporting, apply one coat of waterproof insulation. Then, embed the system profiles and corners.

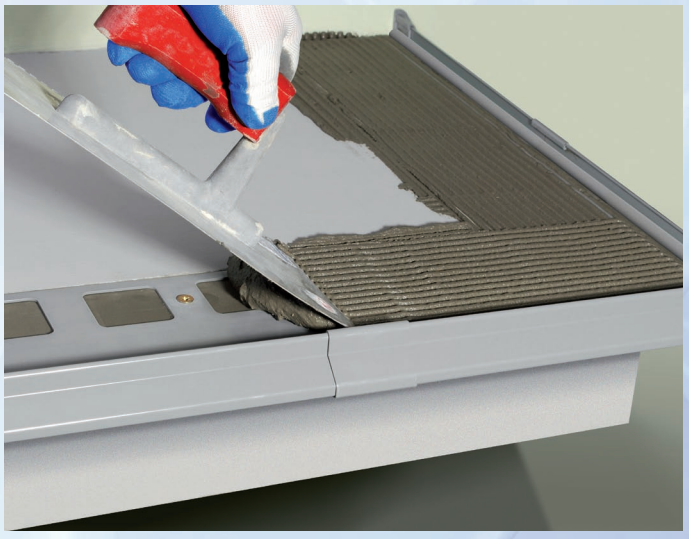
14. Profiles and elements placing

Installation advices:
After embedding the profiles into the waterproof insulation WODER DUO check if all elements adjoin evenly. Profiles are stabilized after ca. 2-3 hours from embedding into insulation. Then mechanical anchoring of profiles and elements may commence.

15. Profiles and elements joining

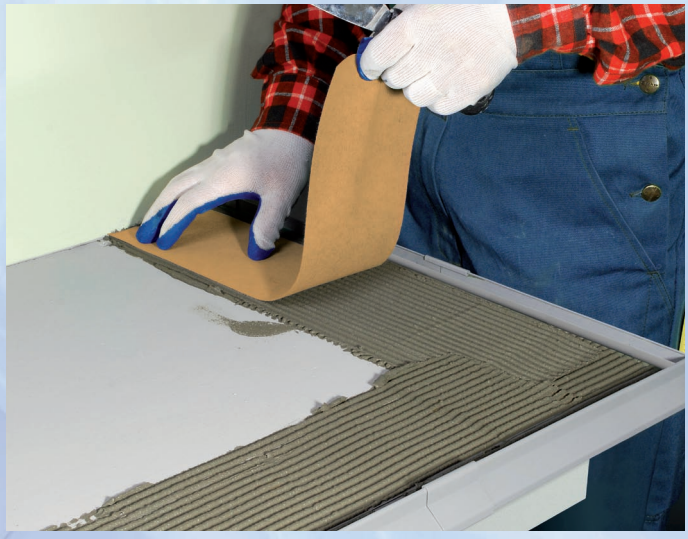
Installation advices:
Joints: Main Profile - Corner and Main Profile - Main Profile should be executed with the use of system connectors. These joints should keep expansion joint 1-2 mm thick. These points from the screed side should be permanently sealed with a permanently flexible mass, e.g. silicone ATLAS ARTIS.

Caution!
In the points of surface expansion joints the profiles should be cut and joined with a connector.



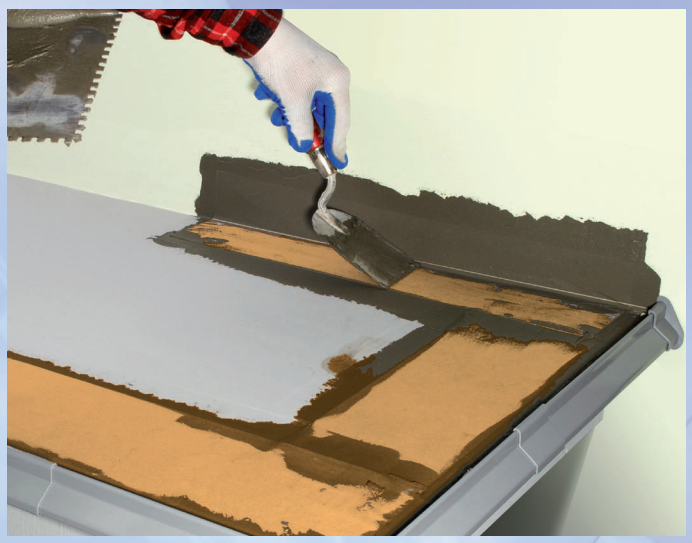
16. Application of waterproof insulation WODER DUO in order to embed the tape ATLAS Hydroband 3G

Installation advices:
The tape ATLAS Hydroband 3G should be embed into the waterproofing mortar. Apply the material as not to soil the profiles and polyurethane rod. In ATLAS systems the expansion joint backer rod is fixed to each Main Profile and Corner.



