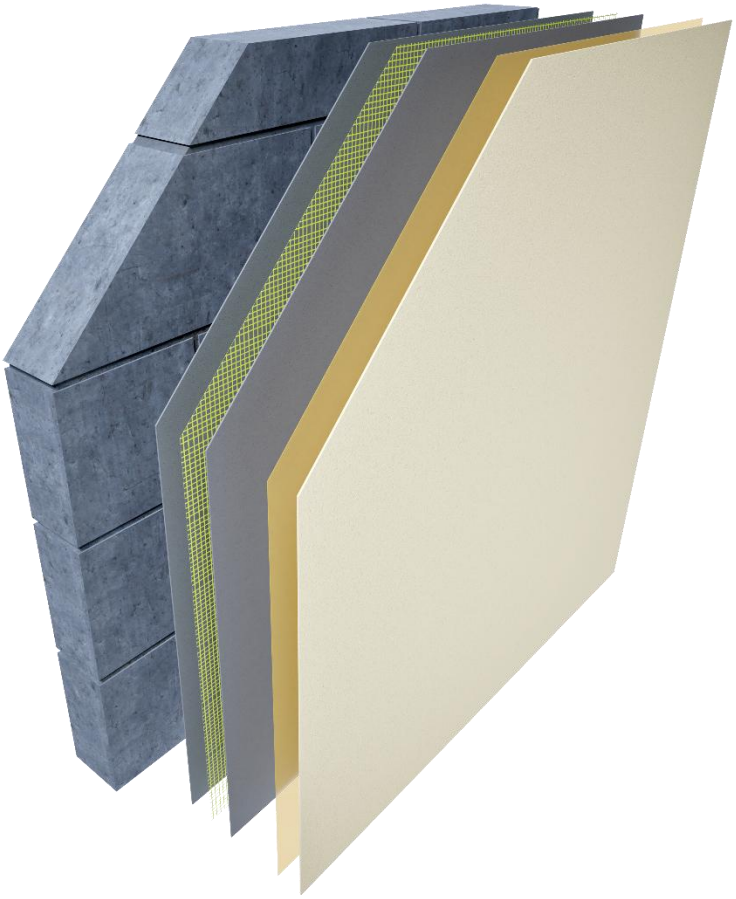
ATLAS TECHNICAL SPECIFICATION

RENDER FINISH OVER CONCRETE BLOCKWORK SUBSTRATE



ATLAS GEMINI RS silicone render – 1.5 mm grain size

RENDER COMPONENTS' PROVIDER / MANUFACTURER:

ATLAS sp. z o.o.
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This document provides general, non-project-specific guidance for render-only applications. Each building and project must be assessed individually, considering its specific design, substrate conditions, exposure, and technical requirements. Final specifications should be confirmed on a project-by-project basis.

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SCOPE OF APPLICATION

This specification provides technical guidance for the application of a render finish onto the external surface of concrete blockwork walls.
The render finish is formed by the successive application of the following ATLAS components:

- ATLAS ZW 330 – levelling and repair mortar used for substrate levelling and for forming the reinforced base coat.
- ATLAS 150 – glass-fibre reinforcing mesh embedded in the base coat.
- ATLAS CERPLAST – primer for the thin-coat render.
- ATLAS GEMINI RS – hand-applied silicone thin-coat render, grain size 1.5 mm.

Prior to the application of ATLAS ZW 330, the concrete blockwork substrate must be primed with ATLAS UNI-GRUNT, as specified in the Substrate Preparation section of this specification.
The finishing solution described in this specification is not covered by the Technical Assessments or certifications applicable to ATLAS ETICS/EWI systems. The use of similar application methods does not imply that the described solution or the complete concrete blockwork wall assembly is covered by such assessments or certifications.
This specification does not replace the design or construction documentation for the concrete blockwork wall itself.

DESCRIPTION OF CONCRETE BLOCKWORK SUBSTRATE

The substrate for the ATLAS render finish is an external wall constructed of concrete blockwork, including dense aggregate concrete blocks, lightweight aggregate concrete blocks and autoclaved aerated concrete (AAC) blocks, commonly referred to as aircrete blocks in the UK.
The concrete blockwork wall must be designed and constructed in accordance with the applicable building regulations and relevant construction documentation.

NOTICE: The technical solution described in this specification is based on the assumption that the concrete blocks have water absorption exceeding 6% and an untreated, sufficiently rough surface to ensure adequate adhesion of the levelling and reinforced base coat made with ATLAS ZW 330. These substrate properties must be verified by the contractor before commencing rendering works.

