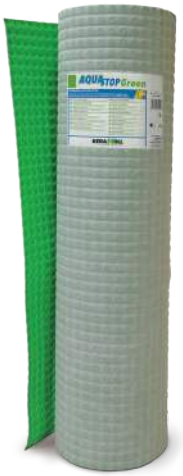
Aquastop Green



Anti-cracking waterproof membrane with high adhesion for balconies, terraces and horizontal surfaces before the laying of ceramic tiles, natural stone and hardwood floors; it creates a waterproof surface even when overlaid on cracked supports, supports that have not been perfectly cured or supports that might contain vapour pressure due to residual substrate moisture content.

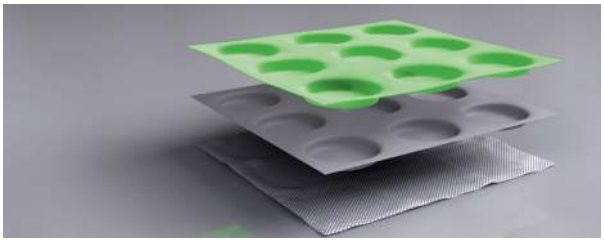
Aquastop Green revolutionises the world of underlying waterproofing, re-writing performance standards to allow applications that are impossible for mineral products.

1. **It waterproofs any surface, old or new, damp or dry, cracked or subject to dimensional variations**
2. **It compensates for hygrometric shrinkage and thermal deformation stress**
3. **It reduces on-site working times: waterproofing and laying of the coating without waiting, withstands foot traffic immediately**
4. **Solves the problem of respecting substrate joints in staggered or diagonal laying (cuts in doorways)**

kerakoll

Kerakoll patent

→ Aquastop Green is a highly innovative Kerakoll creation. The membrane is a high-technology, multi-layer composite polymer system comprising:
- PA - hydrophobic PA fibres with high tensile strength to guarantee a superior and more evenly distributed available contact surface
- HDPE - waterproof and variable geometry HDPE structure to guarantee physical separation between the substrate and the flooring
- TNT - highly breathable sheet to guarantee passage of the vapour from uncured screeds or screeds with high residual humidity and to guarantee high levels of adhesion to the substrates



Areas of application

→ Intended use:
For internal and external use to waterproof, separate and compensate for vapour pressure prior to laying of ceramic tile, natural stone and hardwood floor coverings for domestic, commercial, industrial applications (such as industrial kitchens, food industries, warehouses) and for street furniture (check that the size and thickness of the materials to be laid is suitable). Balconies, terraces, flat roofs and surfaces of any size.
Substrates:
- screeds, including any that are cracked and not completely cured or with possible vapour pressure caused by residual humidity, heat-radiant slabs
- existing ceramic, marble floor tiles, natural stone floorings anchored to the substrate
- cured concrete
- fibre-cement and plaster-board panels anchored to the substrate.

Do not use on anhydrite-based substrates without the use of Active Prime Fix or Active Prime Grip professional, concentrated, water-based surface insulation, on bituminous sheeting, on exposed surfaces, on inverted roofs made with insulation panels or low-density screeds.

Instructions for use

→ Storage
Protect the rolls from direct sunlight, heat sources and rain, both during storage in the warehouse and on site. When laying the sheets, protect them from sunshine until shortly before application.

→ Preparation of substrate

(1) Check the mechanical performance and surface consistency of the laying substrate.
(2) Check that old flooring is properly anchored and clean.
(3) Check that the movements of the joints and cracks of the substrate are ≤ 1 mm, respect the structural joints.
(4) The residual humidity level in the screed, when measured with a carbon hygrometer, must be less than 8%.
(5) Check the levelness and the presence of suitable camber that will guarantee drainage via suitable drains. Fill in any irregularities in the substrate using a suitable finishing product.

Notes
Checking Residual Humidity.
- Application of the membrane can be carried out on screeds created using Keracem Eco products 24 hours after the screed has been laid (standard conditions); on traditional sand-cement screeds it is necessary to wait until the screed is strong enough to walk on and to carry out subsequent operations.
- In the event of rain showers during the hours preceding laying of the membrane, check that the surface is dry and free from standing water. In the event of rain during the days preceding laying of the membrane, check that at least the top 1/4 of the screed is dry.

