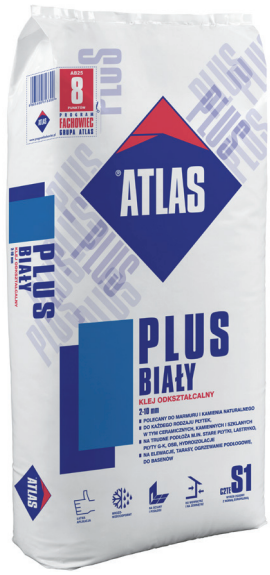

C2TES1
PRODUCT CONFORMS TO THE EUROPEAN STANDARD

APPLY WITH NOTCHED TROWEL
FOR WALLS AND FLOORS
2-10 mm
LAYER THICKNESS
INDOORS AND OUTDOORS
FOOT TRAFFIC AFTER 24 H
EASY IN USE
WATER- AND FROST-RESISTANT

ATLAS PLUS WHITE

white deformable adhesive S1 2-10 mm

- for any type of ceramic, stone, glass cladding, composite slabs and panels
- for large size tiles, even above 5 m^2
- for difficult substrates: OSB, plasterboards, old tiles, timber floors, metal and plastic surfaces
- on terraces, balconies and facades, in pools and technological tanks (also with drinking water)
- for residential, commercial and service, public access and industrial
- buildings
- with white cement, which does not cause cladding discoloration which can occur in contact with grey cement

Polymer technology

The polymer technology is used in the ATLAS PLUS WHITE recipe. Owing to the high content of redispersible polymer resins, the cement adhesive gets unique properties and offers the highest technical and operation parameters assuring long term durability. The presence of polymers ensures high bonding of any cladding to any substrate type, including, 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 content of white cement limits the risk of the discolouration of the cladding.

The use of the polymer technology gives:

- possibility of fixing the cladding of any type, both absorbable and non-absorbable – owing to high bonding resulting from high content of the polymer resin,
- possibility of fixing the tiles on, so called, difficult substrates, including OSB boards, plasterboards, old tiles (tile on tile) as well as substrates subject to large and very large mechanical and thermal load – owing to the deformability,
- outstanding plasticity and mass homogeneity – the adhesive is easily workable and spread upon the surface – the adhesion strength prevents the adhesive from "rolling back" onto the trowel.

Properties

ATLAS PLUS WHITE is manufactured as a dry mix of high quality cement binder, aggregates and special composition of modifiers.
Does not cause cladding discolouration – perfect for fixing glass mosaic and glass blocks installation – owing to high bonding and white cement.
Highly flexible – deformability S1 – the permissible deflection of the set adhesive is within 2.5 – 5 mm range (test according to PN-EN 12002).
With improved bonding – the actual bonding to concrete substrate in standard conditions is two times higher than the one required by the PN-EN 12004 standard.
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 the tiles even 30 minutes since the mortar application – it can be once applied onto larger surface and therefore minimize the time of work.
Reduced slip - enables fixing the 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 high operation load.
Recommended for fixing tiles in drinking water reservoirs, food industry, healthcare buildings, nurseries, kindergartens, etc.

Use

CLADDING TYPE	
glazed tiles	+
terracotta	+
porcelain gres	+
laminated gres	+
marble/natural stone cladding susceptible to discolouration	+
marble/natural stone cladding non-susceptible to discolouration	+
clinker	+
stoneware	+
ceramic mosaic	+
glass mosaic	perform application test*
glass, coloured, printed tiles	perform application test* and check recommendations of tiles manufacturer
concrete/cement mortar tiles	+
composite tiles	+
insulation and sound absorbing panels	+

*application test description shown on section Important additional information

SIZE OF INSTALLED ELEMENTS	
any tile format, even above 5m^2	use ATLAS ULTRA GEOFLEX
slim-type tiles	use ATLAS ULTRA GEOFLEX

