Green-Pro

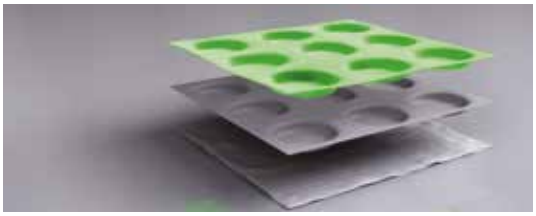
Uncoupling and anti-cracking waterproof membrane with high adhesion for balconies, terraces and horizontal surfaces before laying ceramic tiles or natural stone; creates a waterproof surface even when overlaid on substrates that are cracked, have not been perfectly cured or might contain vapour pressure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

Green-Pro revolutionises laying with the Laminate No Crack, re-writing performance standards to allow applications that are impossible for mineral products.

KERAKOLL PATENT

Green-Pro 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
- NON-WOVEN FABRIC - 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



PRODUCT STRENGTHS

- Specific for uncoupling, anti-cracking laying with Biogel® in the revolutionary Laminate No Crack
- It waterproofs any surface, old or new, damp or dry, cracked or subject to dimensional variations
- It compensates for hygrometric shrinkage and thermal deformation stress
- It reduces on-site working times: waterproofing and laying of the coating without waiting, withstands foot traffic immediately
- Solves the problem of respecting substrate joints in staggered or diagonal laying (cuts in doorways)

WHAT IS LAMINATE NO CRACK

1. **It is a tricomposed membrane**: Green-Pro is the result of innovative design aimed at the optimization of contact surfaces: a three-dimensional reinforcing mesh system composed of polymer fibres and a special non-woven fabric guarantees higher adhesion with the Biogel® Revolution or Biogel® No Limits® gel adhesives when used for the laying of the membrane and the bonding of the coating.
2. **It's a gel adhesive**: the Biogel® Revolution or Biogel® No Limits® gel adhesives applied to the membrane creates the Laminate No Crack; its fluid and thixo consistency with total wettability ensures the structural adhesion of the Green-Pro non-woven fabric creating the 1st lamination layer. When the tiles are laid, the mineral matrix of the gel adhesive captures and envelopes the fibres of the three-dimensional reinforcing mesh, generating the 2nd lamination; the selective bonds with extremely high shear adhesion produce a physical-mechanical structural fusion.
3. **It's an innovative technology**: unlike the old anti-cracking systems, Laminate No Crack creates a single body with no stresses between the substrate and the coating, ensuring shear adhesion and cohesion performances never achieved before. The revolutionary Laminate No Crack guarantees the safety of uncoupling, anti-cracking, waterproof laying vapour releasing even in the most extreme weather conditions.

The Green-Pro membrane is used in the following systems:

Laminate No Crack Waterproof – anti-cracking, high-adhesion and superior durability waterproofing system which guarantees immediate laying of ceramic tiles and natural stone even on cracked substrates that may contain vapour pressure for residual substrate moisture content;

Laminate No Crack Uncoupling – uncoupling, anti-cracking, high-adhesion and superior durability laying system which guarantees immediate laying of ceramic tiles and natural stones even on cracked substrates that may contain vapour pressure due to residual substrate moisture content.

See the Laminate No Crack technical notes, available on www.kerakoll.com.

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AREAS OF USE

Use

For internal and external use to waterproof, separate and compensate for vapour pressure prior to laying of ceramic tile and natural stone coatings for domestic, commercial, industrial uses (for example industrial kitchens, food industries, warehouses) and for street furniture (check that the size and thickness of the materials to be laid is suitable).

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, porcelain, 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 Primer A Eco professional, concentrated, water-based surface insulation, on bituminous sheeting, on exposed surfaces, on inverted roofs made with insulation panels or low-density screeds, and on roofs of residential spaces built without vapour barrier and insulation layers.

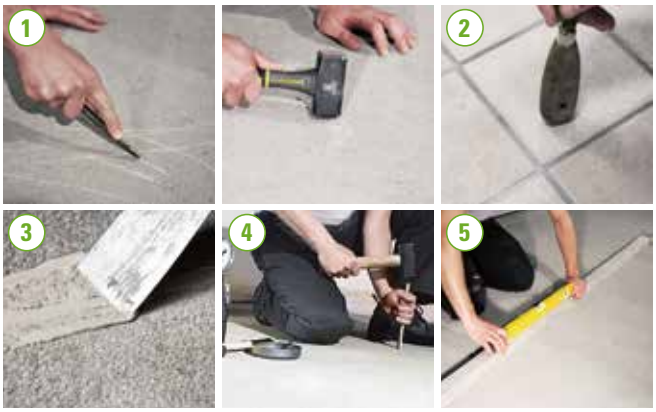
INSTRUCTIONS FOR USE

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. Restore the continuity of the screed by sealing cracks with a width > 1 mm: break the crack open mechanically, remove dust and debris and repair using Kerarep Eco.
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 ¼ 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 flaky parts, 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 gel 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.