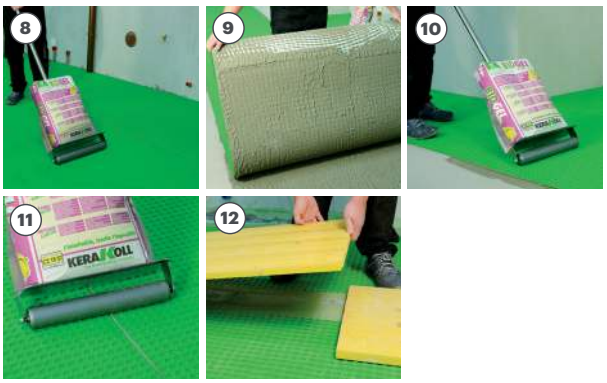
Checking for damage.
- The membrane is capable of compensating for hygrometric shrinkage of the screed (movements ≤ 1 mm); this means it is possible to lay the membrane even on uncured screeds and/or on screeds without a suitable network of fractionising joints. In the case of fractured screeds or floors or those with a network of fractionising-expansion joints application of the membrane means that the laying pattern of the new flooring is not bound by the layout of the joints in the substrate. Structural joints: always respect the entire width of any structural joints, cut the membrane and connect its edges to the structural joint.

→ Substrate waterproofing

(1) Clean the substrates of dust, oil and grease, loose debris or friable material, residues of cement, lime, plaster/render, or paint coatings.
(2) Do not apply to substrates at a temperature > +35 °C (temperature of the substrate); when absorbent substrates (screeds, standard grain concrete, etc.) are exposed to strong sunlight, damp their surfaces, avoiding the accumulation of an excessive quantity of water.
(3) Unroll the sheets and cut them to size, considering a space of approximately 5 mm between the sheets and the perimeter walls, stringcourses, protrusions, columns, pillars, architectural elements, drains, etc. and between one sheet and the next.
(4) Apply Biogel No Limits adhesive using a suitable toothed spreader; lay a thin layer with the smooth side, pressing down heavily to achieve maximum adhesion to the substrate and regulate water absorption.

(5) Regulate the thickness by the tilt of the spreader, using the toothed part. Apply the gel adhesive to a surface area that will allow laying of the sheets within the open time indicated (check the state of the adhesive frequently). Avoid any build-up of gel adhesive that might compromise the flatness of the sheets.
(6) Position the sheets or unroll them onto the fresh gel adhesive, taking care they are flat and avoiding the formation of creases or bubbles.
(7) Create joints approximately 5 mm in width between the sheets and the perimeter walls, stringcourses, etc., and between one sheet and the next.

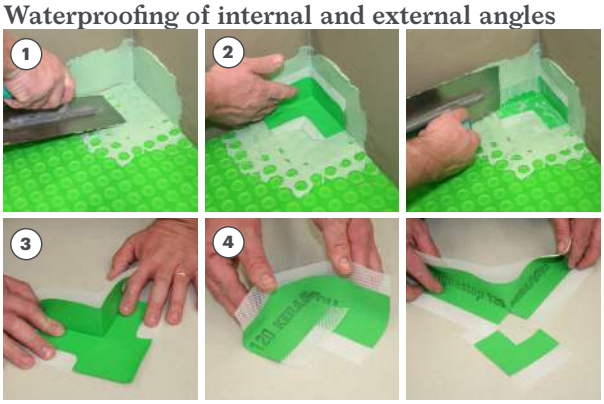
Instructions for use



(8) Immediately press the sheets down onto the fresh gel-adhesive using Aquaform R mixed with a bag of gel-adhesive.
(9) Check that the whole of the white unwoven fabric on the back of the membrane has been dampened; if necessary increase the amount of gel-adhesive and press more carefully. Press properly to ensure that the membranes are taut.
(10) Avoid getting fresh gel-adhesive onto the roller, as this might compromise the surface of the sheets.
(11) Lay the next sheet, aligning it with the preceding one and leaving a gap of approximately 5 mm between one sheet and the next; press immediately, paying particular attention to passage of the roller along the edges of the sheets.
(12) After laying, protect the surface of the membrane immediately from frequent foot traffic and direct abrasion using wooden planks or panelling.