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

INSTALLATION AREA	
surfaces with low traffic	+
surfaces with moderate traffic	+
surfaces with large traffic	+
kitchen, bathroom, laundry, garage (in residential buildings)	+
terraces	+
balcony, loggia	+
external slab stairs	+
external post stairs (e.g. cantilever stairs)	+
communication routes (excluding external stairs)	+
facades (including external thermal insulation systems)	+
cladding on a plinths	+
technological reservoirs, swimming pools, fountains, jacuzzi, balneotechnology (without aggressive chemical agents)	+
drinking water reservoirs	+
sauna	+
showers, car washes, rooms washed with plenty of water	+

SUBSTRATE TYPE - STANDARD	
cement floors and screeds	+
anhydrite screeds – freshly applied e.g. from ATLAS mortars	+
cement, cement-lime plasters	+
gypsum plasters in dry room areas	+
gypsum plasters in damp and wet room areas	+
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 – DEFORMABLE OR DIFFICULT	
concrete	+
terrazzo	+
mineral, dispersive and reactive sealing coats	+
plasterboard dry facing	+
screeds (cement or anhydrite) with embedded floor heating, water or electrical	+
screeds with heating mat embedded in the adhesive	+
plasters with wall heating	+
plasterboards	+
gypsum fibre boards	+
cement fibre boards	+
existing ceramic or stone cladding (tile on tile)	+
resin varnishes on concrete, bonded with substrate	+
dispersive, oil painting coats, bonded with substrate	+
timber floors (thickness > 25 mm)	+
OSB/3, OSB/4 and plywood boards on the floor (thickness > 25 mm)	+
OSB/3, OSB/4 and plywood boards on the wall (thickness > 18 mm)	+
surfaces made of metal and steel	+
surfaces made of plastics	+

Technical data

Mass bulk density (after mixing)	approx. 1.4 g/cm^3
Mixing ratio (water/dry mix)	0.26 – 0.28 l / 1 kg 1.30 – 1.40 l / 5 kg 6.50 - 7.00 l / 25 kg
Min. /max. adhesive thickness	2 mm / 10 mm
Adhesive preparation temperature, substrate and ambient temperature during work	from +5°C to +25°C
Maturing time	approx. 5 minutes
Pot life*	approx. 4 hours
Open time*	min. 30 minutes
Adjustability time*	approx. 10 minutes
Floor access/ grouting*	after 24 hours
Full operation load – foot traffic*	after 3 days
Full operation load – vehicle traffic*	after 14 days
Full load under water - swimming pool/water reservoir*	after 14 days
Floor heating (warm surface)*	after 21 days

The time shown in the table is recommended for the 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 parametres, prolonged open time and reduced slip, deformable, for indoor and outdoor use, on wall and floor.

CE 2007,0767	PN-EN 12004+A1:2012 (EN 12004:2007+A1:2012)
Intended use:	A2-s1, d0 $A2_{fl}$–s1
Reaction to fire	≥ 1.0 N/mm^2
Bonding strength defined as: - initial bonding	≥ 1.0 N/mm^2
Bonding strength in conditions of conditioning/thermal ageing defined as: - bonding afrer thermal ageing	≥ 1.0 N/mm^2
Bonding strength in conditions of action of water/humidity defined as: - bonding afrer immersion in water	≥ 1.0 N/mm^2
Bonding strength in conditions of freeze/thaw cycles defined as: - bonding afrer freeze/thaw cycles	≥ 1.0 N/mm^2
Release of hazardous substances	NPD

Substrate preparation

The substrate should be:

- **stable** – sufficiently sound, resistant to deformation, free from materials which would impair adhesion, stabilized.
- **even** – maximum adhesive thickness is 10 mm, in case of larger irregularities use, e.g. ATLAS ZW 330 mortar, screeds ATLAS SMS, SAM, POSTAR.
- **clean** – free from layers which can impair adhesion, especially dust, dirt, lime, oils, greases, wax, residues of oil and emulsion paints. The 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 heterogenous absorptiveness,
- ATLAS GRUNTO-PLAST – if the substrate absorptivity is low, or it is coated with layers limiting the adhesion.

