



ATLAS WODER SX

sealing mortar

- crystallisation technology
- for insulating foundations, basements and plinths
- self-sealing effect of the coating and structural sealing of the substrate
- resistant to positive and negative water pressure
- for the renovation of very damp structures



FOR WALLS
AND FLOORS



INDOORS
AND OUTDOORS

1,5-5 mm

LAYER THICKNESS



MANUAL AND MACHINE
APPLICATION

CRYSTALLISATION TECHNOLOGY

ATLAS WODER SX is a technologically innovative product – not only does it effectively seal the concrete structure, but also, thanks to the crystallisation effect, it closes cracks of up to 0.3 mm in width which may occur in the substrate during operation. The cracks are closed by water-insoluble salts which crystallise and gradually stop the leakage. The salt crystals build up in the cracks until the cracks are completely filled and finally sealed, so that the seepage water disappears. The crystallised salt insulates the surface and also provides additional protection for the substrate in the event of localised damage to the coating or substrate. This provides constant and continuous protection against moisture and water.

See next page for details.

Properties

ATLAS WODER SX is a dry mixture of high quality cements, latest generation powder resins, mineral fillers and modifying agents and sealing additives.

It can be used as a top coat without the need for finishing or protective layers – it is UV, frost and ageing resistant. If the insulation made with ATLAS WODER SX will be exposed to mechanical influences, e.g. pedestrian traffic, it should be shielded, e.g. with a screed, gypsum-free plaster or tiles glued with class C2 mortars, such as ATLAS GEOFLEX or ATLAS PLUS.

Can be used directly under tiles - as a composite waterproofing.

Effectively protects brick and stone masonry walls with flush joints.

Resistant to positive and negative water pressure:

- 7 bar (70 m water column) in the case of positive pressure, i.e. acting on the application side of the insulation,
- 5 bar (50 m water column) in the case of negative pressure, i.e. acting on the side opposite to the insulated side.

High adhesive strength:

- minimum 1.5 MPa on typical concrete substrates,
- minimum 1.45 MPa on brick.

Chemical resistance – the bonded mortar is resistant to municipal sewage, slurry as well as aggressive groundwater - exposure class XA1, XA2, XA3.

Sulphate-resistant - can be applied on extremely saline surfaces (ion concentration $SO_4^{2-} < 5\%$), e.g. for waterproofing in historic buildings, including internal trough-shaped insulations on stone, brick and mixed masonry. ATLAS system renovation plasters (products: ATLAS TRO, TRP, TR, TS, etc.) can be applied directly on the insulation coating.

Adheres to the substrate without priming.

Bonds without shrinkage – no shrinkage cracks or cracks typical of cementitious mortars appear during setting.

Can be applied mechanically.



The self-sealing effect of the insulation coating with ATLAS WODER SX

The photos presented below were taken under real conditions, using the time-lapse technique.



Photo 1. Insulation coating with ATLAS WODER SX on the concrete surface - water pressure from the inside. Active leak where the crack occurs in the substrate.



Photo 2. Gradual dampening of the insulating coating where the crack occurs.



Photo 3. The crack is being gradually closed by crystallizing salts, there is still a slight water seepage. Effect after 7 days.



Photo 4. The crack is closed by salt crystals, no water seepage. Effect after 21 days.



Photo 5. Slow build-up of salt crystals on the crack surface, sealing. Effect after 35 days.



Intended use

ATLAS WODER SX protects against negative and positive water pressure. It has a very broad spectrum of applications. It is recommended for insulation of underground parts of buildings, foundations, basements, plinths, external stairs, balconies and civil engineering constructions, e.g.: tanks for communal waste water, slurry, etc.

It is particularly recommended for insulating reinforced concrete reservoirs, weirs, culverts, wells, etc. - due to its ability to self-seal microcracks.

Can be used for insulating building partitions in historic buildings, also on surfaces with a high degree of contamination by building salts.

Used for trough-shaped insulation of damp structures.

Can be used as composite insulation under ceramic tiles - indoors and outdoors on mineral substrates e.g. cement screeds, concrete surfaces, etc.

Allows effective protection of corners and expansion joints with ATLAS HYDROBAND 3G tape embedded in it – application of the tape (coating reinforcement) is required in areas of stress concentration - it protects the edges of wall and screed connections and expansion joints.

It can be used as a first insulation coating on heavily damp masonry and allows the application of external bitumen coatings, such as PMBC-type compounds, e.g. IZOHAN WM-2K.