Notes
- The maximum length of membrane applicable is approximately 12 m; for longer sections, cut the membrane transversally and leave a space of approximately 5 mm between one sheet and the next.
- If necessary, weight the edges down immediately after gluing.
- When laying the membrane on wood, metal, rubber, PVC, linoleum and fibreglass, use Biogel Extreme.
- It is necessary to waterproof the perimeter and the contacts between the sheets and take care of the connection with the drains to ensure the continuity of waterproofing.

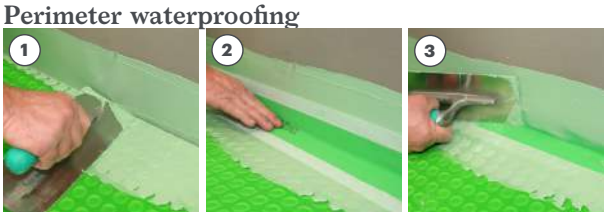
→ Waterproofing of internal and external angles



(1) Seal the outer edges of the surface, starting from the corners. Apply Aquastop Fix sealant both on the wall and on the membrane using a smooth spreader and taking care to fill in circular cavities.
(2) Position the Aquastop 120 corner piece on the fresh sealant. Press firmly and smooth over the tape to ensure it adheres perfectly, being careful not to wrinkle it. Remove any excess sealant that may have seeped out and check the adhesion of all the tape edges.
(3) For external corners, follow the same procedure.
(4) Alternatively, make special pieces for corners: cut a 20 cm strip of Aquastop 120 and cut halfway into it, about halfway along the strip. Fold the strip in half to create an internal corner and two overlapping edges. Seal the overlap between the two bases using Aquastop Fix.

Notes
- Clean the surface of the sheets carefully; check that the plaster/render in the perimeter strip is clean and consistent.
- Do not cover the tape with the sealant, to ensure that the subsequent covering applied will be properly levelled.
- Use Aquastop Fix or, alternatively, Aquastop Nanosil when fixing the tape on metals, plastics and stable woods.

→ Perimeter waterproofing



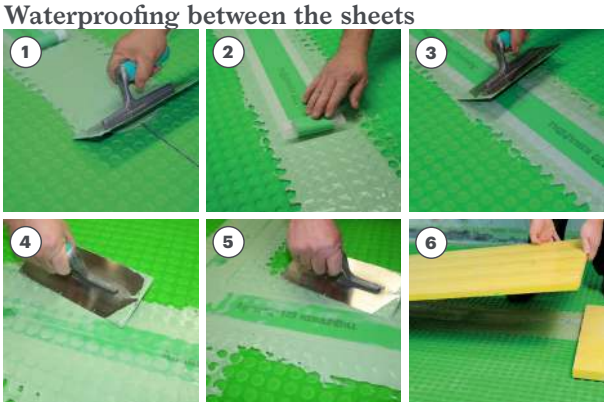
(1) Lay the sealant along the perimeter in the vicinity of the wall-floor corner joints: lay the sealant both on the wall and on the membrane in strips approximately 8-10 cm in width.
(2) Position Aquastop 120 and smooth carefully.
(3) Remove any excess Aquastop Fix that may have seeped out from under the tape, and take care to ensure the edges of the tape are fixed to the membrane. When waterproofing the wall-floor

Instructions for use

joint, lay about 10 cm Aquastop 120 over the special pieces.

Notes
- Clean the surface of the sheets carefully; check that the plaster/render in the perimeter strip is clean and consistent.
- Do not cover the tape with the sealant, to ensure that the subsequent covering applied will be properly levelled.
- Use Aquastop Fix or, alternatively, Aquastop Nanosil when fixing the tape on metals, plastics and stable woods.

