

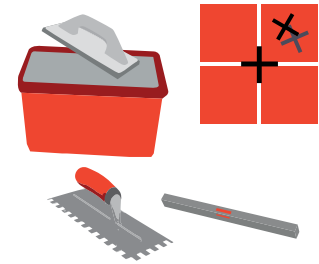
A hand is shown holding a square stone tile, positioned above a grid of similar tiles. The background is dark and moody, with a red diamond-shaped graphic element framing the text.

TINO

NATURAL
STONE

Use the correct tools for installation:

Angle grinder or cutting table with water cooled-diamond blades to avoid chips on the edges.
 Notched trowel to spread mortar or adhesive and rubber trowel for grouting. Spirit Level for leveling and cross spacers for joints.
 White rubber mallet.
 Vessels to mix and prepare adhesive or mortar.

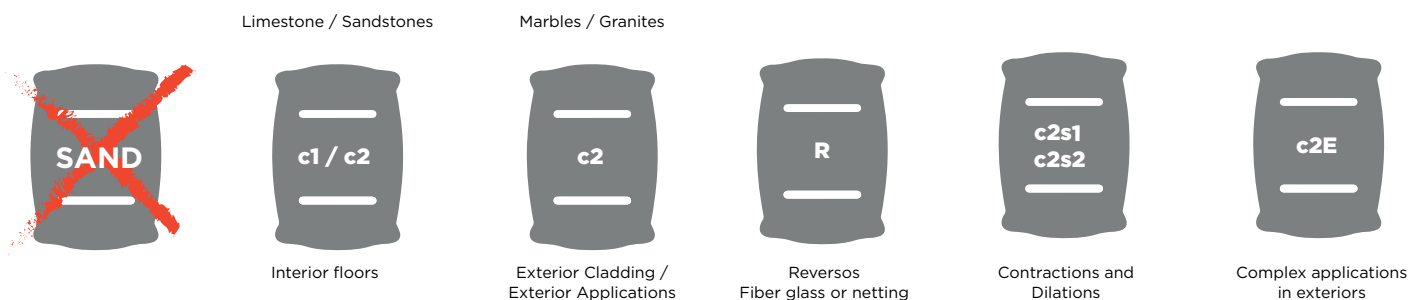


Depending material absorption, the material color, the support characteristics and the application, you must choose a suitable adhesive.

TINO, as a precautionary measure, does **not recommend the use of mortars with sand as an adhesive**, since the sand contains salts. When mixing the cement with the sand and diluting it in water, the salts dissolve in the mixture and are absorbed by the porosity of the stone and can produce pathologies called efflorescence. This risk is greater for more porous materials (with greater water absorption).

According to the cement adhesives typology defined in the ISO 13.007-1: 2010 standard, TINO advises **for its Natural Stone products sensitive to absorption, as in the case of sandstones and limestones, C1 or C2 adhesive for interior flooring and C2 for flooring interiors and exterior applications. For marbles and granites, both inside and outside, recommends C2 adhesives**, whose main characteristic is its high adhesion. For Natural Stone materials that have fiberglass or mesh on their back, the use of R-type reactive resin adhesives is recommended.

For applications subject to contractions-dilatations (for example exterior facades or exterior floors), depending on the intensity thereof, the adhesives will also have Improved Deformability: **C2S1 or C2S2. In case of external or complex applications in terms of their execution, it is recommended that the adhesive also have Extended Open Time: C2E.**



The color of the adhesive used should be as similar as possible to the color of the material to be glued, especially in porous materials. Otherwise, there may be some change in appearance or color in the stone.

