



## ATLAS PLUS

### highly flexible deformable adhesive S1 2-10 mm

- 3 times greater initial bonding
- for ceramic, porcelain-gres, mosaic, stone, glass tiles
- in bathrooms, kitchens, garages, pools, on terraces, balconies, stairs
- on OSB boards, plasterboards, old tiles, damp proofing, terrazzo, floor heating
- excellent bonding even at low temperature



The new ATLAS PLUS is a combination of two technologies:

- polymer technology,
- double fibers technology.

### Polymer technology

ATLAS POLYMER TECHNOLOGY has been used in ATLAS PLUS adhesive recipe. Owing to high content of polymer compounds, cement adhesive gets unique properties and offers the highest technical and operational performance assuring long term durability. The presence of polymers ensures great bonding of any cladding to any substrate type, also to, so called, difficult and critical ones. Owing to the interchange of the polymer network with the network of inorganic hydration cement bindings, the adhesive offers outstanding parameters.

The use of the POLYMER TECHNOLOGY in ATLAS PLUS gives the following advantages:

- durable and strong bonding of cladding to difficult and nonabsorbable substrates,
- safety of use at temperature just above 1°C - owing to accelerators of binding, the use of ATLAS PLUS enables foot traffic after 24 hours, even in case of use in insufficiently heated rooms in autumn – winter time.
- possibility of use on substrates exposed to great deformation and vibration,
- high resistance to extreme operational loads – mechanical and thermal,
- excellent bonding to cladding of any type,
- safe use with tiles of any size, also with tiles of surface up to 3 m<sup>2</sup> large,
- perfect workability, rheology and pot life.

### Technology of double fibres

ATLAS DOUBLE FIBRES TECHNOLOGY is based on a mix of polypropylene and cellulose fibres.

The polypropylene fibers used in this technology are materials characterised by high chemical resistance to acid, alkali, solvent or salt action. They are hydrophobic, almost nonabsorbable, therefore resistant to microbiological corrosion. The fibers improve mechanical performance of the mortar as they form diffused reinforcing within the mortar structure.

The cellulose fibers get elastic and ductile under water action. They increase their volume and enable free transport of water along fibers, therefore significantly influence the mortar workability – improve mortars rheology, reduce slip, extend open time and increase the substrate wettability. Cellulose fibers prevent too quick water retention by the substrate, therefore set ATLAS PLUS gets the best technical performance, such as bonding to the substrate and strength.

TECHNOLOGY OF DOUBLE FIBRES in ATLAS PLUS gives the following advantages:

- improvement of strength parameters,
- significant improvement of resistance to great operational loads, impacts and vibrations,
- safe fixing at great temperature differences,
- compensation of stress occurring on deforming substrates,
- improvement of water retention in the mortar: fibers reduce the result of sudden water retention both on joint with absorbable substrate and absorbable tile as well as within the evaporation zone; during adhesive binding and drying (particularly when applied with maximum coat) the fibers accumulate and transport water and keep its uniform level within the whole coat,
- limitation of the effect of tile "sinking",
- significant improvement of workability,
- improvement of tiles stability just after fixing to the substrate.

### Properties

ATLAS PLUS is manufactured as a dry mix of high quality cement binder, aggregates and special composition of modifiers.

**Highly flexible – deformability S1** – the permissible deflection of the set adhesive is within 2.5 – 5 mm range (test according to PN-EN 12002).

**Three times greater initial bonding, i.e.  $\geq 1.5$  N/mm<sup>2</sup>.**

**Range of adhesive thickness (2-10 mm) enables:**

- thin-coat cladding fixing on even substrates,
  - thin-coat cladding fixing on uneven substrates, preceded by substrate floating.
- Extended open time** - allows placing tiles on adhesive even 30 minutes since application upon the substrate – it can be once applied onto larger surface and therefore significantly reduce the time of work.

