

AQUAZIP FLOOR & WALL

DATA SHEET



Specifications

- Waterproofing agent applied in liquid form, classified CM-O1P in accordance with EN 14891, to be used under ceramic tiles bonded with adhesives.
- Suitable for protection (PI) of concrete structures (principle 1 of EN 1504-9:2009) against the risk of penetration of carbon dioxide.
- Suitable for moisture control (MC) of concrete structures (principle 2 of EN 1504-9:2009).
- Suitable for increasing the resistivity (IR) of concrete structures (principle 8 of EN 1504-9:2009).
- Crack-bridging ability by embedding FASSANET 160 alkali resistant fibreglass mesh into the first layer of still-wet material.

Advantages

- · Resistance to positive and negative hydrostatic pressure
- · Suitable for protection, moisture control and increasing the resistivity of concrete structures
- Especially suitable for underground rooms
- · Excellent adhesion on various types of substrate
- Crack-bridging ability
- · Elastic at low temperatures
- · Exceptional fluidity
- Versatile
- · Suitable for dehumidifying cycles
- Also applicable by spray

Composition

AQUAZIP FLOOR & WALL is a two-component elastic waterproof coating made from cement, graded sand, chemical additives and special alkali-resistant synthetic polymers in emulsion to improve workability, adhesion and elasticity, even with negative hydrostatic pressure.

Supply

- 30 kg kit (A+B):
 - Component A: special sacks with protection against moisture, approx. 20 kg
 - Component B: approx. 10 kg tins.







Use

- Waterproofing concrete surfaces subject to positive and negative hydrostatic pressure up to 1.5 bars.
- Protection of concrete against carbonatation and the ingress of chlorides and sulphates.
- Waterproofing of hydraulic structures such as pools, tanks, canals and reservoirs.
- Waterproofing foundation walls.
- Waterproofing cellars and underground rooms.
- Waterproofing basement window wells, lift pits and underground structures in general.

Certifications and regulations

AQUAZIP FLOOR & WALL 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 FLOOR & WALL complies with the principles defined by EN 1504-9:2009 ("Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity") and the requirements of EN 1504-2 ("Products and systems for the protection and repair of concrete structures"), protection against ingress (PI), moisture control (MC) and increasing resistivity (IR). AQUAZIP FLOOR & WALL 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.







Substrate preparation

Before applying AQUAZIP FLOOR & WALL, the application surface must be cured, level and flat, intact, 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.

Concrete substrates must guarantee a minimum compressive strength of 25 MPa and a tensile strength of at least 1.5 MPa; any areas or sections of deteriorated concrete must be volumetrically repaired beforehand using suitable Fassa Bortolo structural cement mortars.

For new castings, the substrates must be sufficiently cured (at least 28 days) and must be prepared beforehand by shot peening, sand blasting, scarifying or mechanical abrasion cycles (diamond abrasive disc) in order to remove any loose parts, encrustations, concretions, cement crusts or other contaminants, in order to make the substrate slightly rough (not less than 3 mm for subsequently smoothing over with GAPER 3.30 or SISMA R2) and absorbent, so as to not jeopardise adhesion of the subsequent waterproofing cycle. Any cracks must be repaired using FASSA EPOXY 100 or FASSA EPOXY 300, depending on the type of work.

For work on existing masonry, completely remove any layers of plaster, render or other finishes on the surface so as to expose the masonry. Carry out any repairs on the wall face so as to eliminate cracks, cavities or any gaps between bricks and blocks, using SISMA R2 or SPECIAL WALL B 550 M, depending on the required thickness.

Before proceeding with the waterproofing work, all critical points must be treated beforehand.

Work under negative pressure

- any water leaks must be plugged using AQUAZIP BLOCK;
- any voids, recasting joints, formwork spacers or through elements on concrete structures must be sealed. On dry substrates use FASSA EPOXY 400 with the addition of 20% silica sand, after having adequately prepared the substrate (for work on damp substrates or for further information on preparing the substrate, contact Fassa Bortolo Technical Service);
- round off the edges and connect the corners by creating suitable covings between adjacent walls and between walls and the floor, using SISMA R2 mixed with a solution of water and AG 15 (1 part AG 15 and 3 parts water);
- where expansion joints or divisions are present, contact Fassa Bortolo technical service;

Work under positive pressure

- swimming pools: all critical points such as internal corners, external corners, divisions, connections between vertical-horizontal and vertical-vertical surfaces etc. must be treated using AQUAZIP ELASTOBAND or AQUAZIP ACCESSORIES.
- tanks, tubs and/or cisterns: round off the edges and connect the corners along all the joints between horizontal/ vertical surfaces and in the corners between walls; these elements will be made using GAPER 3.30 or SISMA R2, mixed with a solution of water and AG 15 (1 part AG 15 and 3 parts water);
- any voids, formwork spacers or through elements on concrete structures, on dry substrates must be treated with FASSA EPOXY 400 with the addition of 20% silica sand, after having adequately prepared the substrate (for damp substrates contact Fassa Bortolo technical service);
- treat any structural joints with FASSA TPE 170;

Subsequently, the substrate will need to be levelled.

