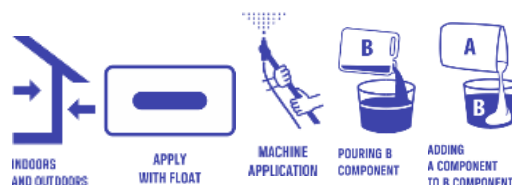




ATLAS WODER DUO

two-component elastic waterproofing

- insulation under ceramic tiles
- fibre-reinforced, bridges cracks
- for swimming pools, balconies, terraces, bathrooms
- for internal insulation of foundations and basements



Properties

ATLAS WODER DUO is a two-component material, obtained by mixing in a weight ratio of 3 : 1 component A (dry mixture of grey colour, containing cement, fillers and modifying additives) and component B (white emulsion, containing synthetic resins and modifying additives).

Waterproofing - a minimum of 0.7 MPa (corresponding to a water vapour pressure of 70 m water column) at a layer thickness of 2.5 mm. This guarantees complete protection of the substrate against pressurised water.

Resistance to negative water pressure (when the pressure acts from the side opposite the coating to be applied) - minimum 0.5 MPa.

High adhesion to substrate - for concrete substrate min. 1.03 MPa (standard requirement is 0.5 MPa); for solid ceramic brick substrate min. 0.7 MPa.

Fast setting - can apply another coat after 3 hours and ceramic cladding after just 12 hours.

High vapour permeability - water vapour diffusion coefficient $\mu \leq 1700$, which allows for use on damp substrates.

Chemical resistance - the bonded mortar is resistant to municipal sewage, slurry as well as aggressive groundwater - Class XA2 environment.

High elasticity - thanks to its high polymer content, a specially selected bulk stack of fine fillers and additional structural reinforcement using microfibres, the mortar bridges cracks up to 1 mm wide.

High mechanical resistance - thanks to the use of reinforcing fibres and dedicated polymer resins, the mortar has increased resistance to mechanical damage and impact impacts. The coating is resistant to temporary, direct loading from light foot traffic.

Frost resistance - the effect of frost does not reduce the water tightness of the coating.

Protection of the surface of reinforced concrete (reinforced concrete) - the 2 mm thick coating provides effective protection of the concrete surface against carbonisation and the associated corrosion of the reinforcing steel. The $S\text{-value}_d$ determined for carbonation is no less than 70 m.

Recommended for old, damp buildings - vapour-permeability combined with its water tightness makes the mortar ideal for insulating the building envelope of historic buildings.

Resistant to UV radiation and ageing.

Holds Hygienic Attest for contact with drinking water - allows, in a safe manner, the sealing of a tank for water intended for human consumption.

Low VOC emissions - user-safe material, emits no harmful substances.

RESISTANCE OF THE COATING WITH ATLAS WODER DUO	
Acidified water up to pH 4.5	+
slurry	+
diesel	+
sodium hypochlorite up to 1,0 mg/l free chlorine	+
Aggressive environments of classes XA1 and XA2 according to EN 206+A1:201	+

Purpose

ATLAS WODER DUO is designed for elastic damp proofing and waterproofing of wet rooms, terraces, balconies, underground parts of buildings and constructions (foundations, basement walls, etc.), plinth zones, various types of tanks.

Allows for flexible protection of corners and expansion joints - together with ATLAS HYDROBAND 3G embedded in it, protects the edges of wall and floor subfloor joints and expansion gaps.

Seals surfaces around walls and floors, around water and sewer pipe penetrations - along with embedded floor and wall rings.