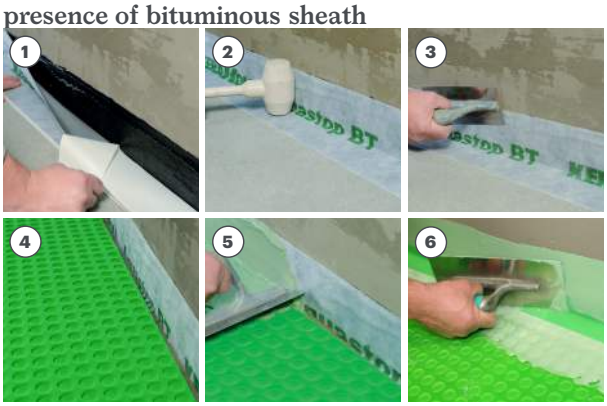
→ Waterproofing between the sheets



1. Seal the longitudinal joints between one sheet and the next: apply the sealant using a smooth spreader for a width of at least 8-10 cm on either side along the joint (gap), taking care to fill in the cavities in the membrane completely.
2. Fix the tape on the fresh sealant.
3. Press down strongly and smooth to remove any wrinkles and to guarantee total sealing of Aquastop 120.
4. Remove any sealant that may have seeped out and make sure the edges of the tape are properly glued down.
5. Seal the transversal joints (every 10-12 m) in the same way.
6. After laying, protect the surface of the membrane immediately from frequent foot traffic and direct abrasion using wooden planks or panelling.

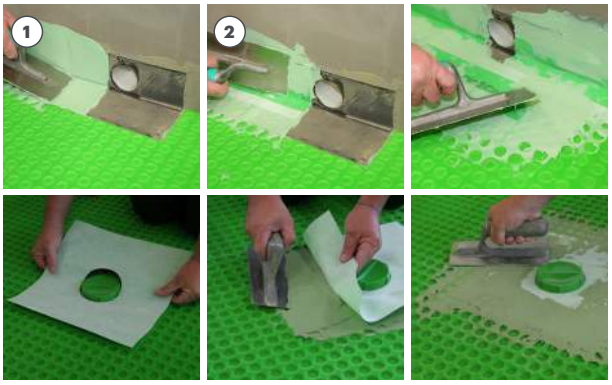
Notes
- Seal the entire perimeter and all the sheet-to-sheet contacts.

→ Waterproofing of the wall-floor corner joint in the presence of bituminous sheath



1. Remove the upper half of the protective film and fix Aquastop BT to the wall on the clean, dry bituminous sheath. Fix the tape to the floor, following the wall-floor joint.
2. Bang on the tape to guarantee total adhesion to the substrates.
3. Smooth, avoiding the formation of any wrinkles (use tools that will not damage the tape).
4. During laying of the membrane, overlap the sheets on the horizontal part of Aquastop BT, creating a gap approximately 5 mm wide between the sheets and the wall.
5. To waterproof the corner, apply Aquastop Fix sealant vertically on Aquastop BT and horizontally on the adjacent portion of membrane, and position the Aquastop 120 tape.

→ Joining the waterproofing layer to Aquaform drains

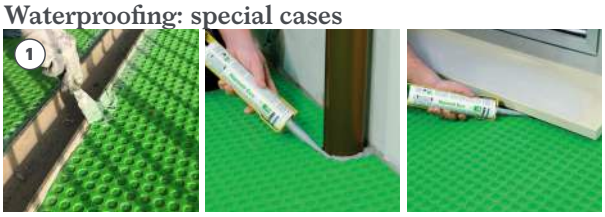


1. Lay Aquastop Fix on the black TNT connection surfaces of the AquaForm drains and on the adjacent surfaces to be connected .
2. Position the special pieces of Aquastop 120 cut to measure. Press firmly and smooth over to ensure the tape seals perfectly, being careful not to wrinkle it. Use several pieces of tape until the drain has been completely sealed (black TNT totally covered).

Notes
- as for the connection with Aquaform SD – VD, see the application procedures provided on the relevant technical data sheet.

