

# RAW STONES

## **RAW STONES PRODUCT INFORMATION:**

RAW Stones originates from the search to find new possibilities for authentic and unique characteristic floors. A very specific and unique production process has been developed for this purpose by RAW Stones.

With our RAW Stones assortment you bring that pure and robust atmosphere that is cherished by so many into your home or business space. RAW Stones offers the ideal combination of a floor with the appearance of original natural stones, but with the advantages of a modern, contemporary floor. A RAW Stones floor brings warmth and atmosphere into every space.

### **WHAT MAKES RAW STONES SO UNIQUE?**

The composition consists of natural materials, and this ensures a very durable floor that you can enjoy for many years. Furthermore, RAW Stones floors are very easy to maintain and particularly suitable for commercial spaces. Thanks to a minimum floor thickness, the use of underfloor heating is also possible. The composition of RAW Stones conduct heat in an excellent way. Because the whole production process is done completely in-house, custom work is provided so that the floor is completely tailored to your wishes. This way you get a unique floor with a characteristic and warm appearance in your home or commercial space.

### **Terpstra Stones – Waaltjes – MAXX – Alfa – Alt - Hertog and Limbo's:**

Above tiles are supplied in plastic crates and one crate contains approx. 2m<sup>2</sup>. We charge €5.50 for each crate ex VAT.

25kg tile adhesive - supplied by us - is required to apply 8m<sup>2</sup>, purchase per whole packaging units only.

25kg grout - supplied by us - is required to insert 8m<sup>2</sup>, purchase per whole packaging units only.

1ltr primer - supplied by us - is required as pre-treatment for 10m<sup>2</sup>, purchase per whole packaging units only.

1ltr RAW Stones Protector - supplied by us - is required for 10m<sup>2</sup>, purchase per whole packaging units only.

Protector needs to be applied double layered: first before adding the grout, and the second time after grouting the tiles.

### **Abbey - Abbey XXL -- Triple - Trapist:**

25kg tile adhesive - supplied by us - is required to apply 5m<sup>2</sup>, purchase per whole packaging units only.

25kg grout - supplied by us - is required to insert 20m<sup>2</sup>, purchase per whole packaging units only.

1ltr primer - supplied by us - is required as pre-treatment for 10m<sup>2</sup>, purchase per whole packaging units only.

1ltr RAW Stones Protector - supplied by us - is required for 10m<sup>2</sup>, purchase per whole packaging units only.

Protector needs to be applied double layer, first before adding the grout, and the second time after grouting the tiles.

RAW Stones are supplied in a thickness of 0.8 till 1.0 cm.

### **RAW Stones are available in the types:**

Abbey - Abbey XXL - Terpstra - Waaltjes - Triple – Trapist – Limbo's – MAXX – Alfa – Alt – Hertog for indoor.

Abbey Exterior and Waaltjes Exterior for outdoor.

### **RAW Stones are available in the colors:**

#### **Basic line;**

Concrete – Mud – Clay – Volcano – Fossil – Minural - Tunder

#### **Color line;**

Sand – Olive – Terra – Off White – Off Black

# RAW STONES

- **Cutting loss:**  
Terpstra - Waaltjes – MAXX – Alfa – Alt - Hertog and Limbo's have a standard cutting loss of 5%. Waaltjes laid in a herringbone pattern 10%. The cutting loss for the Abbey – Abbey XXL - Triple and Trapist this is 10%.
- **Your order:**  
RAW Stones orders will only be accepted per whole square meters and Terpstra, Waaltjes, MAXX, Alfa, Alt, Hertog and Limbo's only per even square meters, minimum quantity per colour is 2m<sup>2</sup> for these tiles. The Limbo's will only be supplied in a fixed colour mix, just like the Abbey Exterior.
- RAW Stones can never be held responsible for the (quality) of the sub floor that our tiles are processed on.
- Always hand over the RAW Stones checklist and floor heating protocol when placing an order. The latter is a guideline, we always advise to request the heating protocol from the company that supplied your floor heating system or the company responsible for placing your sub-floor .
- More product information? Ask your RAW Stones dealer.