TYPES OF WATERPROOFING	
light-type external waterproofing (flowing water)	+
medium-type external waterproofing (stagnant water)	+
heavy-type external waterproofing (pressurised water)	+
light-type internal waterproofing (flowing water)	+
medium-type internal waterproofing (stagnant water)	+
heavy-type internal waterproofing (pressurised water)	+

TYPES OF BUILDINGS	
residential housing	+
public and education facilities, office buildings, health care facilities	+
retail and service buildings	+
religious buildings	+
industrial facilities and multi-storey garages	+
industrial warehouses	+
communication facilities	+
civil engineering constructions (culverts, weirs)	+

TYPE OF SUBSTRATE - standard	
cement floors and screeds	+
anhydrite screeds	Use ATLAS WODER E or ATLAS WODER W
cement and cement-lime renders	+
gypsum plastering in damp and wet room areas	Use ATLAS WODER E or ATLAS WODER W
cellular concrete walls*	+
brick, calcium-silicate block or stone walls*	+
clay brick or perforated brick walls*	+
gypsum block walls*	Use ATLAS WODER E or ATLAS WODER W

* plastering is not necessary if the masonry is well jointed

LOCATION OF APPLICATION	
low-traffic areas*	+
medium-traffic areas*	+
high-traffic areas*	+
kitchens, bathrooms, laundry rooms, garages (in individual housing)*	+
balconies, loggias*	+
underground parts of buildings – foundations, basements including trough-type internal insulation	+
external stairs*	+
passageways*	+
building plinth claddings	+
process vessels, fire-fighting water tanks	+
swimming pools, fountains, hot tubs, balneological facilities (without the use of aggressive chemicals)	use ATLAS WODER DUO
drinking water tanks	use ATLAS WODER DUO
slurry tanks	+
diesel oil tanks	use ATLAS WODER DUO
tanks in waste water treatment plants (containing waste water of exposure classes XA1, XA2 and XA3 according to EN 206+A2:2021).	+
saunas*	+
showers, washing plants, areas washed down with plenty of water*	+

*the insulating coating is an intermediate layer and requires final protection with a screed, ceramic cladding, etc.



TYPE OF SUBSTRATE - difficult	
concrete	+
terrazzo	+
dry gypsum board substrates	use ATLAS WODER E or ATLAS WODER W
floor screeds (cement) with embedded water or electric heating	use ATLAS WODER E or ATLAS WODER W
cement and cement-lime plastering with concealed heating	use ATLAS WODER E or ATLAS WODER W
gypsum plasterboards	use ATLAS WODER E or ATLAS WODER W
gypsum fibre boards	use ATLAS WODER E or ATLAS WODER W
cement fibre boards	use ATLAS WODER E or ATLAS WODER W
old ceramic or stone tiles (tile on tile)**	recommended ATLAS WODER DUO
resin varnishes for concrete bonded to substrate	recommended ATLAS WODER DUO
epoxy resin paints	recommended ATLAS WODER DUO
plank floors (thickness >25mm)	recommended ATLAS WODER DUO
OSB/3, OSB/4 or particleboards on the floor (thickness > 22 mm)	recommended ATLAS WODER DUO
OSB/3, OSB/4 or particleboards on the wall (thickness > 18 mm)	recommended ATLAS WODER DUO
metal and steel surfaces	recommended ATLAS WODER E or ATLAS WODER W
plastic surfaces	recommended ATLAS WODER E or ATLAS WODER W

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

Technical data

Bulk density (of dry mix)	approx. 0.92 g/cm ³
Water / dry mix mixing ratio for application with trowel	0.28-0.30 l / 1 kg 7.0-7.5 l / 25 kg
Water / dry mix mixing ratio for application with brush or sprayer	0.38-0.40 l / 1 kg 9.5-10.0 l / 25 kg
Minimum thickness of waterproofing coat	1.5 mm
Maximum thickness of one layer	3 mm
Maximum thickness of single coat applied (evening of irregular surfaces)	5 mm
Ambient and substrate temperature during mixing	from +5 °C to +30 °C
Resistant to water pressure (positive water pressure)	7 bar (70 m water column)
Pot life	approx. 2 hours
Open time (drying time)	min. 30 minutes
Walkability and application of the next layer	after 3 hours*
Laying of coverings	after minimum 40 hours*
Resistance to pressurised water	after 7 days

*Recommended times for application at about 20°C and 55-60 % humidity.



Technical requirements

The product has the National Technical Assessment No. ITB-KOT-2022/2135, 1st edition. National Declaration of Performance No. K227.