Instructions for use

→ Waterproofing: special cases



(1) In cases where there is insufficient space for adhesion of the Aquastop 120 tape, seal using Aquastop Fix or, alternatively, Aquastop Nanosil. Reduce the gap between the sheet and the element to be sealed to 2–3 mm; wait for Biogel gel adhesive to harden and then proceed with sealing. Overfill the joint created and smooth over using soapy water, taking care of lateral adhesion and total filling; a second application is recommended after cross-linking of the sealant to ensure perfect watertightness. Aquastop Fix surfaces must not remain exposed; they must be covered with elastic sealing using Silicone Color or Neutro Color at the level of the final floor. In the vicinity of thresholds, perimeter stringcourses, grills, drains, down spouts, through elements, railing posts and installations, follow the described procedure.

Notes
- Sealing without the use of Aquastop 120 tape when space is insufficient, requires the utmost care when cleaning, applying and smoothing. Waterproofing is subject to perfect joint filling between Aquastop Green membrane and the adjacent element. Take good care when cleaning, applying and smoothing as waterproofing is subject to perfect joint filling between the waterproofing product and the element to be connected and to the perfect adhesion of the sealant. Liberally apply the sealant and smooth over in order to guarantee perfect joint filling and high levels of adhesion; remove any excess. A second application in order to guarantee total sealing is recommended when the first one has dried. Follow the same procedure.
- Protect the membrane from direct sunlight and heat for at least 12 hours.
- Protect from rain for at least 2 hours (the hardening of the Aquastop Fix sealant guarantees waterproofing of the system).

→ Laying the floor

(1) Apply a first layer of Biogel gel adhesive to fill in the circular cavities; use the smooth part of the spreader.
(2) Adjust the thickness of the gel adhesive using a toothed spreader of a type suited to the size of the tile. Lay the flooring with open joints, with gaps of a minimum width from 2 – 3 mm according to the size of the tile.
(3) Check that the entire back of the tile is impregnated, to guarantee the suitability of the adhesive system.
(4) Grout the gaps using Fugabella Color.
(5) Seal the elastic joints using Silicone Color or Neutro Color.

Notes
- The floor can be laid immediately using Biogel gel adhesive; it is not necessary to wait. Take care not to compromise the adhesion of the fresh sealant under the tapes.
- If the floor is not laid immediately, protect the finished surface from rain, direct sunshine and heat.
- In external applications provide for elastic joints at least 5 mm in width to separate the floor from the vertical elements and between materials of different types; create a grid of movement joints measuring between 3x3 m and 4x2.5 m with particular attention to possible structural movements.
- Provide for structural joints along their entire length.
- The presence of the anti-fracture membrane allows laying patterns that are not restricted by the geometry and characteristics of the substrates.
- Lay the skirting boards so that they are raised with respect to the floor, being fixed to the wall only

Special notes

→ Internal desolidarisation: Aquastop Green is suitable for the immediate anti-cracking, high-adhesion laying (even for internal use) of ceramic tile and natural stone on cracked substrates and substrates that might contain vapour pressure due to residual substrate moisture content. It creates the safest laying system for any surface, old or new, damp or dry, cracked or subject to dimensional movements, allowing for the immediate laying at extremely high shear strength with Biogel No Limits gel adhesive with any laying pattern, without respecting the joints of the substrate and the thermo-technical joints and cancelling the substrate chases and cracks. Aquastop Green is suitable on uncured substrates and all kinds of heat-radiant slabs. As waterproofing performance is not required, the application of Aquastop 120 tapes is not necessary.

→ Use Biogel Extreme when laying coverings that require the use of reactive adhesive.

→ Hardwood floors laying: bond the sheets as indicated in the paragraph “Waterproofing of the substrate”; carry out waterproof sealing between the sheets and along the perimeter bonding Aquastop 120 tape with Aquastop Fix or two-component adhesives from the L34 range as indicated in the paragraphs “Waterproofing of the perimeter” and “Waterproofing between sheets”. Do not cover the tapes with the adhesive and limit the leak of adhesive to the right and left of the tapes (otherwise, dust with dry quartz while still fresh). Finish the surface of the sheets with Biogel No Limits: apply a first layer to fill in the cavities, then apply a continuous finishing coat with a minimum thickness of 3 mm; press down hard with a smooth spreader to achieve maximum adhesion and expel the air incorporated during the mixing stage (do not use a ruler or a metal flattener). Wait at least 48 hours in standard conditions. When bonding elements from the Legno Kerakoll range or two-layer elements up to 10 cm-wide, use two-component adhesives from the L34 range. In the case of large format and/or unstable hardwood floors, contact the Kerakoll Worldwide Global Service.