Concrete blocks with lower water absorption or very smooth surfaces require the application of ATLAS ULTRAGRUNT bonding primer to provide a suitable bonding surface for ATLAS ZW 330.
The suitability of the concrete blockwork substrate for the proposed render finish must be verified, and the substrate must be properly prepared in accordance with the Substrate Preparation section of this specification before rendering works commence.

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COMPONENTS OF THE TECHNICAL SOLUTION

Hand-applied ATLAS GEMINI RS silicone render, grain size 1.5 mm

Layer / Component	Product	Layer thickness	Average consumption	Packaging	Coverage per package
Substrate primer – **absorbent concrete blockwork**	ATLAS UNI-GRUNT	—	from 0.025 kg/m^2 (*)	5 kg container	up to approx. 200 m^2 (single application) up to approx. 100 m^2 (double application) (*)
Levelling / reinforced base coat	ATLAS ZW 330	Up to 30 mm	approx. 18 kg/m^2 per 10 mm thickness	25 kg bag	approx. 1.4 m^2 per 10 mm thickness
Reinforcing mesh	ATLAS 150	Embedded in base coat	approx. 1.1 m^2/m^2 (**)	50 m roll, 1 m wide	approx. 45 m^2 (**)
Primer under render	ATLAS CERPLAST	—	approx. 0.3 kg/m^2	15 kg bucket	approx. 50 m^2
Silicone thin-coat render	ATLAS GEMINI RS, 1.5 mm	approx. 1.5 mm	from 2.3 kg/m^2	25 kg bucket	up to approx. 10.9 m^2

(*) Estimated consumption and coverage of ATLAS UNI-GRUNT diluted with water at a ratio of 1:1 (primer to water). Consumption and coverage of ATLAS UNI-GRUNT depend on substrate absorbency. For highly absorbent substrates, two coats may be required using the wet-on-wet method. See Substrate Preparation – Substrate Priming for details.

(**) Estimated consumption and coverage for 1 m wide reinforcing mesh with approximately 10 cm overlaps. Actual consumption and coverage depend on the arrangement of mesh strips, overlaps and additional reinforcement.

MATERIALS, TECHNICAL DATA SHEETS AND SAFETY DATA SHEETS

All ATLAS products specified in this document must be used in accordance with the manufacturer's Technical Data Sheets and the application instructions provided in this specification.
Technical Data Sheets (TDS) and Safety Data Sheets (SDS) for individual products are available on their respective product pages on the official ATLAS website: www.atlas.com.pl/en.
Before commencing work, the contractor should ensure that the applicable product documentation is available and that the materials are suitable for the intended application.

HEALTH AND SAFETY[1]

All works must be carried out in accordance with applicable health and safety regulations, including the Health and Safety at Work etc. Act 1974, the Control of Substances Hazardous to Health Regulations 2002 (COSHH) and the Work at Height Regulations 2005, where applicable.
Before commencing work, contractors must familiarise themselves with the relevant safety information, hazards and precautionary measures specified in the Safety Data Sheets (SDS) of the products used.
Appropriate personal protective equipment (PPE) must be used in accordance with the product Safety Data Sheets and the requirements of the work being carried out.

SUBSTRATE PREPARATION

Before commencing work, the concrete blockwork substrate must be examined, particularly with regard to its technical condition, absorbency, surface condition and mortar joints.
The substrate must be:

- Stable and sound – the concrete blockwork must be in good technical condition.
- Clean and free from contamination – the surface must be free from dust, dirt, loose particles, mortar splashes, deposits, grease, oil, wax, bituminous substances and any other materials that could impair the adhesion of ATLAS ZW 330. Such contamination must be removed using suitable cleaning or mechanical preparation methods.
- Even – cavities and local defects may be filled beforehand with ATLAS ZW 330. Repaired areas must be allowed to set and dry sufficiently before the main levelling and reinforced base coat is applied. The combined thickness of preliminary repairs and the subsequent levelling and reinforced base coat must not exceed 50 mm.
- Dry and protected against moisture – the concrete blockwork must be dry and protected against rising damp and moisture penetrating from the opposite side of the wall. Appropriate damp-proofing or waterproofing measures must prevent moisture from reaching the external render finish through the wall construction.

Substrate Priming

Concrete blockwork with water absorption exceeding 6% and a sufficiently rough, untreated surface must be primed with ATLAS UNI-GRUNT to reduce and equalise substrate absorbency.
ATLAS UNI-GRUNT is to be diluted with clean water at a ratio of 1:1 (primer to water) and applied evenly using a brush, roller or suitable spray equipment.
If the contractor determines that the substrate is significantly more absorbent, priming must be carried out twice using the wet-on-wet method (meaning that the second application must take place before the first coat has dried).
The primer must be allowed to dry before further work is carried out.