Adhesive strength, MPa: – to concrete – to clay brick	≥ 1.5 ≥ 1.45
Interlayer adhesion of the system: substrate + coating + tile adhesive ATLAS ULTRA GEOFLEX, MPa	≥ 0.95
Water tightness, no leakage when pressurised, MPa: – on the insulated side, after 14 days, coating thickness approx. 3 mm – on the insulated side, after 28 days, coating thickness approx. 3 mm – on the insulated side, after 28 days, coating thickness approx. 5 mm – on the side opposite the insulated side, after 28 days, coating thickness approx. 3 mm	0.5 0.5 0.7 0.5
Water vapour permeability, defined by the thickness of the air layer whose diffusion resistance is equivalent to the average diffusion resistance of the coating to water vapour - S_d , m	≤ 0.2
Carbon dioxide permeability, defined by the thickness of the air layer whose diffusion resistance is equivalent to the average diffusion resistance of the coating to carbon dioxide - S_d , m	≤ 3.5
Static puncture resistance, as determined by the water resistance of the coating, in MPa, after load application: 5 kg, 10 kg, 15 kg, 20 kg	0.5
Resistance to water with an elevated temperature (+60 °C), determined by adhesion to concrete substrate, MPa	≥ 2.9
Frost resistance after 50 freeze-thaw cycles, determined by: - water tightness, no leakage under pressure, MPa - adhesion to concrete substrate, MPa	0.5 ≥ 1.5
Chemical resistance to: – acidified water, pH 4 – aqueous solution containing 100 mg/l NH_4^+ ions – aqueous solution containing 6000 mg/l SO_4^{2-} ions – saturated solution of Mg^{2+} ions – swimming pool water – 3 % detergent solution – 1 % phenol solution assessed by a reduction in adhesion to the substrate	≤ 5%
Volatile organic compound (VOC) emissions - time required to reach acceptable concentrations of substances harmful to health, days	≤ 28

Execution of the waterproofing

Substrate preparation

Substrates must be even, absorbent and porous. Soiling, low-strength layers and any paint coatings and release agents (bitumen coatings) must be removed. Lime plaster and crumbling masonry surfaces also need to be scraped off. Corroded joints must be removed to a depth of approx. 2 cm and filled with cement mortar, e.g. ATLAS TRP. Deep cavities and holes need to be re-bricked, filled with cement mortar or concrete. Any protrusions must be levelled. Substrates with irregular surface and heterogeneous structure (e.g. brick or stone walls) must be levelled locally or completely covered with ATLAS TRP renovation plaster. Before application, the substrate must be saturated with water without forming puddles (matt-damp substrate).

Detailed information on the preparation of the substrate, depending on its type, can be found in the table at the end of the Product Data Sheet.

Preparation of the material

Pour the material from the bag into a vessel with the measured amount of water (see the proportions in the Technical Data) and mix with a slow speed mixer until a homogeneous consistency is obtained. Use the mass thus prepared within approx. 2 hours.

Waterproofing – manual application

The waterproofing coat should be applied in at least two layers. The first layer is to be applied with a brush, starting from the places where ATLAS HYDROBAND 3G will be additionally applied. The sealing tape must be embedded in the freshly applied ATLAS WODER SX. The tapes should overlap by more than 5 cm. It is recommended to apply the insulation to both the substrate and the underside of the tape. The tapes must not be wrinkled after laying. Excess material should be squeezed out from under the tape using a spatula. The second layer of waterproofing can be applied once the first layer has set. The second layer is applied using a brush or a steel trowel with tooth size:

- 6 mm for medium-type waterproofing,
- min. 8 mm for heavy-type waterproofing.

For a heavy-type waterproofing ATLAS WODER SX must be applied in 3 layers.



Waterproofing - machine application

The mechanical application of the waterproofing can be carried out in two or three stages, depending on the planned insulation type, i.e. light, medium or heavy. Heavy-duty waterproofing is achieved by a three-stage application.

The first layer is applied by casting the compound onto the substrate in such a way that the compound covers the surface evenly and 100%, forming a layer with a maximum thickness of 2.0 mm. Immediately after application, the as yet unbound mass must be smoothed with a smoothing trowel or surface spatula until a homogeneous smooth coating is achieved.

The application of the second and third coats can take place after the respective previous coat has set. The final total thickness of the waterproofing should be minimum 2.5 mm (medium-type insulation) and 3.0 mm (heavy-type insulation). Leave the entire surface to dry. In case of strong water pressure (positive pressure up to 0.7 MPa, negative pressure up to 0.5 MPa), the total thickness of the waterproofing should be 5.0 mm.

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

Finishing work

If it is necessary to protect the coating from mechanical damage by applying plaster, screed or tiling, this can be done approximately 40 hours after the application of the waterproofing coat. **Refer to the table at the end of the technical data sheet for details of curing times.**

Consumption

The total thickness of the coating should be established according to the water exposure conditions of the surface to be waterproofed.