TYPES OF WATERPROOFING	
external lightweight insulation (flowing water)	+
medium-type external insulation (stagnant water)	+
heavy duty type external insulation (water acting under pressure)	+
internal lightweight insulation (flowing water)	+
medium internal insulation (stagnant water)	+
heavy-duty type internal insulation (water acting under pressure)	+

TYPES OF FINISHING COATS ON ATLAS WODER DUO	
ceramic and stone cladding	+
decking	+
ventilated terrace systems made on terrace supports	+
floors and screeds**	+
cementitious plasters	+
without finishing layer*	+

*only where the surface is not exposed to mechanical damage

** only for systems on a separating layer or floating floor, effective vapour barrier required

TYPES OF FACILITIES	
housing construction	+
public, educational, office and healthcare buildings	+
commercial and service construction	+
religious buildings	+
industrial buildings and multi-storey garages	+
industrial warehouses	+
traffic construction	+
hotels, spa facilities	+

PLACE OF INSTALLATION	
low-traffic areas	+
medium traffic areas	+
high traffic areas	+
kitchen, bathroom, laundry room, garage (in individual housing)	+
terraces	+
balconies, loggias	+
underground parts of the building - foundations, cellars	+
external panel staircase	+
external beam stairs, e.g. cantilever stairs	+
traffic routes (except external stairs)	+
cladding of building plinths	+
process tanks, swimming pools, fountains, jacuzzi, balneotechnology (without aggressive chemicals)	+
drinking water tanks	+
slurry tanks	+
diesel fuel tanks	+
reservoirs of municipal sewage treatment plants	+
fire reservoirs	+
saunas	+
showers, washing facilities, rooms washed with large quantities of water	+

substrate type - standard	
cement floors and bases	+
anhydrite primers	use ATLAS WODER E or ATLAS WODER W
cement and cement-lime plasters	+
gypsum plastering in damp and wet areas of rooms	use ATLAS WODER E or ATLAS WODER W
cellular concrete masonry*	+
brick or silicate block masonry*	+
brick or hollow brick masonry*	+
gypsum block masonry*	use ATLAS WODER E or ATLAS WODER W

* plastering is not necessary if the masonry is well jointed

substrate type - difficult	
concrete	+
terrazzo	+
dry gypsum board underlays	use ATLAS WODER E or ATLAS WODER W
screeds (cement) with embedded heating, water or electric	+
plaster with concealed heating	+
gypsum boards	+
gypsum fibre boards	+
cement fibre boards	+
existing ceramic or stone cladding (tile on tile)**.	+
resin varnishes for concrete bound with the substrate	+
epoxy resin coatings	+
plank floors (thickness >25mm)	+
wood-based flooring boards, minimum 22 mm thick, fixed with ATLAS M-System fasteners	+
OSB/3, OSB/4 and particle board on the floor (thickness > 25 mm)	+
OSB/3, OSB/4 and particle board on the wall (thickness > 18 mm)	+
metal and steel surfaces***	+
plastic surfaces	+

** subject to confirmation of load-bearing capacity and full grouting

*** protected against corrosion

APPLICATION OF ATLAS WODER DUO AS A PROTECTIVE COATING	
columns, beams in reinforced concrete structures	+
concrete elements of road and rail viaducts	+
prefabricated reinforced concrete elements	+

Technical data

bulk density of component A	approx. 1.85 g/cm ³
the density of the B component	approx. 1.00 g/cm ³
the temperature of the substrate and the environment during the work	from +8 °C to +30 °C
max. thickness of one layer	2 mm
total thickness of the sealant coating	1.5-3 mm
Ready-to-use time after mixing the ingredients*	approx. 1 hour
open time (drying time)*	min. 30 min.
applying a second coat*	after approx. 3 hours
gluing tiles*	after approx. 12 hours
backfilling of trenches*	after approx. 72 hours
loading with water under pressure*	after approx. 7 days

*The times shown in the table are recommended for application conditions of approx. 20 °C and 50 % humidity.

Technical requirements

The product complies with the requirements of EN 14891:2012 - two-component polymer modified cementitious water-repellent liquid applied product, resistant to chlorinated water (CM P), for outdoor use and in swimming pools under ceramic tiles fixed with C2 adhesives (according to EN 12004).