**Reduced slip** - enables fixing cladding "from the top" – proper consistency and layer thickness eliminate the adhesive slip. Therefore one can tile from the wall top and avoid cut-to-size tiles on exposed wall zones.

**Versatility of use** – the adhesive is designed for almost any cladding type, regardless the tile size, on various substrates, in any building type, even with great operational loads.

**Recommended for fixing tiles in drinking water reservoirs, food industry, healthcare buildings, nurseries, kindergartens, etc.**

## Use

TYPE OF FIXED CLADDING	POSSIBILITY OF USE
glazed tiles	+
terracotta	+
porcelain-gres tiles	+
laminated gres	+
natural stone cladding (granite, marble, travertine, syenite, slate, etc.)	application test required
clinker	+
stone	+
ceramic mosaic	+
glass mosaic	application test required
glass, coloured, printed tiles, etc.	application test required and follow the tiles manufacturer's guidelines
concrete/ cement tiles	+
composite panels	+
insulation and acoustic panels	+

\*description of application test in section "Important additional information"

SIZE OF FIXED ELEMENTS	POSSIBILITY OF USE
any tile format, even above 5m <sup>2</sup>	+
slim-type tiles	+

OBJECT TYPE	POSSIBILITY OF USE
residential housing	+
public access, educational, office, healthcare buildings	+
commercial and service buildings	+
sacral buildings	+
industrial construction and multi-storey garages	+
industrial warehouses	+
infrastructure	+
SPA objects	+

PLACE TYPE	POSSIBILITY OF USE
rooms of low traffic	+
rooms of moderate traffic	+
rooms of heavy traffic	+
kitchen, bathroom, laundry, garage (individual housing)	+
terraces	+
balconies, loggia	+
external slab stairs	+
external beam stairs, e.g. bracket stairs	+
communication routes	+
façades (incl. external thermal insulation systems)	+
plinth cladding	+
technological tanks, pools, fountains, jacuzzi, balneotechnology (with no aggressive chemicals in use)	+
drinking water reservoirs	+
sauna	+
showers, washes, rooms washed with plenty of water	+

SUBSTRATE TYPE - standard	POSSIBILITY OF USE
cement screeds and floors	+
anhydrite screeds	+
cement, cement-lime plasters	+
gypsum plasters in dry zones of rooms	+
gypsum plasters in damp and wet zones of rooms	+
walls made of cellular concrete	+
walls made of silicate brick or hollow blocks	+
walls made of ceramic brick or hollow blocks	+
walls made of gypsum blocks	+

SUBSTRATE TYPE - difficult	POSSIBILITY OF USE
concrete	+
terrazzo	+
mineral, dispersion and reactive sealing coats	+
magnesium substrates	+
mastic asphalt screeds	+
dry substrates made of plasterboards	+
screeds (cement and anhydrite) with heating system embedded, water and electric one	+
screeds with heating mats embedded in adhesive	+
plasters with wall heating system	+
plasterboards	+
gypsum-fibre boards	+
cement-fibre boards	+
existing ceramic and stone cladding ("tile on tile")	+
concrete resin lacquers bonded to the substrate	+
dispersion, oil paints bonded to the substrate	+
timber floors (thick. > 25 mm)	+
OSB/3 and OSB/4 and chipboards on floors (thick. > 25 mm)	+
OSB/3 and OSB/4 and chipboards on walls (thick. > 18 mm)	+
insulation and acoustic panels	+
metal and steel surfaces	+
plastic surfaces	+


## Technical data

Bulk density	approx. 1.4 kg/dm <sup>3</sup>
Mixing ratio (water/dry mix)	0,26 ÷ 0,29 l / 1 kg 1,3 ÷ 1,45 l / 5 kg 2,6 ÷ 2,9 l / 10 kg 5,2 ÷ 5,8 l / 20 kg 6,5 ÷ 7,25 l / 25 kg
Min./max. adhesive thickness	2 mm / 10 mm
Adhesive preparation temperature, substrate and ambient temperature during application	from +1°C to +25°C
Maturing time	approx. 5 minutes
Pot life*	approx. 4 hours
Open time*	min. 30 minutes
Adjustability*	approx. 10 minutes
Grouting of wall/floor cladding*	after approx. 16/24 hours
Foot traffic*	after 24 hours
Full operation load – foot traffic*	after 3 days
Full operation load – vehicle traffic*	after 14 days
Full load under water – pool/tank*	after 14 days
Floor heating (heated surfaces)*	after 21 days

The time shown in the table is recommended for application in the temperature 23°C and humidity 55% (approx.).

