AQUAZIP ONE

DATA SHEET

One-component cementitious elastic waterproof coating

Interior/Exterior

Interior/exterior flooring

Sack

By hand

Metal trowel

Roller

Brush

Composition

AQUAZIP ONE is a single-component premixed elastic coating composed of white Portland cement, selected sands and specific additives to improve workability and adhesion.

Supply

- Special sacks with protection against moisture, approx. 20 kg

Use

AQUAZIP ONE is used for waterproofing, with positive hydrostatic pressure, concrete substrates and the like, including those subject to deformations under load, as a waterproof elastic skim coat on plaster with tiny cracks, and as a waterproofing membrane for interiors and exteriors before applying ceramic tiles. When applied over existing floors, it optimises renovation costs and times on site.

Specifications

- Waterproofing agent applied in liquid form, classified CM-O1P in accordance with EN 14891, to be used under ceramic tiles bonded with adhesives.
- Crack-bridging ability by embedding FASSANET 160 alkali resistant fibreglass mesh into the first layer of still-wet material.

Certifications and regulations

AQUAZIP ONE meets the performance requirements for class CM-O1P of EN 14891:2012 - (Liquid-applied water impermeable products for use beneath ceramic tiling bonded with adhesives).
AQUAZIP ONE has obtained GEV EMICODE EC 1Plus classification, a voluntary mark relating to emissions of volatile and semi volatile organic compounds (VOC and SVOC) issued by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte), which attests the product's very low emissions of volatile organic compounds.

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Substrate preparation

The application surface must be cured, level and flat, intact, dry and free of rising damp, without stagnant water, dimensionally stable and mechanically resistant. Any traces of oil, grease, wax, paints, varnishes, efflorescence etc. must be removed beforehand, as well as any crumbling or loose parts.
Before proceeding with the waterproofing work, all critical points must be treated beforehand, such as:

- any cracks in the substrate;
- corners, edges and vertical overlaps;
- expansion joints and/or structural joints;
- conduits, drains, grills;
- gutter joints, pipe unions and drain pipes;
- steps and thresholds;
- skylights;
- system piping and through elements.

Concrete

The concrete substrate must guarantee a minimum compressive strength of 25 MPa and a tensile strength of at least 1.5 MPa. For new casts, the substrate must be sufficiently dry and cured (at least 28 days).
Any areas or sections of deteriorated concrete must be repaired beforehand using suitable Fassa Bortolo structural cement mortars.
The substrates must be prepared beforehand by shot peening, sand blasting, scarifying or mechanical abrasion cycles (diamond abrasive disc) in order to remove any roughness, traces of dirt, loose parts, encrustations, concretions, traces of paints, cement crusts or other contaminants, in order to make the substrate slightly rough and absorbent and not jeopardise adhesion of the subsequent waterproofing cycle.
To smooth over or repair voids, to correct slopes or areas of depression (dips and imperfections) use GAPER 3.30; for applications subject to high stress, treat the surfaces using GAPER 3.30, mixed with water and AG 15 diluted 1:3 (1 part AG 15 to 3 parts water).

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Existing flooring

Verify adhesion of the old flooring to the substrate by tapping the surface. Any detached and/or partly detached tiles must be removed, and the voids must be repaired using GAPER 3.30.
If missing or badly damaged, the grout in the joints on the existing flooring must be repaired.
To clean the old flooring, abrade mechanically using a diamond grinding disc in order to remove any traces of dirt, loose parts, encrustations, concretions, traces of paints, cement crusts or other contaminants, make the substrate slightly rough and absorbent and improve and increase adhesion of the subsequent waterproof coating. Immediately after cleaning, remove the dust from the substrates using a suitable industrial vacuum cleaner.

It is recommended not to use a high-pressure washer to clean the old flooring, as this will lead to more water in the underlying substrate.

After cleaning, the slope lines must be checked and verified. In fact, any imperfections and/or irregularities present on the substrate, such as dips or depressions, may lead to areas where rainwater stagnates. To repair these areas, treat the surfaces with FASSA EPOXY 400 and then apply GAPER 3.30 before this dries.