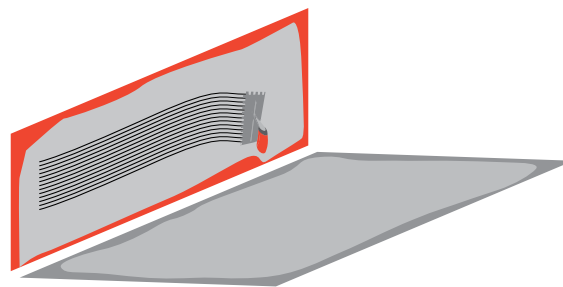


COLOR
 ADHESIVE = STONE

- ◆ It is necessary to glue the pieces of Natural Stone by means of the double gluing system with a special cementitious adhesive for this application. The adhesive will always be used following the instructions indicated by the manufacturer, especially those concerning the water / adhesive proportions.

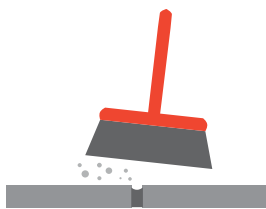
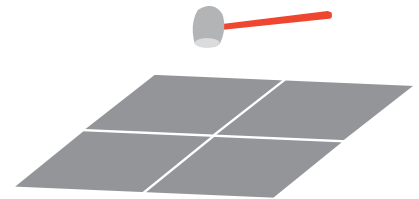
The double gluing consists in extending the product on the support and combing with the notched trowel in order to regularize the thickness and ensure a good distribution of the adhesive over the entire surface.

On the back of the material, spread a layer of adhesive and comb with the trowel, in order to ensure 100% contact of the back of the piece with the support material.



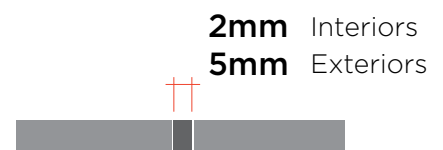
DOUBLE
GLUING

- ◆ Place the pieces **pressing them with the white rubber mallet** until achieving the total crushing of the grooves created with the notched trowel in the gripping material and the leveling between pieces.



- ◆ The action of grouting consists of filling in the separations that we leave between the piece and the piece called together. The separation joints **must be clean of traces of grout and dirt**, thus improving the adherence of the joint material and increasing its effectiveness.

- ◆ TINO recommends **leaving a minimum joint between pieces of 2 mm inside and 5 mm outside**, in order to absorb any expansion or contraction caused by differences in ambient temperature and, of course, respecting the construction joints, both perimeter and structural.

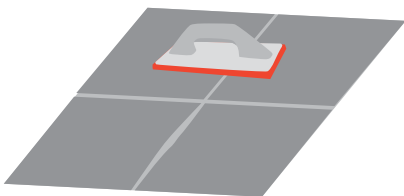


*Never less than 1.5 mm should be left together, since the seal will not be filled correctly.

◆ We must always **apply the material of joints after 24/48 hours** from the end of the application of the coating, depending on weather conditions, to let evaporate the water used in the mixture of the clamping material of the coating and thus avoid possible moisture stains that over time could cause pathologies of efflorescence.



24h / 48h

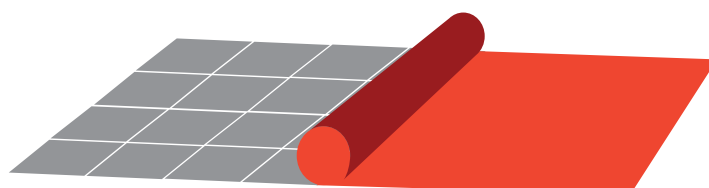


◆ **The grouting material will be applied with a trowel or rubber spatula and we will always apply it in the hole of the joint.** Never use the traditional method of grouting (milk to mat), consisting of the extension of the grout material all over the coated surface, because due to the porosity of the stone we could cause incrustations in undesirable places, making it difficult to clean them later.

◆ The removal of the remains of the grouting material should not be extended from its application to its cleaning. **It is necessary to use a wet sponge for its removal**, thus we will avoid incrustations in undesired places.



◆ In the placement of pavements that will not be polished on site, but are already installed with the finished surface (polished, honed, etc.) **It is recommended to protect the coated surface** until the the work completion with the intention of facilitating the cleaning and not deteriorate the installed Natural Stone.





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