## Technical requirements

The product conforms to PN-EN 12004 + A1:2012 standard for C2TE S1 class - cement adhesive with improved parameters, prolonged open time and reduced slip, deformable, for indoor and outdoor use, on wall and floor.

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ATLAS PLUS NEW (2019) Declaration of Performance no 222/1/CPR. EN 12004:2007+A1:2012 (PN-EN 12004+A1:2012)	
Intended use: for any internal and external application of the tiles, for indoor and outdoor use.	
Reaction to fire	A1/A1 <sub>fl</sub>
Bonding strength defined as: - initial bonding	≥ 1.0 N/mm <sup>2</sup>
Bonding strength in conditions of conditioning/thermal ageing defined as: - bonding after thermal ageing	≥ 1.0 N/mm <sup>2</sup>
Bonding strength in conditions of action of water/humidity defined as: - bonding after immersion in water	≥ 1.0 N/mm <sup>2</sup>
Bonding strength in conditions of freeze/thaw cycles defined as: - bonding after freeze/thaw cycles	≥ 1.0 N/mm <sup>2</sup>



The product has been given the Hygienic Attest and the Radiation Hygiene Certificate.

## Substrate preparation

### The substrate should be:

- **stable** – sufficiently sound, resistant to deformation, free from materials which would impair bonding, stabilized.
- **even** – maximum adhesive thickness is 10 mm, in case of larger irregularities use ATLAS ZW 330 or ATLAS ZW 50 leveling mortars or ATLAS SMS, SAM or POSTAR screeds.
- **clean** – free from layers which can impair adhesive bonding, especially dust, dirt, lime, oils, greases, wax, residues of oil and emulsion paints; substrate coated with algae, fungi, etc. must be cleaned and protected with ATLAS MYKOS NO 1 or ATLAS MYKOS PLUS agent.

### • primed:

- with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS – substrates of excessive or heterogeneous absorptiveness,
- with ATLAS GRUNTO-PLAST – if the substrate absorptivity is poor or it is coated with layers limiting bonding,
- **waterproofed** – in case of tiles fixed on surfaces exposed to water action:
  - with ATLAS WODER E, ATLAS WODER W, ATLAS WODER S – cladding fixing after 24 h,
  - with ATLAS WODER DUO – cladding fixing after 12 h.
  - ATLAS WODER DUO EXPRESS - cladding fixing after 3 h.