***When an order is placed, please make sure you always hand over the RAW Stones checklist and floor heating protocol.***

RAW Stones is a cement bonded product supplemented with epoxies, colour pigments, fibre and other natural commodities. RAW Stones should be considered and treated as a natural stone. This means that it is a porous product and stains can occur. Cracks that might occur in your RAW Stones floor are in many cases caused by tension in the underfloor. In most cases this is the result of not following the processing steps properly. Examined cases so far have resulted in the outcome that most cracks appeared because the underfloor did not have sufficient time to dry or because the floor heating protocol was not carried out properly. Horizontal cracks are best prevented by placing decoupling membranes. The tiler will advise you while examining the floor. Cracks can be grouted and in the most extreme case the RAW Stone tile can be replaced. In the event cracks arise for whatever reason, we recommend that you always let 4 seasons pass before repairing them. In many occasions, cracks can be re-joined although in extreme cases the tile is best replaced. Possible crackle lines that appear while mopping the floor can be considered as normal and these lines disappear once the floor has dried. It is mainly because of the strength of the product, that these small crackle lines can appear. We offer a mineral product with a compact, and therefore very strong, internal structure that can show very thin crackle lines that can appear when mopping the floor

RAW Stones works exclusively with natural pigments, making colours more intense. RAW Stones can never be held liable for colour deviations resulting from the mineral, natural, compositions of its products.

## **Rating the subfloor**

To have an optimal final result, it is of great importance that the underfloor is in good condition. If there is a new poured floor, we advise to have the floor examined by the person/company responsible for this new floor. RAW Stones can never be held responsible for the type of any kind of underfloor that is laid on.

- New construction (substrate is in most cases screed floor). The drying process must be handled exactly as described.  
Guideline -> 1cm thickness needs a drying period of 1 week, with a minimum of 28 days. The 28 day drying period is specifically when the screed floor is 4cm or less. In case floor heating is present, you must carry out the heating protocol. Before placing a new poured floor we recommend to use a fibre reinforcement composition.



## CHECKLIST

**Our RAW Stones need a stable, vibration-free and clean surface that has hardened enough.  
Below mentioned points need specific attention:**

- **What kind of subfloor are we dealing with?**  
 Existing cement screed floor       New cement screed floor  
 Existing (tile) floor                       Other, namely . . . . .
- **What is the composition of the surface (only applicable for new subfloors). Be aware, RAW Stones cannot be held responsible for the (quality) of any subfloor on which our tiles are processed.**  
 Cement screed with fibre reinforced cement (is preferred)  
 Other type of reinforced products  
 Other, namely . . . . .
- **Are there any expansion joints in the subfloor? Expansion joints are often made in transitions from new to old(er) cement subfloors or on larger surfaces and especially to cope with workings in a subfloor.**  
 Yes     No
- **Is there already floor heating present (we kindly refer to our heating up protocol)**  
 Yes     No
- **In case there is a new cement floor present:**
  - When was the floor installed? . . . . .
  - How many centimetres (in height) has been applied? . . . . .

*This in connection to the minimum drying period of 1 cm a week with a cement floor of more than 4 cm thickness. Below a thickness of 4 cm the floor needs at least 28 days to dry. RAW Stones can only be applied on a cement surface with a remaining moisture percentage of at least 1.5%. Anhydrite < 0,3%.*
- **Is there any floor heating present? (we kindly refer to our heating protocol).**  
 Yes     No
  - In case new floor heating has been applied, has this already been heated and cooled down a couple of times? (we offer a basic heating protocol on our website, but ideally you use your supplier's protocol).  
 Yes     No
  - If not, when will this start? .....
  - A heating protocol must be completed at least 1x, but preferably 2x before the floor is processed and at least 4 weeks after your RAW Stones floor has been laid.

# RAW STONES

**Always read the RAW Stones product information carefully. Any questions arising from this can be discussed with your RAW Stones dealer.**