ATLAS WODER DUO (2019) Declaration of Performance No. 096/1/CPR EN 14891:2012 EN 14891:2012/AC:2012	
Intended use: any application underneath ceramic tiles, outdoors and in swimming pools.	
Initial adhesion	≥ 0.5 N/mm ²
Crack bridging ability in normal conditions	≥ 0.75 mm
Durability of initial bonding to climatic impact/ thermal ageing: -adhesion after thermal ageing	≥ 0.5 N/mm ²
Durability of initial bonding to water/ humidity: -adhesion after immersion in water	≥ 0.5 N/mm ²
Durability of initial bonding to lime water -adhesion after immersion in lime water	≥ 0.5 N/mm ²
Durability of initial bonding to freeze/thaw cycles: -adhesion after immersion freeze/thaw cycles	≥ 0.5 N/mm ²

<i>Essential characteristics of the construction product for the intended use or uses</i>	<i>Declared performance characteristics</i>
Adhesion to the ground: - concrete - of ceramic bricks - steel - with epoxy resin coating - of gypsum plasterboard	≥ 0,9 MPa ≥ 0,6 MPa ≥ 0,6 MPa ≥ 0,8 MPa ≥ 0,5 MPa
Interlayer adhesion in a tile adhesive mortar system	≥ 0,5 MPa
Water vapour permeability as determined by the water vapour diffusion coefficient μ	≤ 1700
Maximum tensile stress of coating with reinforcing liner (at 23 ± 2°C)	≥ 1,2 MPa
Relative elongation at maximum stress of coating with reinforcing liner (at 23 ± 2°C)	≥ 50%
Maximum tensile stress of coating without liner (at 23 ± 2°C)	≥ 0,3 MPa
Relative elongation at maximum coating stress without liner (at 23 ± 2°C)	≥ 20%
Watertight after 28 days, no leakage under pressure: - coating side - from the side opposite the coating application	0.7 MPa 0.5 MPa
Watertightness after 3 days, no leakage under pressure	0.5 MPa
Resistance to elevated water temperatures (+60°C), determined by the adhesion of the coating to the substrate	≥ 0,5 MPa
Static breakthrough resistance determined by the water tightness of the coating after 5, 10, 15 and 20 kg loads - no leakage under pressure	0.7 MPa
Frost resistance after 50 freeze-thaw cycles, specified: - watertight - no leakage under pressure - adhesion to the substrate	0.7 MPa ≥ 0,7 MPa
Thermal compatibility after 50 freeze-thaw cycles, determined: - adhesion to concrete substrate	≥ 0,5 MPa
Crack bridging capacity under normalised conditions: - coating with reinforcement tape - coating without tape	1.35 mm 1.00 mm
Crack-covering capacity at +20°C: - coating with reinforcing insert - coating without tape	Class A3 Class A3
Crack-covering capacity at -5°C: - coating with reinforcing insert - coating without tape	Class A3 Class A2
Heat shock resistance assessed: - adhesion to the concrete substrate after completion of the test	≥ 0,9 MPa
Carbon dioxide permeability, defined: - the coefficient of diffusion resistance - the thickness of the air layer S_d	≥ 35200 ≥ 70 m
Chemical resistance to immersion in sodium hypochlorite with 0.6 mg/l free chlorine determined: - change in mass - change in relative elongation at maximum stress	≤ 1% ≤ 10%
Chemical resistance to immersion in sodium hypochlorite with a concentration of 1.0 mg/l free chlorine determined: - change in mass - change in relative elongation at maximum stress	≤ 1% ≤ 20%

Implementation of waterproofing

Substrate preparation

The substrate should be:

- even and load-bearing - i.e. strong, stable and cleaned of dust, dirt, salt efflorescence and poorly adhering substrate fragments, residues of old paints, oils, bitumen coatings and other substances that could weaken the adhesion of the waterproofing. Substrate cracks and cavities with a width over 1.0 mm should be mechanically repaired and cavities should be mechanically widened and filled with cement mortar, e.g. ATLAS ZW 330 or ATLAS MONTER T-5.