Cement substrates (mortars and screeds)

Evaluate the conditions of the application surface beforehand; this must be suitably cures and have a uniform finish, without cement crusts, loose parts, encrustations, concretions, traces of paints or other contaminants, in order to not jeopardise adhesion of the subsequent waterproofing cycle.
It is preferable not to wash the surfaces using water, so as to avoid adding more water to the underlying substrate.
Make sure that the screed is mechanically resistant, dimensionally stable, compact with good surface hardness, cured, clean, free of cracks and stagnant water on the surface and has a residual moisture content of less than 3%.
Any cracks or recasting on the screed must be structurally sealed using FASSA EPOXY 300, following the procedures described on the datasheet.
For screeds or surfaces with low superficial strength, scarify beforehand using an abrasive disc until obtaining a strong base and, after careful cleaning, if necessary treat the substrate with PRO-MST primer.
Use GAPER 3.30 to level or smooth off the surfaces and correct the slopes.
Before applying the AQUAZIP ONE system on substrates exposed to strong sunlight, it is recommended to slightly moisten the application surfaces, avoiding the formation of stagnant surface water.

Old coatings

If applying the AQUAZIP ONE system on vertical surfaces, it is recommended to remove from the surfaces any traces of resinous paints or coatings that are degraded and/or coming loose. Ensure that the substrates are clean and free of grease or contaminants that may affect adhesion of the AQUAZIP ONE waterproofing system.
It is always recommended to carry out preliminary tests to verify adhesion of the waterproofing system to existing substrates.

Bituminous substrates (bituminous membranes, asphalt, etc.)

When waterproofing old bituminous substrates, first verify that these are intact and sound. Then apply to the repaired and restored bituminous surface a separating layer comprising a macro-perforated LDPE sheet (min thickness 0.10 mm – diameter of the holes ≥ 40 mm with perforations covering ≥ 15% of the surface of the film), and on top of this apply a micro-perforated LDPE sheet. Then create a fast-drying reinforced unbonded cement screed (for example SV 472 P). The thickness of the screed must not be less than 5 cm.

Vertical overlaps

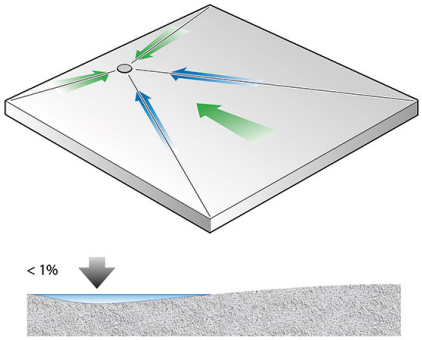
Before starting the waterproofing work on horizontal surfaces, near masonry and parapets, making openings to an appropriate depth so as create a lodging for the vertical overlaps of the new waterproofing system. The openings must be at least 15-20 cm high compared to the new flooring. The openings must be levelled off using GAPER 3.30.

The AQUAZIP ELASTOBAND will be positioned along the connections between the horizontal plane and the vertical overlaps. The strip must be laid continuously on the application surfaces, first applying an at least 2 mm thick layer of AQUAZIP ONE waterproofing membrane, to a width exceeding the strip and making sure to leave the centre part free. For perfect sealing of the corners, use the appropriate preformed elements.
In the event of vertical overlaps in prefabricated polymer-modified bitumen membranes, the ADHESIVE STRIP FOR AQUAZIP SYSTEMS can also be used, consisting of a self-adhesive elastic sealing tape made from butyl rubber, and lined on both sides by polypropylene fibre non-woven fabric.
The adhesive strip must be applied directly to the substrate, free of dust and above all perfectly dry. For the treatment of the corners, simply cut the strip up to the centre and fold it over. For application it is recommended to remove half of the protective film and then apply the tape to the substrate. At the same time, the other part of protective film must be removed and strong pressure applied on the tape, also using a small spiked roller.

The AQUAZIP ONE waterproofing system will also be applied on the vertical overlaps, and after suitable curing will be covered with a coat of KI7 or KZ 35, lime and cement base coat plasters/renders for exteriors and interiors, mixed with a solution of water and AG 15 (1 part AG 15 to 3 parts water). The base coat plaster must be fine-float finished, embedding wide-weave synthetic plaster reinforcing mesh during application.