For concrete substrates use GAPER 3.30 or SISMA R2 where dampness is present; for applications subject to high positive pressure (for example tanks, swimming pools, etc.), treat the surfaces using GAPER 3.30, mixed with a solution of water and AG 15 (1 part AG 15 to 3 parts water).

To level off solid and intact masonry substrates, for thicknesses less than 25 mm, use SISMA R2. For non-uniform surfaces or where repairs have been carried out with discontinuity in thickness, embed mesh such as FASSANET ZR 185.







Application

Mixing ratio

Component A: Component B = 20 : 10 by weight.

- Component A: special sacks with protection against moisture, approx. 20 kg.
- Component B: approx. 10 kg tins.

Mixing

AQUAZIP FLOOR & WALL must be mixed using a mechanical stirrer at low speed (~500 rpm). Carefully mix component B before use and then slowly add component A, continuing to mix thoroughly for around 3 minutes, until obtaining a uniform and smooth mixture.

Let stand for a few minutes in order to vent the incorporated air.

Do not add water or other additives to the mixture.

The mixture should be prepared using a complete package of component A and one of component B, in order to guarantee the correct proportions between the two components.

Application

AQUAZIP FLOOR & WALL must be applied to the substrate in several coats, using a metal trowel, brush, roller or by machine. The total application thickness should be at least 3 mm in 2 layers.

For application by trowel, use a notched metal trowel (4x4 mm), applying uniform pressure to the substrate in order to obtain a uniform and compact thickness. For spray application of AQUAZIP FLOOR & WALL, use a suitably-equipped plaster sprayer (for more information, contact Fassa Bortolo technical service).

Once the first layer has set (about 5-6 hours at +20°C and 65% RH), apply a second coat of AQUAZIP FLOOR & WALL, 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.

It is recommended to use FASSANET 160 alkali-resistant fibreglass mesh, embedded between the first and second coat of product, for work under positive pressure in highly-stressed areas or in the presence of large cracks (treated beforehand) or non-uniform substrates, as this minimises the appearance of hairline cracks that may compromise the seal of the waterproof coating. The reinforcing mesh must be cut to measure beforehand and overlap by at least 10 cm at the joints.

Never overlap the reinforcing mesh on vertical overlaps.

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 1.65 kg/m² for each 1 mm thickness.

Drying times

AQUAZIP FLOOR & WALL must be completely hardened before applying coverings.

After applying the second coat, wait at least 5 days for the product to cure before applying the new ceramic covering; for this type of use, 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, AT 99 MAXYFLEX or FASSACOL EASY LIGHT S2 additives. If quick setting products are required, RAPID MAXI S1 can be used. For sealing joints, it is recommended to use FASSAFILL cement grouts, or if high chemical resistance is required, epoxy-based sealants such as FE838 or FASSAFILL EPOXY.

AQUAZIP FLOOR & WALL, applied on vertical or intrados surfaces, both indoors and outdoors, can be painted over with a protective and decorative finish (contact Fassa Bortolo technical service).

Por último, sobre AQUAZIP FLOOR & WALL es posible realizar un ciclo de enfoscado con el producto para salpicado S 641, enfoscado macroporoso RISANAFACILE, enlucido transpirable S 605 y pintura decorativa, como por ejemplo RICORDI CALCE A PENNELLO, PB 260 ACTIVE o FASSIL P 313.

For exterior waterproofing of foundation walls in contact with the soil, before backfilling wait five days for the product to cure and then apply a protective and draining system, comprising ashlar-texture sheets of extruded high-density polyethylene (HDPE) coupled with non-woven polypropylene fabric.