Before repairing dusty substrates, they should be sanded, dusted off and primed with one of the emulsions:

- ATLAS NKP (ready to use - without dilution),
- ATLAS UNI- GRUNT,
- ATLAS UNI-GRUNT ULTRA,

- seasoned - freshly made surfaces can be sealed after they have been properly seasoned (see table Specific indications for preparing the substrate, depending on its type).

Note: during the seasoning period the primer should be protected from rain.

- dry - free from moisture pulled up by capillary action from the ground, dried after precipitation, flooding, etc. Immediately prior to the application of the compound, the dry substrate should be surface moistened with water to a dull damp state (without forming puddles).

Detailed indications of substrate preparation, depending on the type of substrate, are shown in the table at the end of the Technical Sheet.

Preparation of the mass

The product is manufactured as a kit consisting of two components: a dry mixture (component A) and an emulsion (component B). These components are contained in separate packaging, together constituting a ready-to-use set with proportions suitable for mixing. To prepare the material for use, pour the liquid component (B) into a suitable container, then add the dry mixture (A) and stir simultaneously until a mass of homogeneous consistency and colour is obtained (approx. 2 min.). This is best carried out mechanically using a slow speed mixer with an agitator. The mix is suitable for use after approx. 5 minutes and mixing again. It should be used within approx. 60 minutes. Note: If partial use of the product is intended, the mass should be prepared in the weight ratio of the components (3 parts dry A and 1 part emulsion B).

Sealing

The waterproofing coat should be made of at least two layers of waterproofing. The first layer is always applied with a brush, firmly rubbing the compound into the substrate - this is to close existing pores. The work starts from the places where ATLAS HYDROBAND 3G accessories will be applied additionally. These accessories are sunk into the freshly applied compound. The overlap of the tapes should be greater than 5 cm. Excess mix should be squeezed out with a spatula or trowel. Depending on the needs, when applying the first layer, up to 3% water can be added to the prepared compound in order to obtain the right working consistency. The second coat can be applied with a brush, roller or trowel after the first coat has dried out completely (after about 3-4 hours). Analogous technological intervals should be observed also when applying subsequent coats. Ensure that the applied coats are of uniform thickness - this will ensure optimum working conditions of the sealant. Note: It is not recommended to apply more than 3.0 kg/m² at one time. At elevated temperatures, layer thickness should not exceed 1.5 kg/m².

Use of an insert

In order to reinforce the waterproofing layer, an interlining of 50 g/m² can be used. The waterproofing with the liner should be carried out in the following steps:

STEP 1. Rub ATLAS WODER DUO into the damp matt substrate using a brush.

STEP 2. Once set, apply a second coat of ATLAS WODER DUO using a brush.

STEP 3. Paste the interlining into the unbound mass, pressing with the smooth side of the trowel and ensuring that the mass is evenly and fully filled under the insert.

STEP 4. Apply the third coat of ATLAS WODER DUO. This layer can be applied wet on wet or wet on already set previous layer. Apply with a brush and smooth the surface.

Aggregate application

Mechanical waterproofing can be carried out in one or two stages, depending on the intended type of waterproofing, i.e. light, medium or heavy. Waterproofing of the light and medium type is carried out in a single operation, applying a layer up to 2.5 mm thick. Heavy waterproofing is achieved with a two-stage application, i.e. after the first layer has set, a second layer, achieving a total film thickness of 3.0 mm.

The one-step application is carried out by spreading the compound onto the substrate in such a way that the compound covers the surface evenly and 100%, forming a layer approximately 2.5 mm thick. Immediately after application, the still unbound mass should be smoothed with a smoothing trowel or tongue-type float until a homogeneous smooth coating is obtained.

A two-stage application is carried out by spreading the compound onto the substrate in such a way that the compound covers the surface evenly and 100%, forming a layer approximately 1.5 mm thick. After setting, the second layer should be applied in the same way. Immediately after application, smooth the still unbound compound with a smoothing float or trowel until a homogeneous smooth coating is achieved. The final thickness of the waterproofing should be no less than 3 mm.