Type of waterproofing	Total thickness of the waterproofing mm	Consumption kg/m ²
light-type waterproofing (water not collecting on the surface of the coating)	1.5	approx. 2.25
medium-type waterproofing (water collecting on the surface of the coating)	2.0	approx. 3.0
heavy-type waterproofing (pressurised water)	3.0	≥ 4.0

Packaging

Paper bags: 25 kg.

Safety information

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

Storage and transport

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

The shelf life of the product (use-by date) is 12 months from the date of manufacture on the packaging.

Important additional information

Before applying the mortar to metals such as zinc, copper, aluminium or sheet metal, the metals must first be treated with ATLAS ULTRAGRUNT, a primer for critical substrates.

When insulation water reservoirs, it is possible to make fillets in the wall corners with the mortars ATLAS TEN-10, ATLAS ZW 330 or ATLAS FILER S.

Low temperatures and increased humidity prolong the curing time of the mortar. Avoid applying the waterproofing during strong sunlight.

Culverts subject to pressure should be protected with screwed ring seals.

Protect untreated surfaces from contamination.

After the application of the waterproofing, the room needs to be aired for approx. 24 hours.

Clean tools with clean water directly after use. Residues of set mortar that are difficult to remove can be washed off with ATLAS SZOP cement residue remover.

The information in the Product Data Sheet constitutes basic guidelines concerning the use of the product and does not release from the obligation to conduct work according to the best construction practices and health and safety at work regulations. On the date of issue of this Product Data Sheet, all previous Product Data Sheets become invalid. The accompanying documents for the product are available at www.atlas.com.pl.

The content of the Product Data Sheet as well as the symbols and trade names used in it are the property of Atlas sp. z o. o. Their unauthorized use will be sanctioned.

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Special instructions for the preparation of the substrate with regard to the type of substrate.

Type of substrate	Information on substrate preparation
New screed made of ATLAS SMS 15	required screed moisture 4.0 % CM - approx. 8 hours
New screed made of ATLAS SMS 30	required screed moisture 4.0 % CM - after approx. 18 hours for thicknesses 3-5 mm - after approx. 48 hours for thicknesses 6-10 mm - after approx. 72 hours for thicknesses 11-20 mm - after approx. 96 hours for thicknesses 21-30 mm
New screed made of ATLAS SMS 80	Moisture content of the screed 4.0 % - after approx. 4 days for thicknesses 25-40 mm - after approx. 6 days for thicknesses 41-60 mm - after approx. 9 days for thicknesses 61-80 mm
New screed made of ATLAS POSTAR 10	required screed moisture 4.0 % CM - after approx. 1.5 days for thicknesses 1-3 cm - after approx. 3 days for thicknesses 3-5 cm - after approx. 9 days for thicknesses 5-10 cm
New screed made of ATLAS POSTAR 20	required screed moisture 4.0 % CM - approx. 1 day for thicknesses 1-3 cm - after approx. 2 days for thicknesses 3-5 cm - after approx. 5 days for thicknesses 5-8 cm
New screed made of ATLAS POSTAR 60	required screed moisture 4.0 % CM - after approx. 6 hours for thicknesses 1-3 cm - after approx. 12 hours for thicknesses 3-5 cm - after approx. 40 hours for thicknesses 5-8 cm
New screed made of ATLAS POSTAR 80	required screed moisture 4.0 % CM - after approx. 3 hours for thicknesses 1-3 cm - after approx. 6 hours for thicknesses 3-5 cm - after approx. 18 hours for thicknesses 5-8 cm
Other cement screeds	required screed moisture 4 % CM - curing: minimum 28 days
Terrazzo	Degrease the surface thoroughly; in the case of pasted terrazzo, remove the top part or all of it and make a new base.
Silicate brick or perforated brick walls, ceramic block or cellular concrete walls	A levelling layer (plaster) is required. The application of waterproofing directly onto unplastered masonry is only possible if there is adequate dimensional tolerance of the substrate. In this case, it is necessary to make a flush joint wall (or to complete the jointing), and to repair any defects and irregularities with ready-made mortars.
Cement and cement-lime plasters made of ready-made ATLAS mortars	- Curing time minimum 3 days* for each 1 cm of thickness - Optimal moisture content <4% by weight
Other cement and cement-lime plasters	- Curing time minimum 7 days*.
Substrates levelled with ATLAS ZW 330 mortar	Curing time min. 5 h for every 5 mm of the levelling layer thickness
Concrete substrates	- Curing time minimum 21 days; - Optimal moisture content <4% by weight - must be cleaned from any residues of shuttering oil or other substances which may impair adhesion. - defects, chipping and other flaws should be filled with ATLAS TEN-10 or ATLAS ZW 330 mortars.

*) the times given in the table apply for application at a temperature of about 20 °C and humidity of 50 %.