### Detailed guidelines concerning the substrate preparation, depending on its type.

Substrate type	Preparation
Freshly applied cement screeds ATLAS POSTAR 80, ATLAS SMS 15 or ATLAS SMS 30	Stabilized min. 24 hours; optimum moisture content < 4% by weight.
Freshly applied cement screeds ATLAS POSTAR 20	Stabilized min. 5 days; optimum moisture content < 4% by weight.
Other cement screeds	Stabilized min. 28 days; optimum moisture content < 4% by weight. Prime with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS.
Anhydrite screeds ATLAS SAM 55, ATLAS SAM 100, ATLAS SAM 150, ATLAS SAM 200 or ATLAS SAM 500	Stabilized min. 2-3 weeks; optimum moisture content < 0.5% by weight. Prime with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS. If, white surface tarnish forms during drying, it should be removed mechanically (grinded) and the surface dedusted. Screed grinding accelerates the process of drying.
Cement and anhydrite screeds on floor heating	Appropriately heated and primed with ATLAS UNI-GRUNT or ATLAS UNI-GRUNT PLUS.
Terrazzo	De-grease the surface thoroughly, in case of waxed terrazzo remove the top layer or whole layer and execute a new one.
Walls made of silicate or ceramic bricks and hollow blocks, cellular concrete	Leveling coat required (plaster). Direct fixing onto rough wall is possible in case of appropriate substrate dimensional tolerance. In such case it is necessary to execute full joint wall (or re-fill the joints) and repair any gaps or irregularities with ready-to-use mortars. Prime with ATLAS UNI-GRUNT.
Cement and cement-lime plasters made of ready ATLAS mortars	Stabilized min. 3 days* for each 10 mm of thickness; optimum moisture content < 4% by weight.
Other cement and cement-lime plasters	Stabilized min. 7 days*. Prime with ATLAS UNI-GRUNT.
Gypsum plasters	Prime with ATLAS UNI-GRUNT. If gypsum plaster is applied in a wet room it should be thoroughly protected against moisture. If dampness has form of short term action or moderate water splash, then the plaster should be coated with a preparation improving resistance against damp penetration, e.g. ATLAS GRUNTO-PLAST. In environment more subject to dampness it is necessary to apply a watertight coating, e.g. ATLAS WODER E.
Substrates leveled with ATLAS ZW 330 mortar	Stabilized min. 5 h for layer thickness 5 mm. Stabilized min. 10 h for layer thickness 10 mm. Stabilized min. 20 h for layer thickness 20 mm. Stabilized min. 48 h for layer thickness above 20 mm.
Substrates leveled with ATLAS ZW 50 mortar	Stabilized min. 12 h for layer thickness 5 mm. Stabilized min. 24 h for layer thickness 10 mm. Stabilized min. 72 h for layer thickness 20 mm.
Concrete	Stabilized min. 21 days; optimum moisture content < 4% by weight. Remove residues of formwork oils and other substances which would impair adhesion obligatorily. Holes, cracks and other gaps should be filled with ATLAS BETONER system mortars.
Concrete reservoirs for drinking water, technological tanks, pool basins, made of watertight concrete	Grinding, sanding or wet sanding required in order to open the surface pores.
Water reservoirs, pool basins, wading pools, etc., surfaces waterproofed with elastic mortars or liquid foils	If required, clean the waterproofing coat delicately, so the coat is not damaged.
Oil paints and resin lacquers coatings	Coatings of poor bonding to the substrate should be mechanically removed. Stable, well bonded coatings: grind, dust; prime oil coatings with ATLAS GRUNTO-PLAST. Gypsum fillers which the substrate used to be evened with should be removed.
Mastic asphalt screeds (thickened by rolling) and magnesium substrates	Sanding required.

OSB boards and wooden floors – the layer composition should be designed and executed in the way excluding the possibility of deformation, which may lead to the cladding damage.	<ul style="list-style-type: none"> <li>- check the boards type, on floors one may use boards OSB/3 and OSB/4 (acc. to PN-EN 300:2007), min. 25 mm thick, on walls – min. 18 mm thick,</li> <li>- check the superstructure stability, boards must not move under operation load; fix additional, stiffening boards layer, if needed,</li> <li>- matt the surface with 40-60 sand paper,</li> <li>- dedust the surface,</li> <li>- apply the liquid foil ATLAS WODER W or ATLAS WODER E in order to improve board protection against moisture and bonding, alternatively use priming mass ATLAS GRUNTO-PLAST in order to improve bonding.</li> </ul>
Existing ceramic or stone tiles	<ul style="list-style-type: none"> <li>- check bonding to the substrate of the existing cladding by tapping; individual loosening tiles must be removed,</li> <li>- clean and de-grease the existing tiles surface,</li> <li>- matt glazed tiles with a diamond grinder,</li> <li>- dedust the surface</li> </ul>
Metal and steel surfaces	Cleaning and derusting required, prime with appropriate primer. Blind the freshly applied primer with dry quartz sand.
Plastic surfaces	Cleaning, grinding and priming with ATLAS GRUNTO-PLAST required. Perform the bonding test prior to the cladding fixing in order to confirm the plastic substrate binding ability.
Insulation and acoustic panels	In case of panels with base coat reinforced with mesh, substrate preparation is not required. In other cases prime the substrate with ATLAS GRUNTO-PLAST.

