



## LAYING INSTRUCTIONS

### SUBFLOOR :

- Anhydrite floor: the floor must be sanded and dry (min. 0.3% residual moisture). Always use a 1-component epoxy primer and after drying apply the adhesive primer (see [Advice Castle Stones, Anhydrite](#)).
- For absorbent subfloors (cement screeds etc.) use Primer GD-749 (porous floors).
- For non-absorbent subfloors (tiled floors etc.) use Primer HPS-673 (solid floors).
- For floors with underfloor heating or those with a poor substrate, we recommend using a decoupling mat. We also recommend a decoupling mat for new cement screeds and for floors that have been levelled (see [Advice Castle Stones, Disconnected](#) and [Protocol underfloor heating](#)).
- Bonding tiles over tiles: make sure the existing tiles are grease-free. A special primer is available, sometimes a shrink-proof levelling compound is recommended (see [Advice Castle Stones, Disconnected, tile over tile](#)).

### PACKAGING :

- After delivery, store the boxes/pallets dry immediately.
- Unscrew the long side of the box
- **Always** allow the tiles to acclimatise in the room where they are to be processed for at least 24 hours beforehand and store them frost-free in the winter months.
- Hold the stones at the top and place them at an angle against the wall inside.
- It is advisable to place a number of wooden slats or boards at an angle against the wall, against which you can then place the tiles at an angle, this prevents chafing.
- Dallen and Loft are delivered in color mix.
- Bricks mix: is stated on the packaging. For example: Brown Grey 1 - Brown Grey 2 - Brown Grey 3 (you have to mix these different colors yourself).
- Check the color before laying! Take a scouring sponge and polish some stones. This will show you exactly what the color is.

### LAYING WORK :

- A moisture measurement should be taken first. The Sopro finishing recommendations must be followed. See our downloads [here](#).
- Take the stones out of the box one at a time.
- Lift the large tiles on the long side and then move them (also during processing).
- Sort the tiles by size. This will help you find a tile that fits between the tiles already laid.
- Don't have a fitting tile? Then cut it to size.
- Touch up the stone with a grinder before laying. To get the required round shape, hold the grinder at right angles (at an angle of about 45 degrees) and move it back and forth. Round off the cut using fine sandpaper.
- Model Dallen for example, had as many as 135 different stone sizes. That means it is a tricky puzzle where each space with a different size or shape requires a different approach.



- The combination of all those different stones and how they are laid in relation to each other largely determines the look of the Castle Stones floor.
- Keep a joint of 1 cm and bear in mind that the stones are different in size and may slightly vary in thickness.

#### BONDING :

**Tip:** after applying the primer or decoupling mat, lay down the dry tiles first without adhesive. Are adjustments needed? Then you can easily do that now. By flipping up the tiles in a long lane one after the other, you maintain an overview and can easily replace and process the "flipped" tiles. Flip the stones by their long side.

- Make sure the working area is not too warm and any underfloor heating is not set higher than 18 degrees Celsius.
- Do not mix more adhesive than can be processed in the 'open time' of the adhesive.
- Measure out the water and pour it into the mixing vessel and add the dry powdered adhesive. Allow the glue to mature for at least 3-5 minutes and then mix thoroughly for a few minutes. Never 'overwater' the glue.
- It is important that adhesive layers touch each other at the top and bottom everywhere. If the adhesive does not touch each other or a part is forgotten, a layer of air will form there. Result: a stone that sounds hollow or may even break.
- We recommend using a glue comb of at least 6-8 mm to apply glue beads to the bottom of the stones, not forgetting the corners!
- We recommend using a glue comb of at least 12 mm or a half-moon comb to apply the glue to the floor. It is important that the adhesive beads on the underside of the tile and on the floor are set up in one direction, i.e. without height differences and strokes in the adhesive bed.
- Place the tile full into the adhesive with a sliding movement to avoid air inclusions. Check this by tapping gently to hear if there are any voids.
- If a decoupling mat is used, it should be glued with a 4 mm glue comb.
- Castle Stones recommends an adhesive contact of 100%.
- Scrape glue well from the joints and remove any glue residue from the tiles as well. Do this immediately after gluing/laying with HMK R155 cleaner. If the adhesive is not removed properly, it may react with the impregnator and cause staining. All Sopro and HMK Moeller Stone care products must be used according to their instructions.

#### JOINTS :

- After bonding, the adhesive must dry for at least 24 hours (low temperatures extend this).
- Measure the water exactly and pour approx. 90% of it into the mixing vessel and add the dry jointing material to it. Mix thoroughly and add some of the water, but never more than the maximum. Never 'overwater' grout material. Let the grout material mature for at least 3-5 minutes and then mix it thoroughly for a few minutes.



- Bond small areas! Do not bond too much at once, because if it dries too much, removing the grout will be difficult. Pre-impregnating with our CS Easy makes it easier to remove excess grout on the tile.
- Do not apply the grout too thin! This can cause residual adhesive to react with the impregnator, which can cause staining. The fuller the grout the better.
- Make sure to leave a very fine layer of grout in the deep areas of the stones. This will accentuate the character and texture of the stone.
- Polish the stones well! To bring out the true color of the stone, use a coarse sponge (080+083 from Sopro). This is how you wash the white wax layer off the stone. Make a nice and smooth joint. Make sure the joint is a little deeper than the stone and use clean tap water every 5 m<sup>2</sup>. This will prevent streaking or leaving too much grout on the stone.
- It is recommended to give the smoother stones (5%) a little more attention with grouting and polishing. If you don't work away this layer of wax, it will end up being coated and have a larger chance of getting scratches.
- Make the stone even more beautiful by dry polishing it using a polisher with a soft pad.
- Keep all internal joints of rising building parts (walls, facades, columns etc.) free of tiles, glue and grouting material. These are finished with a sealant in the same colour as the grouting material.

#### COATING & IMPREGNATION :

- Before applying the coating, the floor should be thoroughly cleaned. For this, refer to the [HMK Castle Stones Processing Advice](#).
- Make sure the floor is dust-free
- We recommend impregnating the floor twice.
- In wet and moisture-prone areas such as walk-in showers and toilets, we recommend CS Topcoat. This coating gives a patina shine (like a wax layer) to the stone and deepens the color.

#### ADVICE :

View all our documentation [here](#). When in doubt, advice can be sought from the dealer. If by-products are involved, please seek advice from [Sopro](#) (glue, grout, impregnator and decoupling mats) and [HMK - Moeller Stone Care](#) (coating/impregnator, cleaning and removal of products).

*NOTE: Castle Stones recommends having the floor laid by a tiler who is experienced in laying a Castle Stones floor. This advice is only a guideline for the laying and treatment of our products and no rights can be derived from it.*