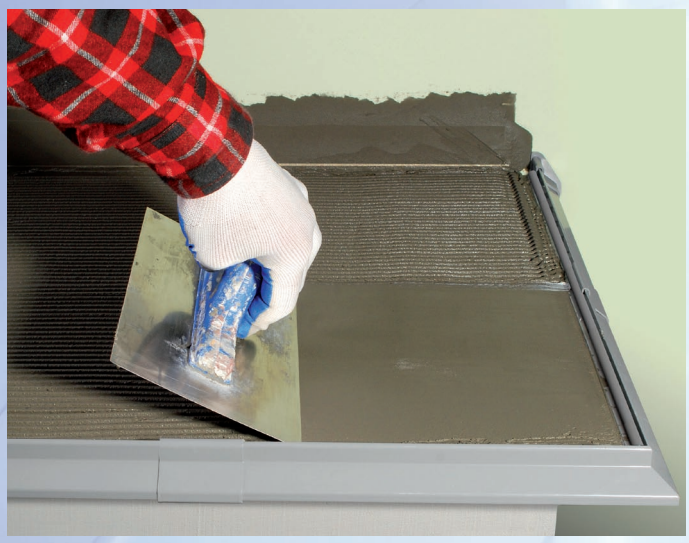
17. Application of ATLAS Hydroband 3G on the joint ATLAS 100 Main Profile - cement-based screed.

Installation advices:
In the joints of aluminum flashings and the screed high strains emerge and may lead to damage of the waterproofing mortar. Tape ATLAS Hydroband 3G strengthens the insulation WODER DUO in this point and prevents its cracking.



18. Application of ATLAS Hydroband 3G tape onto the joint of balcony surface and the wall

Installation advices:
When embedding the sealing tape ATLAS Hydroband 3G onto the joint of the wall and the screed make sure to form it in the shape of letter Ω - imbedding of the central tape part into the expansion joint. When, due to thermal or mechanical loads the screed distorts, the sealing tape keeps the possibility of free passing of the construction elements moves. It is advised not to cover the sealing tape with the waterproofing material in the point of imbedding. As far as it is possible this element should be executed of a single tape strip.



19. Application of under-tiles waterproof insulation

Product:
ATLAS WODER DUO

Properties:
- Reinforced with fibres, therefore the coat is more resistant to damage caused by substrate working and functional loads of the facing applied
- Resistant to frost, UV rays and ageing
- Vapour-permeable
- High adhesion: ca. 1.5 MPa, much above the standard requirements
- Resistant to water under pressure – 50 m water column

Installation advices:
Brush the first coat onto properly wetted substrate - it aims to close the pores. The second coat is applied after ca. 3 hours with the use of notched trowel 4 or 6 mm depending on the expected coat thickness. Then even it with a flat trowel.

20. Application of deformable adhesives of line ATLAS Plus

Product	ATLAS Plus	ATLAS Plus Mega	ATLAS Plus Express
Properties	• Deformability S1 • Layer thickness: 2–10 mm • Reduced dusting • Plasticized formula • Very high flexibility • Extended open time	• Deformability S1 • Layer thickness: 4–20 mm • Perfectly fills the space under a tile • Self-spreading and thick-layer • Highly flexible • Extended open time	• Deformability S1 • Layer thickness: 2–5 mm • Recommended for quick refurbishments • Pedestrian traffic and grouting after 4h • Very high flexibility • Extended open time

Installation advices:
- Remember to fill the whole space under a tile with an adhesive.
- Adhesive ATLAS PLUS Mega has tixotropic characteristics. Use a trowel with semicircular notches for its application.

21. Tiling

Installation advices:

- Each expansion joint should be reflected in the facing. The tile should adjoin the expansion joint. Fill the joint with ATLAS backer rod and then with a permanently flexible material, e.g. silicone ATLAS ARTIS.
- The joint thickness depends on the tile side length. It should be min. 4 mm.