\*The time shown in the table is recommended for the application in the temperature 20°C and humidity 50% (approx).

## Cladding installation

### Adhesive preparation

Pour adhesive from a bag into a container with suitable amount of water (see Technical Data for ratio) and mix using a low speed mixer with a drill for mortars until homogenous. The dispersed adhesive should be left to rest for 5 minutes and remixed then after. So prepared adhesive should be used up within approx. 4 hours.

### Adhesive application

The adhesive should be applied onto the surface with a steel trowel, distributed uniformly and shaped (possibly in one direction) with a notched trowel. It is advisable to spread a thin adhesive coat first and then apply the coat of desired thickness and shape it with a notched trowel. It is recommended to lead a notched trowel in one direction. On walls, it's recommended to shape the adhesive vertically.

In case of application of the tiles on the floor, installation of cladding outdoors and application of large sized tiles it is advisable to form a continuous adhesive coat (if necessary, use a combined application method - apply adhesive mortar on the substrate and bottom side of the tile).

For installation of large-format tiles 300 x 100 mm and larger, it is recommended to use one of three variations of combined method:

- adhesive on substrate with 8 mm notched trowel + adhesive on tile with 6 mm notched trowel,
- adhesive on substrate with 10 mm notched trowel + adhesive on tile with 4 mm notched trowel,
- adhesive on substrate with 12 mm notched trowel + adhesive on tile with smooth layer, thickness approx. 1 mm.

### Fixing the tiles

After application, the adhesive retains its properties for approx. 30 minutes (in temperature approx. 23 °C and 55 % humidity). Within this time, the tiles must be placed and pressed well (the contact surface between adhesive and tile should be uniform and as large as possible – min. 2/3 of the tile surface). Remove excessive adhesive pressed into the joints immediately. In case of floor tiles or tiling outdoors it is advisable to keep the full bonding technique (use the mixed method consisting in application of adhesive on the substrate and the back of a tile, if needed). Keep the joint width appropriate for the tile size and operational conditions (check data in the data sheets of ATLAS grouts).

### Tile adjustment

The position of a tile can be adjusted with delicate moves along the plane of bonding. It can be done within approximately 10 minutes since the tile is pressed (in temperature approx. 23 °C and 55 % humidity).

### Grouting and cladding use

It is advisable to use ATLAS mortars for grouting. Grouting of cladding applied on a wall is possible after 16 hours since the tiles fixing. Foot traffic and grouting of floor cladding is possible after 24 hours since the tiles fixing. The mortar reaches operational strength after 3 days (check the Technical Data section). Expansion joints, joints along the wall corners, at sanitary equipment, etc. should be filled with sanitary silicone ATLAS SILTON S or ATLAS ARTIS.

## Exemplary technological cycle of cladding installation

Step (following layer)	Product	Conditioning of the layer before execution of the next step*
Substrate levelling	levelling mortar ATLAS ZW 330	approx. 5 h
	levelling mortar ATLAS ZW 50	approx. 12 h
	screed ATLAS POSTAR 80 screed ATLAS SMS 15 screed ATLAS SMS 30	approx. 1 day
	screed ATLAS POSTAR 20	approx. 2 days
	screed ATLAS POSTAR 10 screed ATLAS SAM 100	approx. 14 days
	screed ATLAS POSTAR 100 screed ATLAS POSTAR 40 screed ATLAS SAM 150 screed ATLAS SAM 200 screed ATLAS SAM 500	approx. 21 days
Damp-proofing**	ATLAS WODER E ATLAS WODER S ATLAS WODER W ATLAS WODER DUO ATLAS WODER DUO EXPRESS	approx. 2 h approx. 24 h approx. 24 h approx. 12 h approx. 3 h
Installation of tiles	ATLAS PLUS	approx. 16 h – wall approx. 24 h – floor
Grouting of tiles	grouting mortar ATLAS	-

\*detailed conditions regarding conditioning are shown in Technical Data Sheets of relevant products.