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INSTRUCTIONS FOR USE

5 Regulate the thickness by the tilt of the spreader, using the toothed part. Apply the 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 adhesive, that might compromise the flatness of the sheets.

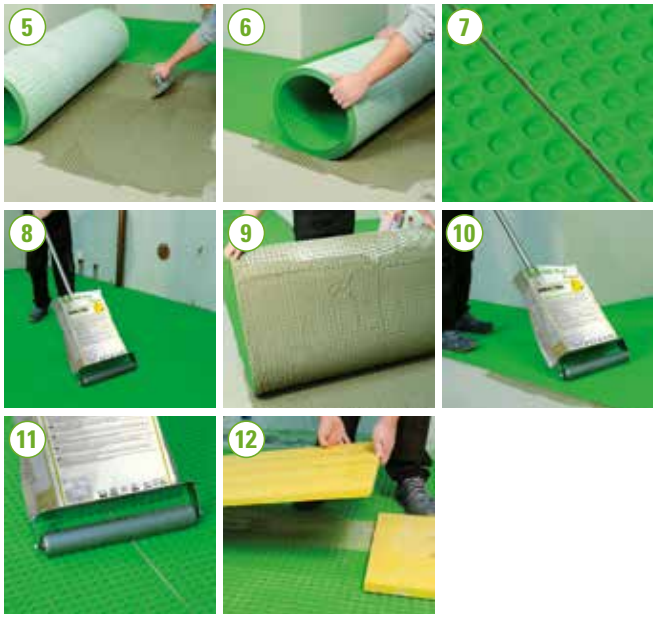
6 Position the sheets or unroll them onto the fresh adhesive, taking care they are flat and avoiding the formation of creases or bubbles.

7 Create joints approximately 5 mm in width between the sheets and the perimeter walls, stringcourses, etc., and between one sheet and the next.

8 **Immediately press the sheets down onto the fresh adhesive using Aquaform R mixed with a bag of 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 adhesive and press more carefully. Press properly to ensure that the membranes are taut.

10 Avoid getting fresh 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 metal, rubber, PVC, linoleum and fibreglass, use Biogel® Extreme®.
- In the Laminate No Crack Waterproof system it is necessary to waterproof the perimeter and the joints between the sheets and take care of the connection with the drains to ensure the continuity of waterproofing.

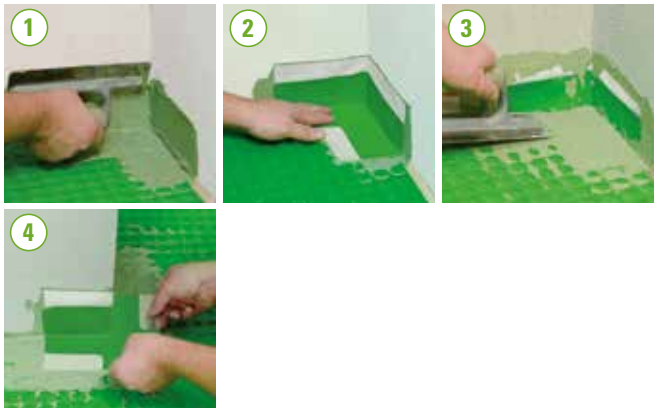
WATERPROOFING OF INTERNAL AND EXTERNAL ANGLES

1 Seal the outer edges of the surface, starting from the corners. Apply Aquastop Fix sealing agent both on the wall and on the membrane using a smooth spreader and taking care to fill in circular cavities.

2 Position the special piece on the fresh sealant. Press firmly and smooth over the tape to ensure it adheres perfectly, being careful not to wrinkle it.