- **LINES:** hairline cracks in the tile, which appear after mopping the floor, are not serious and are part of the product. These lines – hairline cracks – disappear once the floor has dried. RAW Stones works exclusively with natural pigments, making colours more intense. RAW Stones can never be held liable for colour deviations resulting from the mineral, natural compositions of its products.
- **SUBFLOOR:** If our tiles are installed on an existing tiles floor, it is important that these tiles are intact and secure. You can check this, by knocking on the tile. When the tile sounds hollow or tinny, there is an adhesion issue. This must be repaired first before our floors can be processed. RAW Stones is never responsible for the (quality of the) subfloor on which our tiles are processed. In case of connection to another floor, we need a height of 12-23mm to be able to process the tiles and glue.
- **FLOOR HEATING:** Our floor heating protocol is just a basic guideline. It is recommended that you request the heating protocol that applies to your floor heating from your installer or contractor. Always hand over this checklist to your contractor if he is involved so that you can complete it together.
- **IMPORTANT:** Large format tiles (Abbey - Abbey XXL - Trapist and Triple) **MUST** be removed from the crates immediately after delivery and lifted vertically inside to store them at room temperature. **NEVER** place tiles against each other without placing a thin piece of wood at the top (a skewer is sufficient) between **EACH** tile.
- **EXTERIOR:** The Abbey Exterior must also be placed covered. Remove the packaging and, if the tiles are not to be processed immediately, remove the cross beam from the crate(s) after delivery and place skewers between each tile, so that the tiles can ventilate. It goes without saying that the planning takes into account a shortest possible duration between delivery and laying of the tiles, so that these tiles are not stored for an unnecessary long time. **IMPORTANT:** The larger the piece of wood you place between the tiles, the bigger the chance it will leave a permanent mark on each tile. Therefore, we advise skewers, as these are very thin.
- **MOISTURE:** shortly after production, our tiles still contain an certain concentration of moisture, and due to the natural ingredients, condensation between the tiles can leave permanent marks. It is therefore **VERY** important that our tiles can breathe enough after delivery to dry sufficiently and never placed tightly together, hence the skewers we like you to place between each tile! This does not apply to the smaller tiles in our range, such as the Terpstra, Waaltjes, Alfa, MAXX, Limbo stones and Waaltjes Exterior.
- **MATERIALS:** The supplied materials (tile adhesive, grout, primer, protector and cleaner) must also be stored inside at room temperature and must **NEVER** be exposed to moisture, frost or condensation. The packaging must be removed after delivery and these materials need to be brought inside. Also for the materials, it goes without saying that the planning takes into account a shortest possible duration between delivery and using these materials, so that they are not stored for an unnecessary long time.

## PROTOCOL FLOOR HEATING

The protocol below is a guideline, we always recommend requesting the heating protocol from the supplier of the underfloor heating. This protocol can be followed at least once after an average of 28 days after laying the subfloor before the RAW Stones are going to be laid on it. There should preferably be 2 days between heating and cooling keeping the temperature at 40°C during these 2 days. The protocol can then be continued according to the steps below.

# RAW STONES

## **This protocol applies to the following situations:**

- When there is an existing floor heating with tiles on it, the RAW Stones then go over the existing tiles.
- When there is only an existing floor heating without tiles on it but where there is a newly poured underfloor (the RAW Stones go over it immediately).
- When there is a new underfloor with underfloor heating.
- Once the floor has been laid, the firing up protocol must be repeated after 28 days. This applies to EVERY situation, so even when there is an existing floor heating system on which our tiles are laid. It goes without saying that this firing up protocol also takes at least 28 days.

## **PROCESSING PROTOCOL:**

Example cycle, based on 15 °C ambient temperature for the protocol to be used.

## **PAY ATTENTION:**

Place a thermometer on the floor where the firing and cooling protocol is started, so that the surface temperature of the floor can be closely monitored. If the surface of the screed has reached a temperature of 31 °C, the water temperature should NOT be raised further and the cooling cycle must be started immediately.

## **HEATING UP PROTOCOL:**

day 1: water temperature 20 °C  
day 2: 25 °C  
day 3: 30 °C  
day 4: 35 °C  
day 5: 40 °C  
day 6: 40 °C

## **COOLING PROTOCOL:**

day 7: 35 °C  
day 8: 30 °C  
day 9: 25 °C  
day 10: 20 °C  
day 11: repeat or end

Preferably restart the procedure and repeat it several times. If - given the available time - this is not possible, then start using the installation. The floor heating can be put back into operation at least four weeks after the RAW Stones have been installed. This firing up and cooling down protocol should preferably be carried out several times before a floor covering or finishing (plastic floor, tiles, tiles, parquet, laminate, marmoleum, etc.) is applied.

Under floor heating in this firing and cooling protocol is understood to mean a hot water pipe that is included in a floor. The floor must be at least 25mm thick above the water pipe.

## **IMPORTANT:**

this protocol is a guideline. Always inquire with the supplier of your underfloor heating about their heating protocol. In screeds that have underfloor heating, cracks can occur due to thermal changes in length. To limit that risk as much as possible, it is necessary to bring the floor heating up to temperature slowly and regularly. It is advisable to use the firing and cooling protocol below for this.

A heating and cooling protocol for underfloor heating is based on the water temperature of the heating installation and not on any thermostat temperature in the room concerned.

# RAW STONES

It is wise to continue the process until the water has reached a temperature of 40°C at most. Generally speaking, the water may not become warmer than a maximum of 40°C. Installation companies sometimes indicate 55°C as the maximum temperature. However, this results in a considerably increased risk of cracks and detachment. If it is not necessary to maintain 55°C, it is advisable to adjust the firing protocol to 40°C. Certainly not higher than 55°C. The risk of damage increases enormously!