Slope lines

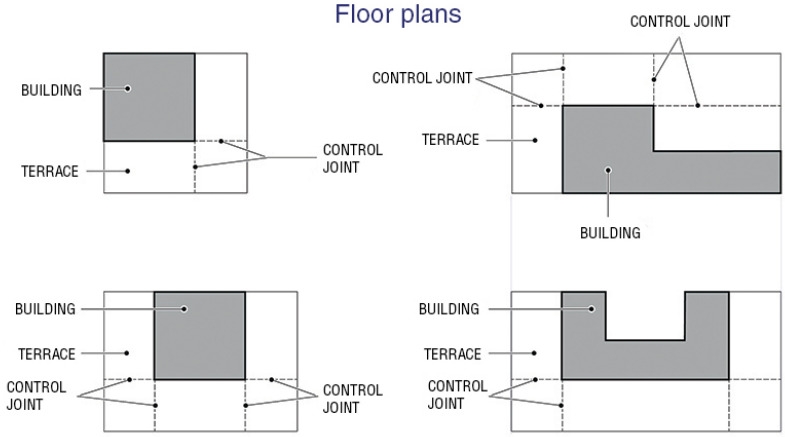
To avoid the formation of stagnant water on the application surface and guarantee the performance and durability of the waterproofing system, the screeds must be suitably prepared, in particular ensuring an adequate slope.
For exterior paving, the application surface must be created and/or checked so that the slope towards the rainwater drains is not less than 1.5%. This value, in order to ensure the correct flow of water, is generally considered sufficient even in the event of possible settling of the different covering layers.
It is not recommended to create slopes of less than 1%, as depressions and stagnation of rainwater may form on the surface, with possible infiltration.



Joints

In accordance with EN 13548, movement joints in floor screeds are obligatory and must extend above the new flooring. The joints must subdivide the surface into square or rectangular blocks, and therefore be made at protrusions or in irregularly-shaped environments (i.e. "L", "U", etc.). For exterior environments, the maximum surface area that can be produced without dividing the screed is 9-10 m², as specified by application standard UNI 11493-1 (point 7.11.1.2). If, due to the tile format used, continuity of the joints cannot be ensured in any other way, the tiles must be cut.
Any expansion joints present on the surface in question, as well as other critical points (joints between floors and vertical surfaces, internal and external corners, skylights, through pipes, grills, gutter and downpipe joints, railing balusters, etc.) must be suitably treated by the combined use of AQUAZIP ONE with the various accessories for AQUAZIP systems (strip, corner, edge, etc.).
At structural joints, on the other hand, FASSA TPE 170, a waterproof strip made from thermoplastic elastomer on polypropylene non-woven fabric, must be used. The FASSA TPE 170 strip will be fixed to the substrates using FASSA EPOXY 400, interrupting the waterproofing system at the joints.

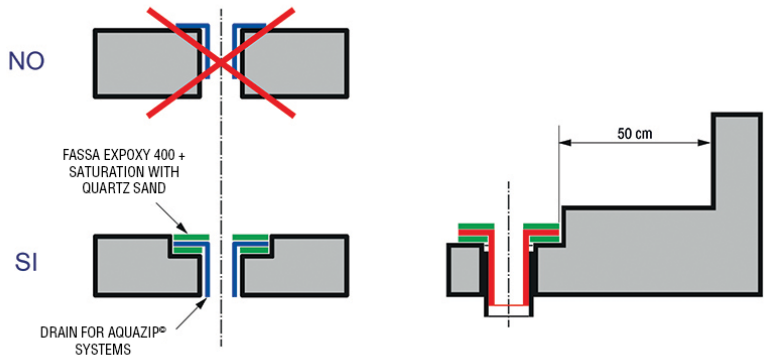
Control joints: positioning
Floor plans



Rainwater drains

To allow adequate flow of rainwater, place the new drains inside a lodging that is suitably lowered from the application surface. The drains must have a suitable volume/capacity based on the surface area.
For further information on this subject, refer to the specific standard UNI EN 12056-3:2001 (Gravity drainage systems inside buildings - roof drainage, layout and calculation).
For correct application of rainwater drainage systems, refer to the product datasheets for FRONT DRAIN and VERTICAL DRAIN FOR AQUAZIP SYSTEMS.

Drains



Applying the covering

For application of ceramic or stone coverings, it is recommended to use highly-elastic cement adhesives classified S1 or S2 in compliance with EN 12004, such as AD 8 with FASSACOL LATEX S2, AZ 59 FLEX or FASSACOL EASY LIGHT S2 additives. If quick setting products are required, RAPID MAXI S1 can be used.
In accordance with application standard UNI 11493-1, the adhesive must be spread on both surfaces in general, in situations where the compactness of the layer of adhesive and the absence of cavities or discontinuities underneath the tiles are important objectives that may be hard to achieve with the conventional method of application on one surface only. Spreading on both surfaces is required in the presence of high mechanical stress and/or stress due to temperature-humidity (for example, exterior tiling, swimming pools, etc.), in the presence of particular types and sizes of tiles, or where there are specific requirements in terms of durability and safety.
For sealing joints, it is recommended to use FASSAFILL cementitious grouts, or if high chemical resistance is required, epoxy-based sealants such as FE 838 or FASSAFILL EPOXY.
It must be remembered that application standard UNI 11493-1 does not allow for "closed joints" (joint width less than 2 mm) for exterior tiling. For all floors, open joint application must always be specified, with joints at least 5 mm wide, as this is the most effective solution to prevent the risks associated with high stress due to temperature and humidity on the tiles in outdoor environments.