Cleaning the equipment

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

Warnings

- Product for professional use.
- · Always consult the safety data sheet before use.
- Do not use AQUAZIP FLOOR & WALL:
 - on substrates saturated with water;
 - 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;
 - on vertical or intrados surfaces to be left exposed, if not protected with suitable products able to guarantee resistance to UV radiation, for this purpose, we recommend our C 285 BETON-E;
 - in direct contact with chlorinated pool water; apply a tile or mosaic covering;
 - in the presence of strong ventilation or substrates exposed to direct sunlight; in this case, protect the waterproofed surface with damp cloths.
- For waterproofing underground rooms in the presence of groundwater or under a water head, contact Fassa Bortolo technical service.
- · After application of AQUAZIP FLOOR & WALL, protect the treated surface against rain for the first 24 hours.
- After application of AQUAZIP FLOOR & WALL, protect the treated surface against frost and/or quick drying for the first 48 hours.
- AQUAZIP FLOOR & WALL is permeable to water vapour and does not constitute a vapour barrier for non-breathable finishes.
- AQUAZIP FLOOR & WALL cannot be float-finished and therefore, in the event of possible imperfections on the treated surface, after waterproof cement coating has hardened, the surface can be abraded slightly out to remove any irregularities. Any abrasions on AQUAZIP FLOOR & WALL before it has completely hardened could cause damage to the waterproofing system, limiting its characteristics.
- The hardening of AQUAZIP FLOOR & WALL is slower in the presence of high ambient humidity.
- If needing to coat the waterproofing system with paints or solvent-based products, preliminary tests must be carried out to verify that the solvent does not affect the integrity of the waterproof coating.
- If needing to consolidate the masonry before applying AQUAZIP FLOOR & WALL, contact Fassa Bortolo technical service.
- AQUAZIP FLOOR & WALL can be applied by spray; to find out how to equip the machine correctly, contact Fassa Bortolo Technical Service.
- As per the requirements of standard UNI 11493-1, if using inside swimming pools, water-tightness of the pool must be checked before installing the tiles.
- Do not use as a sealing element on flat roofs; in this case, please refer to the stratigraphies proposed by standard UNI 8178-2.
- 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 FLOOR & WALL 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 FLOOR & WALL 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

Component A: store in its original packaging, in suitable, dry places, for no longer than 12 months. Component B: store in its original packaging, in suitable, dry places, for no longer than 12 months. Protect from frost. Once the product has expired, it must be disposed of in accordance with current legislation.

Quality

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

Technical Data		
Yield	approx. 1.65 kg/m ² per mm in thickness	
Specific weight of the mix	approx. 1,650 kg/m ³	
pH of the mixture	> 12	
Mix ratio	2 parts Comp. A and 1 part Comp. B	
Application temperature	from +5°C to +35°C	
Workability time of the mix	approx. 1 hour	
Waiting time before applying tiles	minimum 5 days at +20°C and 65% relative humidity	
Maximum thickness per coat	2 mm	
LEED V4.1 protocol	The product meets the requirements for obtaining the EQ Credit: Low-Emitting Materials	
GEV EMICODE EC 1 Plus classification	with very low emissions	
Recycled/recovered/by-product content	The product contains some recycled/recovered/by-product. The relevant declaration is available on request.	

Component A

Appearance	Grey powder	
Specific weight	1,300 g/l	
Dry residue	100%	

Component B

Appearance	White latex	
Specific weight	1,010 g/l	
Dry residue	53%	





Standard EN 14891 CM-O1P	Normative requirements	Product performance
Impermeability to water under pressure (1.5 bars of positive pressure for 7 days)	No penetration and weight increase \leq 20 g	No penetration
Crack bridging ability at +23°C (mm)	≥ 0.75	1.5
Crack bridging ability at -5°C (mm)	≥ 0.75	1.2
Initial adhesion strength (N/mm²)	≥ 0.5	0.9
Adhesion strength after water immersion (N/mm ²)	≥ 0.5	0.5
Adhesion strength after heat action (N/mm ²)	≥ 0.5	1.3
Adhesion strength after freeze-thaw cycles (N/mm ²)	≥ 0.5	0.5
Adhesion strength after contact with chlorinated water (N/ mm²)	≥ 0.5	0.55
Adhesion strength after contact with lime water (N/mm ²)	≥ 0.5	0.55
Standard EN 1504-2 PI-MC-IR	Normative requirements	Product performance
Measurement of direct tensile adhesion strength (EN 1542)	Flexible systems without traffic ≥ 0.8 N/mm ²	Dry 1.1 N/mm ²
		Wet 1.2 N/mm ²
Freeze-thaw cycles with de-icing salt immersion (EN 13687- 1)	Flexible systems without traffic ≥ 0.8 N/mm ²	1.1 N/mm²
Storm cycles (EN 13687-2)	Flexible systems without traffic ≥ 0.8 N/mm ²	1.1 N/mm²
Determination of carbon dioxide permeability (EN 1062-6)	Sd > 250 m	Sd = 343 m
Determination and classification of liquid-water transmission rate (permeability - EN 1062-3)	W < 0.1 kg/m²·h ^{0.5}	0.01 kg/m ^{2.} h ^{0.5}
Determination and classification of water vapour transmission rate (EN 7783)	Class I (Sd < 5 m)	2.5 m
Static crack bridging at 20°C (EN 1062-7)	Class A5 (> 2.5 mm)	2.9 mm
Reaction to fire (EN 13501-1)	Class E	
Other performance specifications	Requirement to meet standard	Product performance
Impermeability to water under pressure (1.5 bars of negative pressure for 7 days)	Not required	No permeation

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.