It is also important that the screed is approximately at final strength. This means that cement-bound screeds are preferably not heated within 28 days. For calcium sulphate bonded screeds, this may happen a little earlier, depending on the mortar quality. Calcium sulphate has a higher internal flexural strength. How much earlier is difficult to indicate and is entirely dependent on the circumstances under which the floor is dried. As a rule of thumb, the calcium sulphate floor must not contain more than 3% moisture by weight. This must be determined with a calcium carbide meter. *Please note*, there must be a maximum residual moisture percentage of <1.5% in cement screed floors. For calcium sulphate subfloors this is <0.3%.

**Note:**

Cracks usually do not occur in the warm-up phase but mostly in the cool-down phase. This phase is therefore actually more important than the heating phase, so the right pace must also be maintained when cooling down. Please note that RAW Stones is never responsible for the (quality) of the subfloor on which our tiles are applied.

**THE FIRING UP AND COOLING DOWN PROTOCOL:**

- Start with a water temperature that is 5°C higher than the ambient temperature of the relevant room. The water temperature must be read on the heating system.
- Increase the water temperature by 5°C every 24 hours (or longer), until the practically maximum water temperature of 40°C has been reached (see comments above).
- Keep the maximum water temperature stable at 40°C for at least 48 hours.
- Then lower the water temperature by 5°C every 24 hours, until the starting temperature is reached again. More and more often it happens that a floor heating system can also cool. With such a system it is important (especially in the summer at high temperatures) that the cooling cycle is continued until the minimum temperature on the heating and cooling unit is 15°C.
- If sufficient time is available, repeat this cycle several times.
- It is advisable to provide this firing / cooling protocol to the end user / consumer for the benefit of normal use after delivery. The firing up and cooling down protocol must also be after long term standstill of the underfloor heating.
- After the entire RAW Stones floor has been laid, you should certainly wait 4 weeks before switching on the floor heating.
- Please shut down the floor heating at least 48 hours before start placing the tiles. During the placing process also keep the floor heating down.

# RAW STONES

## Laying instruction RAW STONES

### Deliver and unpack of your RAW Stones

Once the RAW Stones are delivered at your place, the tiles must be dry stored at room temperature inside. Of course, storing on room temperature also applies for the delivered material such as grout, adhesive, primer etc. The packaging must be removed after delivery and the tiles must be placed inside against the wall by size with some space between them as the larger tiles must be able to breathe as described above. **IMPORTANT!** Larger size tiles (Abbey – Abbey XXL – Triple – Trapist) **MUST immediately** be taken out – and vertically lifted - of the crate, and placed inside at room temperature. **NEVER**, place large tiles directly against each other without a small piece of wood (a skewer ideally) on the top of each tile. Our tiles still contain a certain concentration of moisture at the time of delivery, and condensation can leave **PERMANENT** traces on the tile when they cannot breathe properly. It is therefore **VERY** important that our tiles can breathe sufficiently after delivery, allowing them to dry, and are therefore never placed tightly against each other. This does not apply for the Terpstra – Waaltjes – MAXX – Alfa – Alt – Hertog and Limbo's

Once you start laying your RAW Stones floor, you can check the tiles before processing them for any specific damages. We always supply extra tiles, since transport may cause light damages. In the event you see any damaged tiles, you can use them perfectly for cutting pieces, no need to throw them away.

Before you, or your tiler, will start laying the RAW Stones floor, we advise to mix the tiles and sizes with each other. By mixing the tiles from different crates you are ensured of a good spreading of the colour nuances. When you spread the RAW Stones decently, you are ensured of the best result. The Abbey – Abbey XXL – Triple – Trapist and Abbey Exterior have a color number on each tile on the back. On the Terpstra – Waaltjes – MAXX – Alfa – Alt - Hertog tiles, the color is stated on a few tiles placed on top, written on the back. This means that the entire crate contains that color number.

**IMPORTANT**, never grab the large tiles on the corners, always grab the tiles a little above the centre between your thumb and fingers and ensure you lift the tiles upright.

### Basic principles to lay RAW Stones

Before you start laying the RAW Stones floor, it is of great importance to clean the subfloor first. The subfloor needs to be clean, flat, stable, vibration free and absolutely sufficiently cured. In case of present floor heating, it is very important that it is turned off at least 48 hours before you start laying the floor. During the placing process also keep the floor heating down. Please ensure that everything is carried out in an optimal way, to avoid problems that could have been easily avoided. Read carefully through the floor heating protocol supplied by the company that laid the sub-floor or installed the floor heating, before you start laying and ensure that all steps have been carried out as described.