22. Grouting and silicone application

Product:

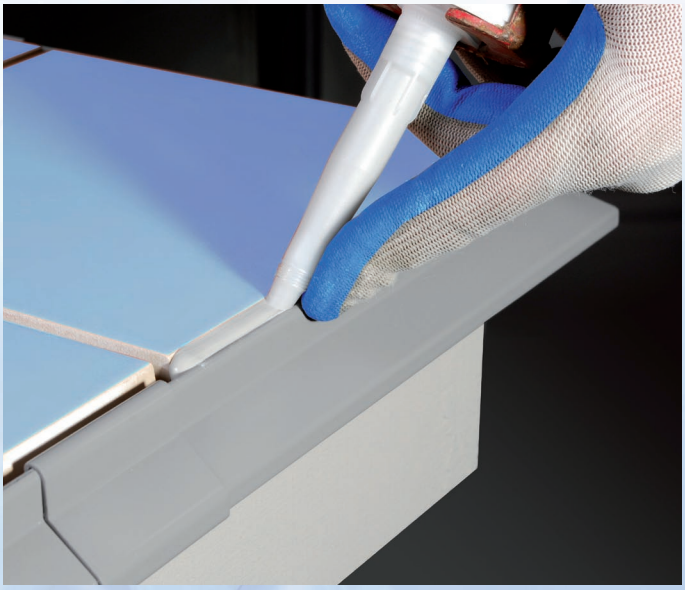
- ATLAS ARTIS grout
- ATLAS ARTIS silicone
- ATLAS backer rod

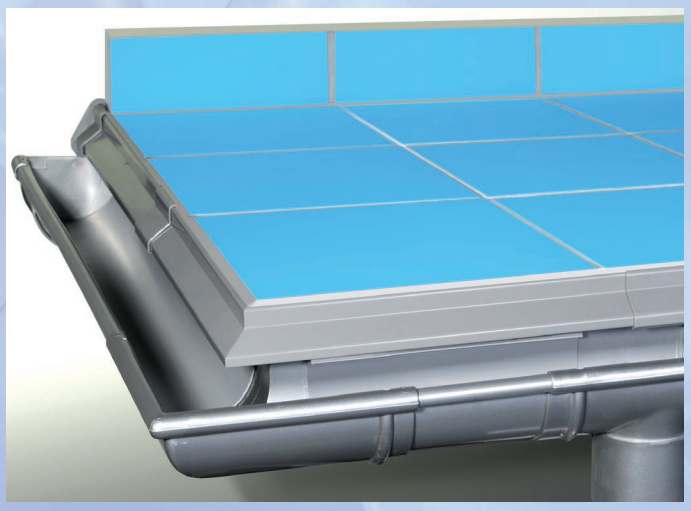
Properties:

- ATLAS ARTIS grout - fast-setting and highly flexible
- Due to the use of hydrophobic molecules protects the substrate against moisture - maximally reduces the water absorption
- The addition of silver protects the joint against fungi, mildew and algae development

Installation advices:

Each ATLAS aluminum profile and corner has the backer rod embedded. Into the space between the building wall and the ceramic tiling the backed rod should pressed as well. The backer rod diameter should be 120-140% of the joint thickness. So-prepared joints should be filled with silicone ATLAS ARTIS. The substrate for silicone application should be dry and sound.





23. Fixing the gutter handles at the ATLAS 150 Main Profile

Installation advices:

Use system fixings of proper length for gutter handles installation in order not to drill through the aluminum profile.

24. Final appearance of the ATLAS 150 aluminum eaves profiles system

CHARACTERISTIC OF THE SELECTED ATLAS PRODUCTS FOR TERRACES AND BALCONIES

ATLAS PLUS

Deformable adhesive S1 - C2TE type

Recommended for tiles exposed to extremely difficult usage conditions, for indoors and outdoors: on OSB panels and plasterboards, old tiles, on terraces, balconies and façades, on floor and wall heating systems. Use for fixing low, medium and large size tiles of medium absorption.

PROPERTIES

- Reduced dusting
- Plasticized formula
- Very high flexibility
- Extended open time
- Fixing the tiles from top to bottom

ATLAS PLUS MEGA

Deformable adhesive S1 for large size floor tiles

Recommended for floor tiles indoors and outdoors, particularly those exposed to extremely difficult usage conditions - caused by non-standard substrate type (OSB panels, terrazzo, old tiles, floor heating system) and negative atmospheric conditions (e.g. terraces). Used for fixing medium and large size tiles of medium and low absorption.

- Self-spreading, thick-layer
- Highly flexible
- Easy tile leveling
- Extended open time
- Perfect filling of under-tile space

ATLAS ARTIS GROUT 1-25 mm

Fine-aggregate grout

Recommended for grouting tiles exposed to intensive pedestrian traffic and deformations, in wet, damp and dry rooms - in bathrooms, kitchens, corridors, on stairs etc., indoors and outdoors. Used for grouting low, medium and large size elements.