3 Remove any excess sealant that may have seeped out and check the adhesion of all the tape edges.

4 For external angles follow step 1.



Notes

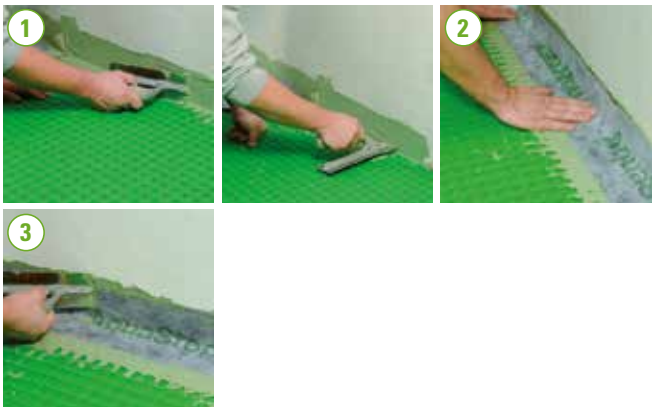
- Clean the surface of the sheets carefully; check that the plaster/render in the perimeter strip is clean and consistent.

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



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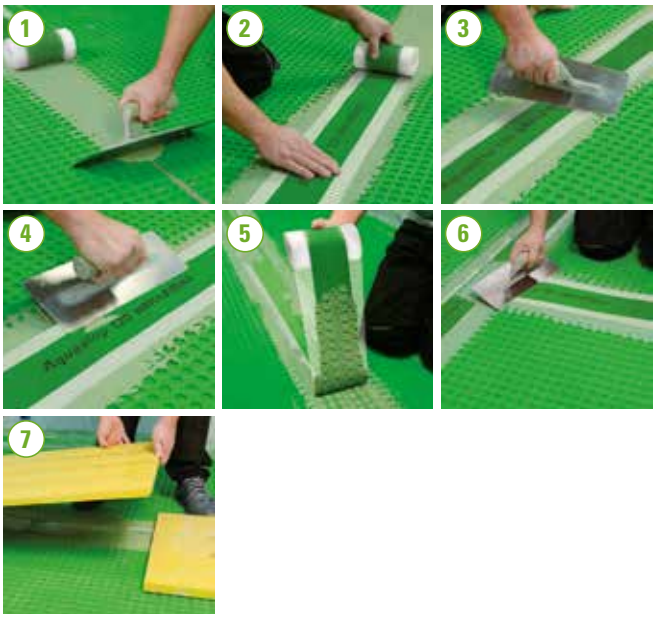
INSTRUCTIONS FOR USE

Notes

- Clean the surface of the sheets carefully; check that the plaster/render in the perimeter strip is clean and consistent

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 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. Check frequently to ensure that the tape mesh is completely coated.
6. Seal the transversal joints (every 10-12 m) in the same way.
7. After laying, protect the surface of the membrane immediately from frequent foot traffic and direct abrasion using wooden planks or panelling.

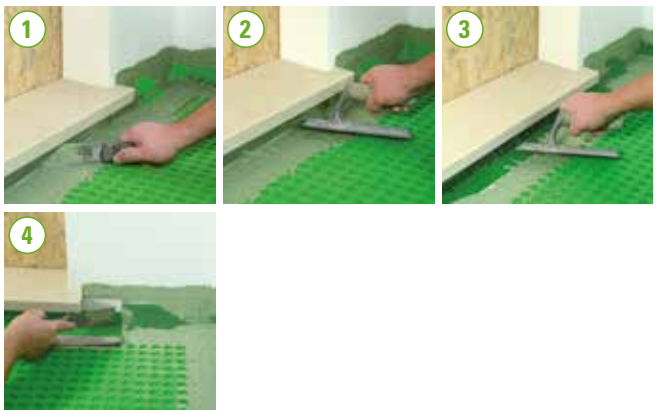


Notes

- Do not cover the tape with the sealant, to ensure that the subsequent covering applied will be properly levelled.
- Seal the entire perimeter and all the sheet-to-sheet contacts.
- Use Biogel® Extreme® when fixing the tape on metals, plastics and stable woods.

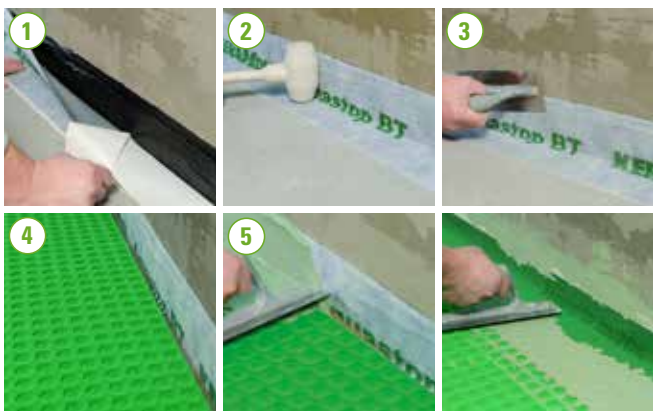
WATERPROOFING OF THE THRESHOLD JOINT

1. Apply Aquastop Fix sealant under the threshold to fix the tape, which must have an asymmetrically positioned cross-section ("L" or "⌙" position).
2. Apply the sealant and fix Aquastop 120 onto the fresh sealant, following the wall-floor joint.
3. Press firmly and smooth over to ensure the tape seals perfectly, being careful not to wrinkle it.
4. Join the threshold tape to the waterproofing of the wall-floor corner joint, overlapping the tapes by approximately 10 cm.