When you, or your tiler start laying the RAW Stones, it is of great importance to start only once you are ensured you are well prepared with the required products / tools. It is important that the instructions on the delivered materials are carefully read before processing the floor in order to achieve a good result. The first point of attention is the subfloor on which the RAW Stones are placed. Correct preparation of the substrate is therefore very important. We supply the Botament D1 Speed primer as standard, this primer is a fast, multifunctional primer for the pre-treatment of absorbent and non-absorbent surfaces before applying the tile adhesive, but also fillers, plasters or paint inside and outside. Preferably apply the primer (days) in advance until it is completely dry. It could be that if it's still damp, this can have its consequences with regard to the adhesion. Read the processing instructions on the packaging, and follow these carefully before you start.

### Placing the RAW Stones in the tile adhesive

Because RAW Stones only have a thickness of 0.8 – 1.0cm, and are as much as possible produced in equal thicknesses, they are excellent for bonding. The benefit is that you relatively don't need much height, because the tile adhesive under the RAW Stones is only a couple of millimetres (total thickness with tile approx. 1.2 - 1.3mm)

# RAW STONES

To apply the RAW Stones, we work with different tile adhesive thicknesses and thus glue combs. For completeness we give you an overview to show you what type of glue comb is used for what type of RAW Stones. Depending on the substrate, the tiler must choose the hand glue-spreader to use. 15mm is most common for the Abbey – Abbey XXL – Triple - Trapist.

Depending on the substrate, the tiler must choose the hand glue-spreader to use. A 6-8mm glue comb is most common for the Terpstra – Waaltjes – MAXX – Alfa – Alt – Hertog and Limbo tiles. We also recommend that with the Abbey – Abbey XXL – Triple and Trapist, both the substrate and tile are provided with glue, the so called 'buttering – floating' method.

With a double gluing (buttering - floating) method, the mortar adhesive is first spread on the surface / floor (floating) and then applied with a flat trowel or glue spreader on the backside of the tile (buttering – with a thickness of 3mm). Make sure that no film will form on the adhesive, due to rapid drying. That is, process quickly enough if applied. Finally, but just as important, press the tile firmly from the centre to the edges. This ensures that air between tile and adhesive can escape. Then, don't forget to press the corners of the tile itself to ensure sufficient adhesion. It is very important, to ensure that the glue strokes are all in the same direction, as this allows the air to escape from the tile while pressing it and isn't blocked.

The Botament M29 SPEED tile adhesive must be made smoothly and ripen for 5 minutes and make sure you mix well again before applying. This is also clearly described on the instructions on the adhesive packaging. When installing, keep in mind that a floor must be able to lose its tension, and thus should be laid completely free from the walls. The seams can be filled afterwards with a sealant to absorb any effect.

## Dilatation

In case there is a dilatation in the subfloor ( separation between building components to cope with the workings), this should be continued in the tile adhesive, and certainly in the RAW Stones floor as well. In short, dilatations may not be closed by tile adhesive or tiles itself. Also with transitions from floor to wall, there should be kept a separation of 5 till 10mm. This space can easily be made by placing a foam strip of 100x5mm (height x thickness). Recommended is to divide to surface as much as possible in squares or otherwise rectangles. Do this in courses of max. 50m<sup>2</sup> with interior floors. The ratio between length and width should never be larger than 1:2 with a maximal field length of 8 m1.

## Are you going to build a new home?

When you get a new construction project carried out, and you can choose for a specific type of subfloor, we advise to opt for a fibre-reinforcing cement. In addition, we recommend a double reinforcement mesh under the cement screed, as well as an intermediate layer of the cement screed. For the upper reinforcement mesh, always ensure that there is an overlap of at least 2 meshes. The height of the final RAW Stones will be 12-13mm including tile adhesive.

Take into account a minimal drying time of 1 week per 1 cm thickness of a freshly poured cements screed. In short, when your cement screed has a thickness of 6cm, it needs at least 6 weeks drying time before the RAW Stones floor can be placed. Is the thickness of the floor less than 4 cm a drying time of at least 28 days must be observed. In the case that floor heating is present, the firing protocol can be started after 4 weeks.

Read carefully through the firing protocol before you start and start well in time before the tiler comes. In the winter, carrying out a firing protocol naturally requires considerably more time than in the summer due to the low outside temperature and higher humidity. Following the firing protocol is extremely important to prevent any cracking of both the subfloor and tile floor as much as possible in the future.

## Grouting the RAW Stones

RAW Stones need to be carefully joined with grout. Applying the grout, but especially removing the grout takes attention, reason why we advise to wash in the RAW Stones floor constantly per 2-3 m<sup>2</sup>. Please note that you make small portions of grout and make use of a grout float.