Leave the whole thing to dry.

Recommended unit: WAGNER PC 1030 plastering unit Nozzle: 6 mm. Speed: 3 on a scale of 10. Operating pressure: 8 bar.

Finishing work

Protect the sealed surfaces from precipitation and free water exposure for approx. 12 hours and from pressurised water for 7 days. The coating that forms after setting (after After hardening, the resulting film (after approx. 12 hours) can be covered with ceramic cladding. Ceramic cladding is required on surfaces exposed to mechanical damage.

RECOMMENDATION OF ADHESIVES DEPENDING ON WHERE THE WATERPROOFING IS TO BE USED	
indoors: bathrooms kitchens, sanitary facilities, etc.	ATLAS ELASTIC ATLAS GEOFLEX line ATLAS PLUS line
outdoors: balconies, terraces, swimming pool basins, fountains, etc.	ATLAS PLUS line ATLAS GEOFLEX line

Consumption

The total thickness of the coating should be selected according to the water exposure conditions on the surface to be sealed. Approximate consumption is 1.75 kg/m² /1 mm layer thickness.

TYPE OF WATERPROOFING	Thickness coatings [mm].	Consumption [kg/m ²]
light type insulation (flowing water)	min. 1,5	approx. 2,6
medium type insulation (stagnant water)	min. 2,0	approx. 3,5
heavy type insulation (water under pressure)	min. 2,5	approx. 4,5
insulation with insert	min. 2,5	approx. 4,5

Packaging

32 kg set: component A - 24 kg paper bag, component B - 8 kg plastic container.

16 kg set in a plastic bucket: component A - paper bags 2 x 6 kg, component B - plastic containers 2 x 2 kg.

Safety information

Safety information is given on the product packaging and in the Safety Data Sheet, available at www.atlas.com.pl.

The product is hygienically approved for contact with drinking water. Tanks for water intended for human consumption should be rinsed with water after the product has been seasoned.

Storage and transport

Information on storage and transport is given on the product packaging and in the Safety Data Sheet, available at www.atlas.com.pl.

The shelf life of the product (best before use) is 12 months from the production date on the packaging.

Important additional information

Protect untreated surfaces from contamination.

Low temperatures and increased humidity prolong the setting time of the mortar. Avoid working in strong sunlight.

Any culverts subjected to water pressure must be secured with bolted ring seals.

When water tanks are insulated, it is permissible to make splines in the corners of the walls with ATLAS FILER S mortar.

The product is frost-sensitive during setting. During setting, insulated areas should be protected from precipitation for at least 12 hours.

Tools should be cleaned with clean water, immediately after use. Difficult to remove residues of bound waterproofing are washed off with ATLAS SZOP and ATLAS SZOP 2000.

The information contained in this Technical Data Sheet is a basic guideline for the use of the product and does not relieve the user of the obligation to carry out the work in accordance with the rules of the art of construction and safety regulations. With the issue of this Technical Data Sheet, all previous ones are no longer valid. Documents accompanying the product are available at www.atlas.com.pl.

The contents of the Technical Data Sheet and the designations and trade names used therein are the property of Atlas Ltd. Their unauthorised use will be sanctioned.

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Specific indications for substrate preparation, depending on the type of substrate.