- **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	Recommendations
Freshly applied cement screeds ATLAS POSTAR 80, ATLAS SMS 15 or SMS 30	Stabilized min. 24 hours; optimum moisture content < 4% by weight.
Freshly applied cement screed ATLAS POSTAR 20	Stabilized min. 2 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 100, SAM 150, SAM 200 or 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 screed 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. Prime with ATLAS ULTRAGRUNT.
Walls made of silicate or ceramic bricks and hollow blocks, cellular concrete	Levelling 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 of ready-to-use 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.
Substrates levelled 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.
Concrete	Stabilized min. 21 days; optimum moisture content < 4% by weight. Remove residues of formwork oils and other substances which would impair adhesion. Prime with ATLAS ULTRAGRUNT. Holes, cracks and other gaps should be filled with ATLAS TEN-10 or ATLAS ZW 330 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 ULTRAGRUNT. Remove any gypsum fillers used for substrate evening.
OSB boards and timber floors – the layer composition should be designed and executed in the way excluding the possibility of deformation which may lead to the cladding damage	-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, - check the superstructure stability, boards must not move under operation load; fix additional, stiffening boards layer, if needed, - matt the surface with 40-60 sand paper, - dedust the surface.
Existing ceramic or stone tiles	- check bonding to the substrate of the existing cladding by tapping; individual loosening tiles must be removed, - clean and de-grease the existing tiles surface, - matt glazed tiles with a diamond grinder, - dedust the surface - prime with ATLAS ULTRAGRUNT
Metal and steel surfaces	Cleaning and rust removal required, prime with ATLAS ULTRAGRUNT.
Plastic surfaces	Cleaning, grinding and priming with ATLAS ULTRAGRUNT required. Perform the bonding test prior to the cladding fixing in order to confirm the plastic substrate binding ability.

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

Cladding installation

Adhesive preparation

Pour the adhesive from the bag into a container with the 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 then remixed. 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 and then distributed evenly and shaped (possibly in one direction) using 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 in vertical direction.

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.

Installation of the tiles

After the application, the adhesive retains its properties for approx. 30 minutes (in temperature approx. 23 °C and 55 % humidity). Within this time, the tile must be placed and pressed well (the contact surface between the adhesive and the tile should be uniform and as large as possible – min. 2/3 of tile surface). Remove the excess of the adhesive pressed into the joints immediately.

In case of floor tiles or tiling outdoors it is advisable to keep the full bonding surface (use the mixed method consisting in application of the adhesive on the substrate and the back of a tile, if needed). Keep the joint width appropriate for the tile size and operation conditions (check data in the sheets of ATLAS grouts).

Tile adjustment

The position of a tile can be adjusted with delicate moves along the bonding plane. 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

Foot traffic and grouting with ATLAS GROUT, ATLAS ARTIS GROUT, ATLAS DECORATIVE GROUT or ATLAS EPOXY GROUT can start after approx. 24 hours since the tiles fixing. The mortar reaches the operational strength after 3 days (check the Technical Data). Expansion joints, joints along the wall corners, at sanitary equipment, etc. should be filled with sanitary silicone ATLAS SILTON S or ATLAS ARTIS.

Examplary 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
	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 WHITE	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

Coverage

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.

Tiles size [cm]	Place of application	Recommended notches size [mm]	Consumption [kg/m^3]
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 the section „Installation of the tiles")	approx. 4.5 (depending on used installation method)
	floor		
tiles – slab type* e.g. 20 x 90 or 25 x 100	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 comsumption will be increased.

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 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.
- In case of fixing thin marble tiles temporary discolouration may occur due to high water absorption of marble. Fixed marble goes back to the previous colour after approx. 7 days, i.e. when it is completely dry.
- Open time – from the moment of application of the 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 your fingers against the adhesive. If the adhesive remains on the fingers, you may fix the tiles. If the fingers are clean, the old layer of the 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 the set adhesive can be removed with the ATLAS AGENT FOR REMOVAL OF CEMENT DEPOSITS AND STAINS.
- Water reservoirs designated for drinking water should be washed with water after the product ageing.
- 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. Content of soluble chromium (VI) in ready-to-use mix - ≤ 0.0002%.

Packaging

Foil bags: 5 kg, 25 kg

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.
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