# RAW STONES

Sponge the tiles after the grout starts to stiffen, making use of a sponge float and use clean water regularly. PAY ATTENTION, RAW Stones floors have a so called 'open structure' because it is a mineral product, and therefore absorb the joint very quickly, so that it adheres quickly to the surface. RAW Stones must be processed with Botament Multi-Joint Base 3-30 mm silver grey.

Advise: We recommend that before grouting the floor, the first layer of RAW Stones protector should be (thinly) applied by nebulizer or flat roller. A weed spray pump can do the job to nebulize the protector. IMPORTANT always wear a mask and gloves!. The advantage of this is that the tile absorbs significantly less, and this makes grouting easier. Don't make the tiles too clean, it will not give the RAW Stones look and feel, so work gradually and even better, set up a test area first. Remove any possible puddles immediately.

The protector must also be applied after the floor is grouted and the grout in the joints are dried. PAY ATTENTION, your RAW Stones floor needs to be maintained, and for floors already in use we have developed our Maintainer, that is specifically made for cement or concrete surfaces already in use, and we recommend repeating this on average every year.

#### Maintenance RAW Stones floor

After the tiles have been inserted, you place the first layer of Protector before you start grouting the floor. Once dried, you can start grouting the floor and clean the floor till you have reached the result you wish for. Once the grout is dry, you apply the second layer of Protector. Once dried, you can mop your floor the RAW Stones cleaner the day after to feed the RAW Stones floor sufficiently. We recommend using 2 caps of cleaner per litre. This cleaner offers the advantage that the protector is provided by and therefore offers harder protection.

If you wish to cover the floor after laying and jointing for any stains or damage during the renovation process, we recommend that you only use breathable covering fleece or foil for natural stone. Your tiler can advise for the right type of fleece / foil. This offers an ideal protection for newly laid natural stone floors and ensures a correct moisture – regulating effect. This means that the moisture from both glue and joint that is in your RAW Stones floor can easily ventilate, while no spilled liquids that can penetrate at the top. Leave this fleece or foil as short a time as possible and only place it where work is currently being done.

**PAY ATTENTION! Covering with plastic or standard sheeting traps the moisture in your floor and can lead to permanent damage to your RAW Stones floor!**

#### Final points

Based on knowledge and experience we find it of great importance for everyone to read our instructions carefully. If you have your floor installed by your tiler or yourself, it is very important to make a test area first before finally bonding the RAW Stones.

During cold or very cold weather conditions or in case of hot weather conditions, we recommend postponing the processing of the floor, as this can have its negative effect on the processing, as well as the consumption of the material and most likely also the adhesion.

Make sure the RAW Stones are sufficiently placed into the tile adhesive and take into account the grasping and laying of the tiles. In particular, the larger tiles must be grasped and relocated with some attention. When the tile is in place, carefully slide the tile back and forth in the adhesive for a good adhesion and a fully glued layer under the tile. The RAW Stones must be pressed and pushed by hand, NEVER use a hammer to check by knocking the tile if it sounds even. The main importance for a floor that is laid correctly, it must lie sufficiently in the glue, without there being any air between tile and glue. If the tile has a point that sounds hollow when you knock it (test with knuckles), this is a sign that there is not enough tile adhesive under it and the tile is insufficiently glued.

# RAW STONES

The tile will crack at that point during use, so it is therefore advisable to take the tile out, and apply a thicker layer of adhesive before replacing the tile.

It often happens that there needs to be 'played' with the joint width. As a result, the joints are not equally wide in all places and this is not necessary at all. In fact, this is the charm of our handmade product. It is these small differences that give the floor much more character and a beautiful, authentic appearance.

**IMPORTANT:** it is only after applying the grout and cleaning the tiles, the floor really comes to its own and the colour nuances and authenticity will be much more visible. Therefore, don't make the floor too clean and don't take of too much grout. Grout in the pores of the tiles and a soft, even haze of grout over the tiles, make the appearance of a RAW Stones floor perfect. Rural charm at its best and a unique floor to be proud of!

**PLEASE NOTE:** *The processing advice from RAW Stones is only a guide for the correct application of our products. We cannot give any guarantee on floors when these are processed by a tiler trained by RAW Stones. Any complaints resulting from the processing of a RAW Stones floor by a third party will not be recognised by "RAW Stones".*

## Maintenance RAW Stones

### How does the Stones Protector work and what does it do?

By treating mineral materials with our **RAW Stones Protector** the substrate becomes resistant to the absorption of polluting liquids. In standard concrete, the total surface area of 1 m<sup>2</sup> of visible concrete consists of 50,000 m<sup>2</sup> of internal surface area. These are the pores that have an open connection to the outside to a depth of 3 mm. In the normal, unprotected state, these pores will actively attract liquids. The smaller the pores, the stronger the sucking effect. (A pore with a diameter of a few hundredths of a micron will exert a force equal to a few hundred bar). By using our products, the surface tension of the mineral substrate is reduced in such a way that liquids are repelled, while contaminating liquids have little or no adhesion. **RAW Stones Protector** leaves the pores open to ensure that the surface can continue to breathe, leaving the natural drying process of your floor unchanged.