[1] Note: The legislation referenced in this section applies to Great Britain (England, Scotland and Wales). For works carried out in Northern Ireland or the Republic of Ireland, the relevant health and safety legislation applicable in those jurisdictions must be observed.

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If the wall is constructed of concrete blocks with confirmed water absorption of 6% or less, or a very smooth surface, ATLAS ULTRAGRUNT bonding primer must be used instead of ATLAS UNI-GRUNT, in accordance with its Technical Data Sheet.

LEVELLING AND REINFORCED BASE COAT – ATLAS ZW 330 + ATLAS 150

Preparation of Mortar

ATLAS ZW 330 mortar is to be prepared in accordance with the product Technical Data Sheet, using approximately 4.1 litres of clean water per 25 kg bag (16.5% of the dry mix weight). The mortar is to be mixed using a low-speed mixer until a uniform consistency is obtained.
Immediately after mixing, the mortar consistency is to be assessed and, if necessary, adjusted by adding a small amount of clean water and remixing to achieve a consistency suitable for application. The total amount of mixing water must remain within the limits specified in the product Technical Data Sheet (3.5–4.75 litres per 25 kg bag).
Water must not be added once the mortar has begun to set.
The prepared mortar should be used within approximately 3 hours.

Application of the Levelling and Reinforced Base Coat

The levelling and reinforced base coat is formed using ATLAS ZW 330 mortar in two steps.

Step 1 – Preliminary Application and Installation of Accessories

A splatter coat of ATLAS ZW 330 is to be applied using a trowel to the concrete blockwork substrate, previously prepared and primed.
The required overall thickness of the levelling and reinforced base coat must be determined taking into account the unevenness of the concrete blockwork substrate and the need to accommodate the reinforcing mesh. The thickness of the levelling and reinforced base coat made of ATLAS ZW 330 must not be less than 3 mm at any point.
The necessary corner beads, bellcast beads, window and door reveal profiles, movement joint profiles and other relevant finishing accessories must be installed in the appropriate sequence, using ATLAS ZW 330 mortar where suitable.
At the corners of window and door openings, additional reinforcing mesh patches measuring at least 20 × 35 cm are required. These stress patches are to be embedded diagonally at an angle of 45° in freshly applied ATLAS ZW 330 mortar, beneath the main reinforced layer, to reduce the risk of cracking.
Where accessories or additional reinforcement are installed separately before the main base coat, the mortar used for their installation must have set sufficiently to permit further work without disturbing the installed elements.

Step 2 – Application of the Levelling and Reinforced Base Coat

ATLAS ZW 330 mortar is to be spread evenly over the previously applied splatter coat using a notched trowel with 10–12 mm teeth.
ATLAS 150 glass-fibre reinforcing mesh must be laid from top to bottom, tensioned and embedded into the applied mortar. The mesh is then to be pressed evenly into the mortar layer and smoothed over using the flat side of the trowel.
A further layer of ATLAS ZW 330 mortar is to be applied immediately to cover the reinforcing mesh completely and achieve the required overall thickness. The surface must then be levelled and smoothed to obtain an even

and true surface suitable for the subsequent application of the thin-coat render. These operations must be carried out continuously, without allowing the preceding mortar layer to set.
Adjacent reinforcing mesh strips must overlap by at least 10 cm, including connections with the mesh incorporated into finishing profiles, to ensure continuity of the reinforcement.
The reinforcing mesh must be fully embedded within the ATLAS ZW 330 mortar layer and completely covered by the mortar. Where thicker layers are required, the mesh must be positioned sufficiently close to the outer surface of the base coat to ensure its intended reinforcing function. However, the mesh must not remain visible or be reflected in the finished surface.
The thickness of the levelling and reinforced base coat must be sufficient to level out surface irregularities and properly embed the reinforcing mesh, without exceeding 30 mm in a single layer.
Where preliminary repairs have been carried out using ATLAS ZW 330, the total thickness of the repair mortar and the subsequent levelling and reinforced base coat must not exceed 50 mm.

Drying Before Further Work

Subsequent finishing work may commence once the levelling and reinforced base coat has set and dried sufficiently. A minimum drying period of 1 hour per millimetre of the total ATLAS ZW 330 layer thickness must be allowed, calculated from the completion of the base coat application. The actual drying time may be longer depending on the layer thickness, temperature, relative humidity and substrate conditions.
Before applying the thin-coat render, the levelling and reinforced base coat must be primed with ATLAS CERPLAST in accordance with the following section of this specification.