Certificates and marks

* Émission dans l'air intérieur Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).

Technical Data compliant with Kerakoll Quality Standard		
Appearance	composite polymeric membrane	
Colour	white / transparent / green	
Shelf life	≈ 24 months from the date of production in a cool dry place	
Warning	Avoid direct exposure to sunlight and sources of heat	
Width	1,15 m ± 1,5 cm	EN 1848-2
Length	20 m	EN 1848-2
Thickness	≈ 4 mm	EN 1849
Longitudinal elongation	20%	DIN 53504 / ISO 254
Transversal elongation	25%	DIN 53504 / ISO 254
Substrate residual humidity	max 8%	EN 10329
Watertightness	≥ 60 kPa / 24 h	EN 1928
Watertightness in Ca(OH)2	≥ 2 kPa / 24 h	EN 1847
Watertightness to heat (+70 °C)	≥ 2 kPa / 24 h	EN 1296
Mould growth	prevents mould growth	ANSI A 118.12 Test Report TCNA-0791-20

Performance		
VOC Indoor Air Quality (IAQ) - Volatile organic compound emissions		
Conformity	EC 1 plus GEV-Emicode	Cert. GEV 9037/11.01.03
HIGH-TECH when used in combination with Biogel No Limits and porcelain tiles		
Resistance to strain parallel to the laying surface	≥ 1,8 N/mm²	UNI 10827 / EN 12004
Resistance to strain parallel to the laying surface, laying in water	≥ 1,8 N/mm²	UNI 10827 / EN 12004
Resistance to strain parallel to the laying surface, laying after heat	≥ 1,4 N/mm²	UNI 10827 / EN 12004
Resistance to strain parallel to the laying surface, laying in frost/thaw	≥ 1,8 N/mm²	UNI 10827 / EN 12004
Shear adhesion 7 days	≥ 0,7 N/mm²	ANSI A 118 test report TCNA-0791-20
Shear adhesion 28 days	≥ 0,8 N/mm²	ANSI A 118 test report TCNA-0791-20
Shear adhesion in water	≥ 0,5 N/mm²	ANSI A 118 test report TCNA-0791-20
Compressive strength	38 N/mm²	
Impact noise damping (ΔLw)	9 dB	UNI EN ISO 717-2
Thermal resistance (R)	0,030 m² K/W	UNI EN 12664
Resistance to dynamic stress		
	Results of the Robinson Test ASTM C 627	classification (Floor Tiling Guide)
Porcelain tiles 10 mm tested on 14 cycles	no breakup on the 14th cycle steel wheels / load 408 kg / 450 cycles	extremely heavy and high impact loads in commercial and industrial buildings
Porcelain tiles 6 mm tested on 14 cycles	breakup on the 14th cycle steel wheels / load 408 kg / 450 cycles	heavy loads in commercial and industrial buildings
Porcelain tiles 3 mm tested on 14 cycles	breakup on the 6th cycle rubber wheels / load 91 kg / 900 cycles	light commercial uses (offices, receptions, kitchens)

Values taken at +23 °C, 50% R.H. and no ventilation.

Warning

→ Product for professional use
→ abide by any standards and national regulations
→ avoid direct exposure to sunlight and sources of heat during the storage and in the installation phases on the building site
→ the product is an item according to the definitions of the EC Regulation No. 1907/2006 and therefore does not require a Safety Data Sheet
→ for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - globalservice@kerakoll.com

Kerakoll Spa
via dell'Artigianato 9
41049 Sassuolo - MO

+39 0536.816.511
info@kerakoll.com

www.kerakoll.com