### Maintenance

The protection of **RAW Stones Protector** works against all non-etching liquids and only on new surfaces. The treatment does not provide protection against stuck dirt that is caught or worn in the rough surface. Sweeping alone is not enough; the surface must be moistened to soak solid dirt particles and there must be enough water to dispose of these solid dirt particles. The rougher the surface, the more water will be needed. The substrate protected with **RAW Stones Protector** can be cleaned with hot water (60 ° C) and with standard floor cleaner. Cleaning with hot water works better than with cold water. Polished surfaces with a low absorption capacity can best be cleaned with a standard floor cleaner in warm water.

After applying **RAW Stones Protector**, liquids will bead on the surface and give the surface a 'dry' appearance. Depending on the degree of wear, this sparkling effect will gradually decrease. However, the effectiveness of the protection will not decrease as a result. The internal protection remains unaffected by the operation of the **RAW Stones Protector** and is very long-lasting; after all, the internal surface is many times larger than the visible surface. Regular use of the special **RAW Stones Cleaner** ensures that the sparkling effect recovers on the surface, making cleaning easy.

# RAW STONES

Unlike many other floor coating vapours **RAW Stones Protector** is open; therefore the pores are not closed. This allows liquids to penetrate the protected area under high pressure. Therefore, avoid cleaning with too much pressure. Prevent spilled polluting liquids from remaining on the surface for too long and preferably prevent them from drying up, leaving the residual solids present in the liquid on the protected surface.

Coffee, soft drinks, alcoholic beverages and fats should always be removed as quickly as possible with a cloth or white brush with hot, non-boiled, water. A white cloth with undiluted cleaner also be tried. Dab this on the spot and then leave the stain(s) for a while. This also applies if you choose to treat the stain(s) with warm water. If this does not happen within 24 hours, there is a chance that visible spots will remain. So respond in time to heavy pollution and increase the cleaning frequency in case of a high degree of pollution. Treat dried stains with **RAW Stones Cleaner**, following the warnings stated on the label. In all cases work in an area that is somewhat larger than the spot itself, preferably up to a natural limit; a threshold or the edges of the room.

## Maintenance

**RAW Stones Protector** will gradually become less effective due to exposure to UV and/or mechanical wear. The speed at which the effect of the impregnation decreases depends to a large extent on the floor load. Visibly, nothing will change on the surface, only during cleaning you will notice that certain stains are more difficult to remove.

The solution for this is to give the floor extra protection with the **RAW Stones Cleaner**. By intensively cleaning the floor with warm water containing 2 caps of **RAW Stones Cleaner** on 1L water, followed by a drying period of a few hours, the operation of the **RAW Stones Protector** will remain intact. In addition, depending on the degree of use, we recommend that the floor be provided with our maintenance protector (RAW Stones Maintainer). This should be applied the same way as the RAW Stones Protector and has practically the same qualities only slightly better and is specifically made for floors already in use. As a result, the maintenance protector can only be applied to floors that have been processed for at least 5 weeks.

## LAYING INSTRUCTIONS RAW STONES EXTERIOR

As soon as your RAW Stones order has been delivered to your door, we request that you preferably place them indoors or at least adequately protected under a roof against dirt, rain, wind or possible frost. IMPORTANT! The packaging of the Abbey Exterior tiles MUST be removed immediately after delivery. After removal of the packaging, the Abbey Exterior tiles should be removed vertically out of the crates and lifted into the garage or shed. If the latter is not possible, remove the packaging, the remove the cross beam(s) and place two skewers on both sides at the top of each tile, allowing the tiles to ventilate. This of course also applies for the delivered materials.

NEVER place the tiles vertically against each other without a skewer. IMPORTANT. The bigger the piece of wood you place between the tiles, the greater the chance this could leave a permanent mark on the tiles. Our tiles still contain a high amount of moisture at the time of delivery, and condensation can leave permanent marks if they are placed tightly together for too long. It is therefore VERY important that the tiles can breathe sufficiently after delivery and therefore should not be placed tightly against each other.

When you start laying the RAW Stones exterior tiles, you can check for any possible damages before processing. Any possible damaged tiles can always be used as fitting pieces for your terrace floor. The tiles have the best protection when they are treated with our RAW Stones Protector. Do this after laying and grouting your patio floor.