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.



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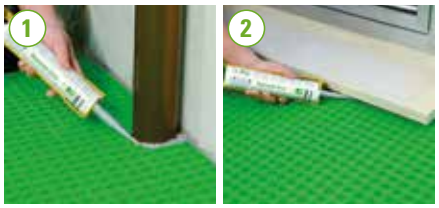
INSTRUCTIONS FOR USE

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 Flangia.
3. Press firmly and smooth over to ensure the tape seals perfectly, being careful not to wrinkle it. If necessary, use several pieces of tape until the drain has been completely sealed (black TNT totally covered).

WATERPROOFING: SPECIAL CASES

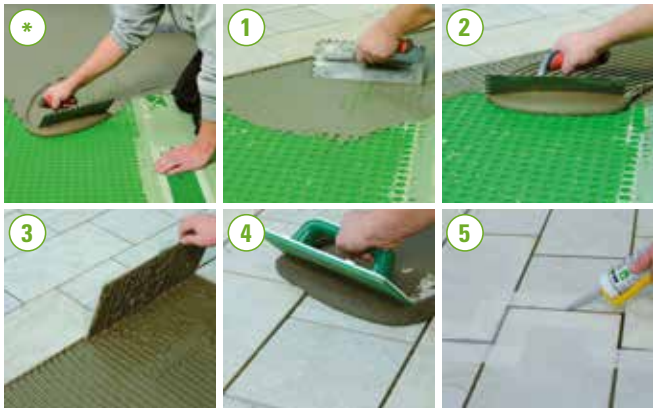


1. In cases where there is insufficient space for adhesion of the Aquastop 120 tape, seal using Aquastop Nanosil, reduce the gap between sheet and element to be sealed to 2–3 mm; wait until the Biogel® range adhesive has hardened and then proceed with sealing. Extrude an abundant quantity of the product and allow it to penetrate deeply, to guarantee complete filling of the gap.
2. Cure the seal with Aquastop Nanosil in the vicinity of thresholds, perimeter stringcourses, grills, drains, down spouts, through elements, railing posts and installations.

Notes

- Protect the membrane from direct sunlight and heat for at least 12 hours.
- **Protect from rain for at least 12 hours (the hardening of the Aquastop Fix sealant guarantees waterproofing of the system)**

LAYING THE FLOOR



1. Apply a first layer of Biogel® adhesive to fill in the circular cavities; using the smooth part of the spreader.
2. Adjust the thickness of the adhesive using a toothed spreader of a type suited to the size of 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® Eco range grout.
5. Seal the elastic joints using Fugabella® Eco Silicone.

* If the flooring is expected to be laid more than 5-7 days after waterproofing, finish the surface of the membrane itself with Biogel® range adhesive. This finish has the aim of protecting the membrane from atmospheric agents and direct wear. Clean the surface thoroughly before applying the finish: removing dust, any condensation, residue from previous operations, and apply a layer of adhesive to fill the circular cavities, then cover the whole of the surface with an even layer of adhesive approximately 1-2 mm thick.

Notes

- The floor can be laid immediately using Biogel® range 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.
- 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

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

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TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Appearance	composite polymeric membrane	
Colour	white / transparent / green	
Shelf life	≈ 24 months 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

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® 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
Compressive strength	38 N/mm²	
Resistance to dynamic stress:		
- Robinson Test with porcelain tiles, thickness 10 mm	no breakage(*)	ASTM C 627
- Classification	in commercial and industrial buildings extremely heavy and high impact loads	Floor Tiling Guide
Impact noise damping (ΔLw)	9 dB	UNI EN ISO 717-2
Thermal resistance (R)	0.030 m² K/W	UNI EN 12664

Values taken at +23 °C, 50% R.H. and no ventilation.
(*) Steel wheels / total load 408 kg / 450 cycles

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
- see the Laminate No Crack technical notes, available on www.kerakoll.com
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service 01527 578000 - info@kerakoll.co.uk

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