\*\* in systems without damp proofing, skip steps marked grey

## Consumption

Average consumption listed in the table below refers to application upon even substrates. Substrate irregularities increase the actual mortar consumption. In case of mixed method of fixing the adhesive consumption is greater.

Tile size [cm]	Place of application	Recommended notch size [mm]	Consumption [kg/m <sup>2</sup> ]
2 x 2	wall	4	1.3
	floor	4	1.3
10 x 10	wall	4	1.3
	floor	6	2.0
15 x 60	wall	6	2.0
	floor	8	2.5
20 x 25	wall	6	2.0
	floor	8	2.5
25 x 40	wall	6	2.0
	floor	8	2.5
30 x 30	wall	6	2.0
	floor	8	2.5
30 x 60	wall	8	2.5
	floor	10	3.0
40 x 40	wall	8	2.5
	floor	10	3.0
50 x 50	wall	8	2.5
	floor	10	3.0
60 x 60	wall	10	3.0
	floor	12	3.5
above 60x60 e.g. 90 x 90, 120 x 20, 300 x 100	wall	combined method (according to section „Cladding installation“)	approx. 4.5 (depending on used installation method)
	floor		
tiles – slab type* e.g. 20 x 90 or 25 x 1000	wall	8	2.5
	floor	10	3.0

\* for slab type tiles it is recommended to apply tiles with combined method. In case of using combined method, the consumption will be increased.

## Packaging

Alubags: 5 kg  
Foil bags: 10 kg, 20 kg, 25 kg

## Important additional information

- The tiles must not be soaked before fixing. When determining the adhesive thickness under the cladding, one should consider the geometric deviation of tiles shape, e.g. plane warpage.
- Conduct test application prior to natural stone tiles or glass elements fixing – apply a single tile. Keep the 60% of surface bonding (leave 40% of a tile with no contact with adhesive). Check the tile appearance after 2-3 days. The test is passed when there is no difference of shade of tile surface in contact and not in contact with adhesive.
- Open time – from the moment of application of adhesive to the moment of placing the tiles upon it – is limited. In order to check if it is still possible to fix tiles, performing a test is recommended. It consists in pressing fingers against the adhesive. If the adhesive remains on fingers, one can fix the tiles. If fingers are clean, the old layer of adhesive has to be removed and a new one applied.
- The tools must be cleaned with clean water directly after use. Difficult to remove residues of set adhesive can be removed with the ATLAS AGENT FOR REMOVAL OF CEMENT DEPOSITS AND STAINS.
- Contains cement. May cause respiratory irritation. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/ eye protection/face protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or a rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Follow the instructions of the Safety Data Sheet.
- The adhesive must be transported and stored in closed, original and labelled packaging, in dry conditions (most preferably on pallets). Keep away from direct sunlight. Keep in dry, cool and well ventilated room, away from incompatible materials (see Section 10 of Safety Data Sheet), food and beverages. Protect against humidity - product gets irreversibly solid after exposure to the humidity. Shelf life of mortar packed in foil bags in conditions as specified is 15 months from the production date shown on the packaging. Shelf life of mortar packed in 5 kg bags in conditions as specified is 24 months from the production date shown on the packaging. Content of soluble chromium (VI) in ready-to-use mix - ≤ 0,0002%.

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*

*At the time of publication of this product data sheet all previous ones become void. An up-to-date product technical documentation available at [www.atlas.com.pl/en](http://www.atlas.com.pl/en).  
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