# RAW STONES

## **Basic principles for processing your RAW Stones Exterior**

Before you start laying the RAW Stones exterior floor, you must ensure a clean, flat, stable and vibration free surface. We prefer, and thus advice, to place the RAW Stones exterior tiles on a concrete / cement screed floor that has been sufficiently cured. After pouring the substrate, a drying period of at least 28 days must be taken into account. As soon as you start laying the exterior floor, make sure that you start well prepared, with the right products and tools.

As soon as the surface is sufficiently dry, this should be treated with the supplied primer, Botament D1 speed primer. This primer is a fast, multifunctional primer for the pre-treatment of absorbent and non-absorbent substrates before applying tile adhesives, fillers, plasters, or paint inside and outside and is suitable for all surfaces. This primer is always supplied by us with the order. When the primer is sufficiently dry, you can start applying the adhesive. If it is still damp, this may affect the adhesion. Carefully read and follow the processing instructions on the packaging before you begin.

## **Gluing and grouting RAW Stones Exterior**

Use a 15mm glue comb for the Abbey Exterior, and a 6 – 8mm glue comb for the Waaltjes Exterior. Both the substrate and tile must be provided with adhesive in case of the Abbey Exterior, applied by the means of the so-called buttering / floating method. By double gluing - buttering / floating – the mortar adhesive is first spread on the substrate, this is the floor, (floating) and next applied with a flat trowel or glue comb to the installation side of the tile (buttering) approx. 3mm thick. Make sure that no film layer is formed on the adhesive, due to rapid drying, it is therefore important to process quickly. Temperature and wind should be considered before you start.

**IMPORTANT** Make sure the glue is applied in one direction using the glue comb, so that any air can escape under the tile, while pressing the tile into the adhesive. Press from the centre to the edges, as this ensures the air is out from under the tile, which is very important for a proper bonding. Don't forget to press on the corners of the tiles to prevent any possible 'dishing'. If the tile has a point where it sounds hollow when you tap on it, this is a sign that there is not enough adhesive under it and therefore insufficiently glued. The tile could crack at that point during use, so it is advisable to remove the tile and apply a thicker layer of adhesive before placing the tile again.

The adhesive RAW Stones delivers with every order is the Botament M29 Speed Glue, which is a flexible type of glue. Make sure the glue is made smooth as described on the packaging, and let it ripen for 5 minutes and then mix well again before applying it.

When laying the Abbey Exterior, keep in mind the floor must be able to release its tension. The floor must therefore be completely free from the sides and sides should also never be grouted. Seams on the sides can be filled with sealant.

RAW Stones should be carefully grouted. Applying the grout, but certainly also removing it, requires attention and that is why we recommend that you wash your RAW Stones floor every m2 at the time. Make sure you prepare small portions of grout and use a grout board. Once the grout has set, sponge the tiles well, and use clear water regularly. PLEASE NOTE, RAW Stones tiles have a so-called 'open structure' and therefore absorb the grout quickly, so that it can adhere to the surface. Therefore, clean the floor every couple of square metres with water to avoid this.

RAW Stones must be processed with Botament Multi-Joint Base 3-30mm silver grey, which is also supplied by us with every order. As soon as the joint has been sufficiently washed out, the RAW Stones protector should be applied last. Our tiles are best protected after they have been treated with the RAW Stones protector. For the best result, apply the protector by spraying it on the floor, ideally applied with a weed pressure pump. Do not apply the protector too thickly, to prevent puddle formation. Any visible puddles are best to dab immediately. RAW Stones Protector is specifically developed for fresh concrete / cement based substrates and for maintenance our RAW Stones Maintainer is recommended, especially made for concrete / cement based substrates already in use. PLEASE NOTE, the RAW Stones Exterior tiles must be maintained, and we recommend that you repeat this on average at least every 12 months with our RAW Stones maintainer.

# RAW STONES

We also supply our Cleaner, which is specifically made suitable for our floors, so that they are sufficiently nourished and a strengthening effect occurs for both the Protector and Maintainer.

It often happens that the joint width has to be played with. As a result, the joints are not the same width in all places, and this is not necessary. In fact, this is the charm of our handmade product. Precisely these small differences in size, give the floor much more character and a beautiful authentic look.

**IMPORTANT:** Only after grouting the floor really come into its own and colour nuances and authenticity will become visible. Rural charm at its best, and a unique floor to be proud of!

*NOTE: The processing recommendations of RAW Stones are only a basic guide for the correct application of our products. Any complaints arising after processing of a RAW Stones floor by a third party will never be recognized by 'RAW Stones'.*

