

AQUAZIP FLOOR & WALL

DATA SHEET

Two-component elastic cement coating for waterproofing concrete and masonry structures subject to positive or negative hydrostatic pressure



Interior/Exterior



Interior/exterior flooring



In pools



Two-component



Brush



Roller



Metal trowel



Spray

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

- Resistant to positive and negative hydrostatic pressure
- Suitable for protection, moisture control and increasing the resistivity of concrete structures
- Particularly suitable for basements and underground structures
- 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 carbonation 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 substrate must be fully cured, sound, level and even, 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 tensile strength of at least 1.5 MPa; any areas or sections of degraded concrete, including voids, shall be repaired beforehand by volumetric restoration using suitable Fassa Bortolo structural cement mortars. Where restoring the integrity of the concrete, any cracks must be repaired using FASSA EPOXY 100 or FASSA EPOXY 300, depending on the type of work.

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 provide a suitably roughened surface profile (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.

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

Work under positive pressure

- **Construction joints:** where not previously treated with AQUAZIP JOINT, seal the joints using AQUAZIP HYDROSEAL, a one-component water-expansive polyurethane sealant. Alternatively, use the AQUAZIP ELASTOBAND joint strip and its accessories on levelled substrates;
- **Through elements and cracks:** seal the through elements and cracks using AQUAZIP HYDROSEAL one-component hydro-expansive polyurethane sealant;
- **Spacers:** remove the spacers and render with a suitable mortar from the Geoactive line or with synthetic mortar obtained by mixing FASSA EPOXY 400 with silica sand at a ratio of 20% by weight;
- **Structural joints:** treat any structural joints and joints subject to high stress with FASSA TPE 170; for other types of discontinuities, contact Fassa Bortolo Technical Service;
- **Corner guards:** connect the corners at cast joints between walls and slabs and between differently-oriented walls using corner guards made with GAPER 3.30 or SISMA R2, both mixed with a solution of water and AG 15 (1 part AG 15 to 3 parts water); the corner guards can also be made using GEOACTIVE R4 10/40 during sealing operations for AQUAZIP HYDROSEAL sealant.

Work under negative pressure

- any water leaks must be plugged using AQUAZIP BLOCK;
- **Construction joints, through elements, cracks and spacers:** seal using AQUAZIP HYDROSEAL one-component hydro-expansive polyurethane sealant;
- in the presence of structural joints or other discontinuities, different from those listed above, under negative pressure, contact Fassa Bortolo technical service;
- **Corner guards:** connect the corners at cast joints between walls and slabs and between differently-oriented walls using corner guards made with GAPER 3.30 or SISMA R2, both mixed with a solution of water and AG 15 (1 part AG 15 to 3 parts water); the corner guards can also be made using GEOACTIVE R4 10/40 during sealing operations for AQUAZIP HYDROSEAL sealant.

Substrates are levelled using GAPER 3.30 or SISMA R2 where damp substrates are present. For applications subject to high positive pressure (for example tanks, swimming pools, etc.), apply GAPER 3.30 mixed with a solution of water and AG 15 (1 part AG 15 and 3 parts water).

Swimming pools and tanks

In addition to the above operations, continuity of the waterproofing on the side facing the containment must be ensured by covering all critical points such as internal corners, external corners, divisions, connections between vertical-horizontal and vertical-vertical surfaces etc., using AQUAZIP ELASTOBAND strip and accessories, on levelled substrates.

Masonry

In general, for work on old masonry, completely remove any layers of plaster or finishes present on the surface so as to expose the structure. Carry out the masonry repairs to eliminate cracks, cavities or any gaps between bricks and blocks using appropriate FASSA mortars based on the required thickness. The substrates must be solid and intact, in order to ensure subsequent levelling.

Given the variety of possible substrates and conditions, smooth off uneven walls using a suitable cycle recommended by Fassa Bortolo technical service.

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.

Allow the mix to stand for a few minutes to release any entrapped 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. To apply AQUAZIP FLOOR & WALL by spray, use a normal plaster sprayer with suitable attachments (for further 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).

Finally, over AQUAZIP FLOOR & WALL it is possible to apply a rendering system comprising S 641 spatterdash coat, FASSA ONE DRY macroporous render, S 605 breathable skim coat and a decorative finish, such as RICORDI CALCE A PENNELLO, PB 260 ACTIVE or 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. The sheets must be laid with the ribs facing outwards (TNT in contact with the ground).

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 read 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 surfaces and soffits 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 must be used as supplied, without the addition of any extraneous 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 stated shelf life has expired, it must be disposed of in accordance with current legislation.

Quality

AQUAZIP FLOOR & WALL is subjected to accurate and continuous 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 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
Emission classification according to French VOC labeling	A+ (class referring to the product obtained by mixing components A and B)

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%

Environmental certifications and sustainability schemes

LEED V4.1 protocol	MR Credit – Construction and Demolition Waste Management
	EQ Credit – Low-Emitting Materials
	EQ Credit – Construction Indoor Air Quality Management Plan
BREEAM protocol	HEA 02 – Indoor Air Quality
WELL v2 protocol	X01 – Material Restrictions
	X06 – Voc Restrictions
GEV Classification	GEV EMICODE EC 1 ^{Plus} - very low emissions

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 ≤ 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/mm ²)	≥ 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/mm ²)	≥ 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/mm ²
Thermal shock cycling (EN 13687-2)	Flexible systems without traffic ≥ 0.8 N/mm ²	1.1 N/mm ²
Determination of carbon dioxide permeability (EN 1062-6)	$S_d > 250$ m	$S_d = 343$ m
Determination and classification of liquid-water transmission rate (permeability - EN 1062-3)	$W < 0.1$ kg/m ² ·h ^{0.5}	0.01 kg/m ² ·h ^{0.5}
Determination and classification of water vapour transmission rate (EN 7783)	Class I ($S_d < 5$ 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 verify 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: asistencia.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.