PRIMING UNDER RENDER – ATLAS CERPLAST

Before priming, the reinforced base coat must be sufficiently dry. If the interval between completion of the reinforced base coat and priming is extended, any dust or contamination accumulated on the surface must be removed before applying ATLAS CERPLAST.
ATLAS CERPLAST is supplied as a ready-to-use compound. The material is to be prepared in accordance with its Technical Data Sheet and mixed to obtain a uniform consistency before and during application. The primer must not be diluted or mixed with other materials.
The primer should be applied evenly over the entire surface of the reinforced base coat using a roller or brush.
Render application may commence once the primer has dried completely, normally after approximately 4–6 hours, depending on the prevailing conditions.

RENDER APPLICATION – ATLAS GEMINI RS

The following instructions refer to the manual application of ATLAS GEMINI RS silicone render.

Preparation of Render

ATLAS GEMINI RS is supplied as a ready-to-use silicone render. The material is to be prepared in accordance with its Technical Data Sheet and mixed thoroughly before application to obtain a uniform consistency.
The render must not be mixed with other materials or thickened. When working at temperatures near the upper limit of the permitted application range, the addition of up to 1% clean water (maximum 250 ml per 25 kg bucket) is permitted.

Application and Texturing

ATLAS GEMINI RS is applied manually using a smooth stainless steel trowel, in a uniform layer with a thickness corresponding to the aggregate grain size.
Excess render material collected during application is to be returned to the container for remixing.
The freshly applied render should be textured using a plastic float, with circular movements to achieve the required texture.
Although ATLAS GEMINI RS is formulated to minimise the formation of excess resin-rich slurry during texturing, any such material accumulating on the plastic float must be removed and must not be returned to the render container.
Application must be carried out using the wet-on-wet method, without allowing the previously applied render to dry before the adjoining area is completed.
Technological breaks should be planned in advance and located, wherever possible, at natural divisions of the façade, such as building corners, changes in façade geometry or colour boundaries.
To minimise visible differences in colour, render from the same production date should be used on each continuous façade surface.
The rendered surface must be protected against adverse weather conditions during application and drying, in accordance with the product Technical Data Sheet and the following section of this specification.

Alternative Application Method – Spray Application

ATLAS GEMINI RS, grain size 1.5 mm, may also be applied mechanically using suitable spray equipment, in accordance with the product Technical Data Sheet and the equipment manufacturer's recommendations.
Mechanically applied render does not require texturing with a plastic float. The surface texture obtained by spray application differs from that achieved by manual application; therefore, the two application methods must not be combined on the same building.
Spray application may provide lower material consumption compared with manual application. For ATLAS GEMINI RS, grain size 1.5 mm, the indicative consumption is:

- **Manual application:** from 2.3 kg/m^2, corresponding to a coverage of up to approximately 10.9 m^2 per 25 kg bucket.
- **Spray application:** from 1.9 kg/m^2, corresponding to a coverage of up to approximately 13.2 m^2 per 25 kg bucket.

Actual consumption and coverage depend on the substrate conditions, application technique and equipment settings.

APPLICATION CONDITIONS

The contractor must ensure that all works are carried out under suitable weather conditions and that the materials are adequately protected against adverse weather conditions during application, setting and drying.
The façade must be protected against excessive direct sunlight, strong winds and precipitation. Suitable protective sheeting or mesh installed on the scaffolding should be used where necessary to provide adequate protection.

The minimum application temperature for all specified products is +5°C, while the maximum permissible temperatures vary between +25°C and +35°C depending on the product. The applicable substrate and ambient temperature ranges must be checked in the Technical Data Sheets of the individual products.
During the application and setting of ATLAS GEMINI RS, the relative air humidity must remain below 80%.
ATLAS GEMINI RS silicone thin-coat render may also be applied at temperatures above 0°C and below +5°C, or at increased relative humidity, including above 80%, provided that ATLAS ESKIMO G is used in accordance with the relevant product Technical Data Sheets.
When using ATLAS ESKIMO G, particular attention must be paid to the additional application conditions and limitations specified in its Technical Data Sheet.

COPINGS, FLASHINGS, MOVEMENT JOINTS AND SEALERS

Copings and Flashings

The render finish must not be applied to horizontal or sloping surfaces where rainwater may accumulate or remain standing. Such surfaces, including wall tops and parapets, must be adequately protected by suitable copings, flashings or other appropriate weatherproofing details..
These elements must be designed and installed to prevent water penetration behind the render finish and to direct rainwater away from the façade surface.
Window sills, flashings and other projecting elements should provide adequate protection against rainwater running onto or penetrating behind the rendered surface.