Substrate type	Information on substrate preparation
Newly manufactured screed ATLAS SMS 15	required moisture content of the substrate 4.0 % CM - after approx. 8 hours for an undercoat thickness of 1-15 mm
Newly manufactured screed ATLAS SMS 30	required moisture content of the substrate 4.0 % CM - after approx. 18 hours for an undercoat thickness of 3-5 mm - after approx. 2 days for a substrate thickness of 6-10 mm - after approx. 3 days for a substrate thickness of 11-20 mm - after approx. 4 days for an undercoat thickness of 21-30 mm
Newly manufactured screed ATLAS SMS 80	moisture content of the substrate 4.0 % - after approx. 4 days for a thickness of 25-40 mm - after approx. 6 days for a thickness of 41-60 mm - after approx. 9 days for a thickness of 61-80 mm
Newly manufactured screed ATLAS POSTAR 10	required moisture content of the substrate 4.0 % CM - after approx. 1.5 days for a primer thickness of 1.0-3.0 cm - after approx. 3 days for a substrate thickness of 3.1-5.0 cm - after approx. 9 days for a substrate thickness of 5.1-10.0 cm
Newly manufactured screed ATLAS POSTAR 20	required moisture content of the substrate 4.0 % CM - after approx. 1 day for a substrate thickness of 1.0-3.0 cm - after approx. 2 days for a substrate thickness of 3.1-5.0 cm - after approx. 5 days for a substrate thickness of 5.1-8.0 cm
Newly manufactured screed ATLAS POSTAR 60	required moisture content of the substrate 4.0 % CM - after approx. 6 hours for a substrate thickness of 1.0-3.0 cm - after approx. 12 hours for a substrate thickness of 3.1-5.0 cm - after approx. 40 hours for a substrate thickness of 5.1-10.0 cm
Newly manufactured screed ATLAS POSTAR 80	required moisture content of the substrate 4.0 % CM - after approx. 3 hours for a substrate thickness of 1.0-3.0 cm - after approx. 6 hours for a substrate thickness of 3.1-5.0 cm - after approx. 18 hours for a substrate thickness of 5.1-8.0 cm
Other cement screeds	required moisture content of the substrate 4.0 % CM - seasoning minimum 28 days
Cement screed with underfloor heating (heating underlay)	Attention. In the case of a subfloor made with underfloor heating, the waterproofing can only be laid after the subfloor has warmed up. The rules for the heating of ATLAS screeds can be found in their Technical Data Sheets.
Terazzo	Degrease the surface thoroughly and, in the case of pasted terrazzo, remove the top part or all of it and make a new primer.
Bricks or hollow bricks of calcium-silicate, ceramic or cellular concrete	A levelling layer (plaster) is required. The execution of waterproofing directly on unplastered masonry is only possible if the dimensional tolerance of the substrate is adequate. In this case, it is necessary to complete the wall with a full joint (or to complete the jointing) and to repair any cavities and irregularities using ready-made mortars.
Cement and cement-lime plasters from ATLAS ready- mixed mortars	- minimum curing time of 3 days* per cm of thickness - optimum humidity < 4% by weight
Other cementitious plasters and cement-lime plasters	- minimum curing time of 7 days*.
Substrates to be levelled with ATLAS ZW 330 mortar	Seasoning minimum 5 h for every 5 mm of levelling layer thickness
OSB, chipboard and plank flooring - the layering should be designed and constructed to prevent deformation that could lead to damage to the cladding.	- check the type of boards used, OSB/3 and OSB/4 (according to PN-EN 300:2007) may be used on the floors, with a thickness of at least 25 mm (22 mm in the case of installation on ATLAS M-System), and wall cladding min. 18 mm - check the stability of the sheathing on the substructure, the panels must not buckle under operational loads, if necessary tighten an additional, stiffening layer of panels - matt down the surface using 40-60 grit sandpaper. - clean the surface of the resulting dust
Concrete floors	- seasoning time minimum 21 days - optimum humidity < 4% by weight - absolutely clean from residues of formwork oils and other substances that may impair adhesion - missing, chipped and other cavities should be filled with ATLAS ZW 330 mortar
Metal and steel surfaces	Cleaning and de-rusting required, priming with dedicated primer. Make a sprinkling of dry quartz sand onto the freshly applied primer, e.g. ATLAS EPO-S universal epoxy binder with quartz sprinkling.
Plastic surfaces	Cleaning, sanding required. An adhesion test must be carried out to confirm the applicability of the film on plastic substrates.

*) The times shown in the table are recommended for application conditions of approx. 20 °C and 50 % humidity.