Elastic sealing of skirting board

The strong stresses that exterior paving is subject to may above all cause problems near the skirting. The solution to solve this problem involves applying a strip of elastic sealant against the floor, thus detaching the skirting board by a few millimetres from the surface (at least 2 mm in accordance with UNI 11493-1). This joint has the task of preventing the formation of a rigid connection with the flooring, drastically reducing the stresses exerted on the floor due to changes in temperature or structural settling of the building.
If the skirting board is not detached and indeed is grouted to the floor, isolation of the floor-skirting system becomes ineffective.
For elastic sealing of the skirting board, use FASSALASTIC TIXO PU 40, a thixotropic one-component polyurethane sealant with low modulus of elasticity, after having applied FASSA PRIMER 100 or, alternatively, FASSASIL NTR PLUS, a high-performance neutral cross-linking silicone sealant. The gaps both above the skirting and between the skirting and the tiles will also be sealed using either FASSALASTIC TIXO PU 40 or FASSASIL NTR PLUS elastic sealant.

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Mixing and application

Pour the contents of a sack into a bucket containing the amount of clean water specified in the technical data and mix using a mechanical stirrer at low speed for no longer than 3 minutes, until obtaining a fluid, uniform and smooth mixture. Then wait five minutes to facilitate complete dispersion of the resins and then mix again. The mix remains workable for around 1 hour.
If applied using a roller or brush, the product must be mixed with about 3-4% more water, and in any case until you obtain a consistency that allows you to apply it.

Application

AQUAZIP ONE must be applied to the substrate in several coats, using a metal trowel, brush or roller. The total application thickness should be at least 3 mm in 2 layers.
For application by trowel, use a notched metal trowel (4x4 mm). Use the smooth part of the trowel to apply the waterproof coating, pressing hard on the substrate to ensure maximum adhesion, then go over the waterproof coating using the notched part of the trowel.
Before the first layer of AQUAZIP ONE has dried, apply FASSANET 160 alkali-resistant fibreglass mesh or FASSATNT 80 needle-punched polypropylene non-woven fabric, avoiding the formation of voids in the waterproof coating. Immediately afterwards, smooth over AQUAZIP ONE with the flat side of the metal trowel, so as to obtain a uniform thickness. Use of the mesh or fabric in areas subject to high stress or with large cracks minimises the appearance over time of hairline cracks that may compromise the seal of the waterproof coating. The pieces of reinforcing mesh or fabric must be cut to measure beforehand and overlap by at least 10 cm at the joints.
Never overlap the reinforcing mesh on vertical overlaps.
Once the first layer has set (about 4 hours at +20°C and 65% RH), apply a second coat of AQUAZIP ONE, making sure to create a continuous and uniform layer that covers the first coat perfectly, always working in the same direction, preferably crosswise to the first layer, to ensure complete coverage of the substrate.

Application conditions

substrate temperature: min. + 5°C / max. + 35°C;
ambient temperature: min. + 5°C / max. + 35°C.
The total application thickness must be not less than 3 mm, with a maximum recommended thickness for each coat of 2 mm.
Typical consumption about 1.1 kg/m² for each 1 mm thickness.

Drying times

AQUAZIP ONE must be completely hardened before applying coverings.
After application of the second coat, wait 4 days for the product to cure, depending on the humidity and temperature conditions, before applying the new ceramic covering.

Cleaning the equipment

Immediately after using AQUAZIP ONE, clean all tools and equipment with water before the product hardens.
The hardened material can only be removed mechanically.