Movement and Expansion Joints

Existing movement and expansion joints in the concrete blockwork wall must be maintained through the levelling and reinforced base coat and render finish.
Movement joints must not be bridged by the reinforcing mesh or render.
Appropriate movement joint profiles or other suitable detailing must be provided where required by the concrete blockwork wall design and the relevant construction documentation.

Connections and Sealing

Connections between the render finish and adjacent building elements, including window and door frames, flashings, sills and other façade components, must be detailed to accommodate anticipated movement and prevent water penetration.
Suitable finishing profiles, sealing tapes or sealants should be used where necessary, taking into account compatibility with the adjoining materials and the expected exposure conditions.
Sealants must be suitable for external use and applied in accordance with their manufacturers' instructions.
All junctions and penetrations through the rendered surface must be adequately weatherproofed to protect the underlying concrete blockwork substrate and the render finish.
Existing or designed ventilation openings, drainage outlets and weep holes must remain unobstructed. The application of the levelling and reinforced base coat, render and associated finishing materials must not restrict their intended function.

Installation of Additional Façade Elements

The installation sequence of additional façade elements, such as brackets, fixings, external services, downpipes and other accessories, must be considered during the planning of rendering works.

Elements requiring installation before application of the levelling and reinforced base coat or render must be identified and installed at the appropriate stage. Other elements, such as rainwater downpipes, may be installed after completion of the render finish, provided that suitable fixings and weatherproofing details are used.

PROTECTION OF ADJACENT ELEMENTS AND FINAL CLEANING

Before commencing rendering works, windows, doors, sills, flashings and other adjacent building elements must be adequately protected against contamination or damage using suitable protective materials.
Upon completion of the works, all temporary protection must be removed and any mortar, primer, render or sealant residues must be cleaned from affected surfaces using methods appropriate for the materials concerned.
The completed works and surrounding areas must be left clean and free from construction residues.

MAINTENANCE

Regular maintenance of the render finish is essential to ensure its long-term durability.
Maintenance may include repairs to damaged areas and, where necessary, the application of suitable products or paints compatible with the materials previously used.
Further guidance is provided in the ATLAS Façade Maintenance and Renovation guide, available on the official ATLAS website: www.atlas.com.pl/en.

ALTERNATIVE MATERIALS

Alternative ATLAS products may be used to achieve different technical properties, surface textures and decorative effects.

Alternative mortars for the reinforced base coat

The reinforced base coat may alternatively be formed using other ATLAS mortars specifically designed for this purpose. However, their use requires a change in both the substrate preparation technology and the reinforced base coat application technology described in this specification.
Information on ATLAS mortars designed for reinforced base coats is available on the manufacturer's website:
https://www.atlas.com.pl/en/product-category/adhesives-for-thermal-insulation-base-coat/

Alternative reinforcing mesh

ATLAS 165 may be used instead of ATLAS 150.

Alternative primer under render

ATLAS SILKON ANX may be used instead of ATLAS CERPLAST.

Alternative thin-coat renders

The following alternative ATLAS renders may be used:

- ATLAS GEMINI RSX – silicone render
- ATLAS SILICONE RENDER
- ATLAS SILICONE HYBRID RENDER
- ATLAS ACRYLIC RENDER
- ATLAS SILICONE-SILICATE RENDER
- ATLAS CERMIT ND – cement-lime mineral render
- ATLAS DEKO M – mosaic render
- ATLAS CERMIT N-100 – decorative render with a brick effect
- ATLAS CERMIT WN – cement-lime mineral render with a timber effect (*)
- ATLAS SILKON BA – silicone render with a concrete or brick effect

(*) A timber board texture formed using ATLAS CERMIT WN additionally requires the application of ATLAS BEJCA.

General requirements

The suitability and compatibility of the selected alternative materials must be verified before use. Their application requirements, layer thicknesses, consumption rates, drying times and application conditions may differ from those specified for the main technical solution. The relevant Technical Data Sheets and any additional ATLAS technical instructions must therefore be consulted.
The material consumption and coverage values provided in this specification apply only to the products listed in the main components table and must not be assumed to apply to alternative materials.

The information provided in this specification constitutes general guidelines for the use of the specified products and does not exempt the contractor from the obligation to carry out works in accordance with good building practice and applicable health and safety regulations. The accompanying documents for the product are available at www.atlas.com.pl.
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