- Fast-setting, highly flexible
- Intensive and durable colours for years
- The use of hydrophobic molecules protects the substrate against moisture
- Contains addition of silver fighting hundreds of kinds of bacteria and mould
- Has high temperature resistance: from -30° C to +80°C.
- Available in 31 colours

ATLAS POSTAR 80

Fast-setting cement-based floor (10-80 mm)

Recommended for quick refurbishments. Forms subfloor or floor. Can be a substrate for flooring layers, such as ceramic and stone tiles, PVC and carpet flooring, panels, parquet, screeds and epoxy coatings.

- Further works just after 24 h
- Pedestrian traffic after 3 h
- Limited linear contraction
- High cohesion
- Thick plasticity
- High compressive strength > 40 N/mm^2

ATLAS WODER DUO

Two-component waterproof insulation

Recommended as an under-tile waterproof insulation of terraces, balconies, wet rooms and foundations. Forms humidity resistant and waterproof insulation (lightweight, medium-weight and heavyweight type) – forms waterproofing against water: under pressure, infiltration, non-accumulating and accumulating, pressureless.

- Joins scores up to 0.75 mm
- Resistant to negative water pressure
- Flexible
- Reinforced with polymer fibres
- Resistant to frost, UV rays and ageing
- Resistant to direct loads of light type
- Approved for contact with drinking water

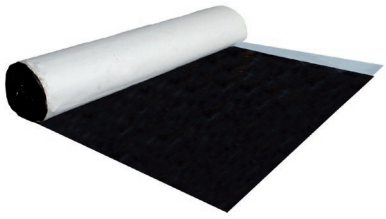
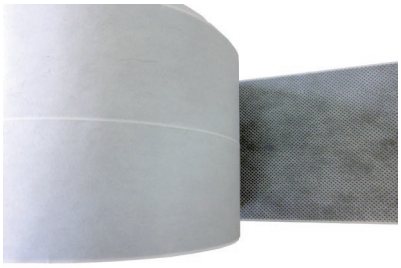
ATLAS MONTER T-5

Fast-setting assembly mortar

Recommended for anchoring elements onto horizontal and vertical surfaces - foundation screws, fencing poles, balcony and stairs railings, anchors, hooks, pins, dowels, slings, window, gates and door hinges.

- Initial setting just after 5 minutes
- High strength
- Does not cause corrosion of steel, chloride-free
- Blocks local water leaking

NEW ATLAS PRODUCTS:

	PROPERTIES
 Aluminum profiles ATLAS 100, ATLAS 150, ATLAS 200, ATLAS 300	• Ensures tightness of edge zone • Effectively carry off rainwater • Aesthetic appearance • Effective anti-corrosion – polyester varnish coat thickness 60-70 µm • The standard colours: grey (RAL 7037), brown (RAL 8019), graphite (7024). • System corners, connectors, endings • Easy and quick assembling • Each profile assisted with a expansion joint backer rod
 ATLAS SMB bituminous membrane	• Self-adhesive bituminous membrane, for waterproofing of vertical and horizontal surfaces, indoors and outdoors. Particularly recommended for terraces, balconies as well as foundations, cellars, underfloor garages. • Flexible – keeps the flexibility parameter even in temperature: -30°C • Waterproofing • Perfect vapour barrier, due to vapour diffusion resistance coefficient Sd > 400
 ATLAS Hydroband 3G	• Compensates deformations and seals critical points of under-tile insulation, i.e. the joint between wall and floor, expansion joints, joints of balcony-terrace profiles with cement-based screeds • Technical parameters: Thermal resistance: from -30°C to 90°C UV resistance: min. 500 h Chemical resistance i.a. to: alkalies, diluted acids Resistance to water under pressure: 1.5 bar • Available width: 125 mm/ 250 mm/ 400 mm
 Butyl tape ATLAS	• Self-adhesive made of butyl rubber, designated for non-porous sites, where cement-based waterproofing mortars will not reach required adhesion parameters, e.g. sheet, plastic, glass • For sealing critical points, i.e. joints between wall and floor, window and door flashings • Flexible, water-tight, resistant to tearing • High chemical resistance • Available width: 100 mm/ 150 mm
 Expansion joint backer rod ATLAS	• Enables proper shaping of joints indoors and outdoors, e.g. terraces and balconies expansion joints, screeds expansion joints • Easy and quick assembling • Rod diameter: 6 mm/ 10 mm/ 15 mm/ 20 mm

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