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Warnings

- Product for professional use.
- Always consult the safety data sheet before use.
- Do not use AQUAZIP ONE:
  - on moist substrates or subject to rising damp;
  - on bituminous and/or mineral asphalt surfaces;
  - on insulating materials (lightweight substrates, foamed concrete, expanded or extruded polystyrene panels, etc.);
  - on drivable or walkable surfaces without ceramic and/or stone coverings or subject to structural stresses;
  - in the event of imminent rain;
  - in the presence of strong ventilation or substrates exposed to direct sunlight; in this case, protect the waterproofed surface with damp cloths.
- Do not use as a sealing element on flat roofs; in this case, please refer to the stratigraphies proposed by standard UNI 8178-2.
- Protect the fresh product against rain, freezing and quick drying.
- When bonding the covering, walk carefully over the waterproofing membrane in order to prevent any possible damage.
- Use FASSA TPE 170 and the corresponding complementary products for waterproofing structural joints.
- AQUAZIP ONE cannot be float-finished and therefore, in the event of possible imperfections on the treated surface, after waterproof cementitious coating has hardened, the surface can be abraded slightly out to remove any irregularities. Any abrasions on AQUAZIP ONE before it has completely hardened could cause damage to the waterproofing system, limiting its characteristics.
- Wash all the equipment in water before the product hardens. Otherwise, residues of the product will have to be removed mechanically.
- Thresholds must be installed, without exception, only after having laid the waterproofing sheet under the threshold. Otherwise the water-tightness of the threshold cannot be ensured. If the interior floor screed has already been created, its thickness can be used as a raised retaining element for fixing the AQUAZIP ELASTOBAND. If the screed has not yet been laid, use an “L” profile. A water drip profile must be created at the bottom of the outside section of the threshold step.
- The fronts of terraces and the drainage edges of exterior tiled surfaces may run the risk of retaining the water in contact with the edge of the tiling, with consequent durability problems due to penetration of water into the substrate underneath the tiling. To prevent this risk, special ceramic pieces equipped with drip guard systems must be used.

AQUAZIP ONE it must be used in its original state without the addition of foreign materials.

Safety rules

Always refer to the safety datasheet containing the physical, toxicological and other data relating to operator safety.
Apply the product with suitable ventilation and away from sources of heat.
AQUAZIP ONE must only be used for the specified purposes in the manners described, and is intended exclusively for professional use.

Disposal and ecology

Do not dispose of the product and empty containers in the environment.
For further information, see the most recent safety datasheet.

Storage

Keep dry for a period not exceeding 12 months. Once the product has expired, it must be disposed of in accordance with current legislation.

Quality

AQUAZIP ONE is subjected to accurate and constant checks in our laboratories. The raw materials used are rigorously selected and controlled.

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Technical Data

Appearance	white powder
Apparent specific gravity	approx. 950 kg/m³
Minimum application thickness per coat	2 mm
Granulometry	<0.6mm
Mixing water	23-26%
Yield	approx. 1.1 kg/m² per mm in thickness
Maturing time	approx. 5 minutes
Specific weight of the mix	approx. 1,400 kg/m³
pH of the mixture	> 12
Workability time of the mix	approx. 1 hour
Application temperature	from +5°C to +35°C
Waiting time before applying tiles	minimum 2 days at +20°C and 65% relative humidity
LEED V4.1 protocol	The product meets the requirements for obtaining the EQ Credit: Low-Emitting Materials

Standard EN 14891	Requirement to meet standard	Conformity
Impermeability (1.5 bars for 7 days of positive lift)	No penetration and weight increase ≤ 20 g	Compliant with standard EN 14891 Classified CM-O1P
Crack bridging ability in normal conditions	≥ 0.75 mm	
Crack bridging ability at very low temperatures (-5°C)	≥ 0.75 mm	
Initial tensile adhesion strength	≥ 0.5 N/mm²	
Tensile adhesion strength after water immersion	≥ 0.5 N/mm²	
Tensile adhesion strength after heat ageing	≥ 0.5 N/mm²	
Tensile adhesion strength after freeze-thaw cycles	≥ 0.5 N/mm²	
Tensile adhesion strength after contact with chlorinated water	≥ 0.5 N/mm²	
Tensile adhesion strength after contact with lime water	≥ 0.5 N/mm²	

The above information refers to laboratory testing; it is possible that in practical applications on site these may differ considerably according to the conditions in which the material is applied. In any case the user must check that the product is suitable for the intended application, taking all responsibility for its use. Fassa reserves the right to make technical modifications without notice.

Technical specifications regarding the use of Fassa Bortolo products for structural or fire prevention applications will only be officially valid if provided by Fassa Bortolo's "Technical Service" and "Research, Development and Quality System". If necessary, contact Technical Service in your country of reference (IT: area.tecnica@fassabortolo.com, ES: asistencia.tecnica@fassabortolo.com, PT: assistencia.tecnica@fassabortolo.com, FR: bureau.technique@fassabortolo.fr, UK: technical.assistance@fassabortolo.com).

Please note that for the aforementioned products, the assessment is required by the appointed professional, in accordance with regulations in force.

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