

Silestone®

FLOORING & TILING

Installation Tips



25 YEAR WARRANTY



THE ORIGINAL QUARTZ

GENERAL ADVICE

This document illustrates the installation procedures for Silestone® and ECO Line Colour Series tiles in order to obtain the best results in paving and tiling applications. Please note that the installation procedures are the same for both Silestone® and ECO Line Colour Series products. For applications involving heated flooring please contact your client manager for advice.



1. Preparation of the Support Base

Cleaning: Make sure the support base is a dry, clean and dustless surface. Similarly, our products (Silestone® and ECO Line Colour Series) must be clean and dry. Remove any damaged materials and other items which are not part of the base support and our products.

Leveling: If the support base is uneven, the surface needs to be levelled using regulation mortars. To fit Silestone® or ECO Line Colour Series, it is recommended that the supporting area does not exceed variations of ± 3 mm. Regularization of the flooring can be carried out with self-leveling mortar.

For vertical parameters, the regularization should be carried out with another type of coatable mortar within two hours. We recommend beveled edges for a better finish on our products as this results in a more uniform look.

Consistency: The consistency of the support base should be high (ensuring high traction resistance). If this is not the case, remove until a consistent support base is obtained.

Rugosity and porosity: The support base shall be provided with adequate rugosity and porosity to help the product adherence. The greater the support base's rugosity, the greater adherence there will be between the support base and the our product.

Temperature: The temperatures specified in the product datasheets shall be followed. As a general rule, products should not be applied when the temperature of the the support base is lower than 5°C unless otherwise stated in the product technical datasheet.

Humidity: Humidity ranges specified in the product technical datasheets shall be followed. If necessary, due to residual moisture or because the flooring is positioned directly onto the ground, then a vapour barrier should be applied with a small amount of aggregate until saturation is reached.

Depending on the support surface, we need to take special precautions. As "support surface" we mean those elements which our products are placed on.

Below are the more common support surfaces, however Cosentino® recommends contact with specific adhesive providers based on the type of support base to give the best possible support.

The most common of surfaces are:

Concrete

Poor condition concrete with weak supports: If the flooring level can be raised, a new coatable top layer can be fitted in 24 hours. If this is not possible additional support can be used to reinforce the existing concrete. On good condition concrete: Ensure that both the area and the materials are clean and then proceed to fit the Silestone® or ECO Line Colour Series tiles, using the recommended adhesive.

Ceramic: If the existing ceramic surfaces are bonded well, a new Silestone® or ECO Line Colour Series covering can be fitted using a primer prior to the application of the cement adhesive. If the ceramic surfaces are not in good condition, they should be removed and replaced.

Plaster: A primer should be applied to plaster and other porous supporting surfaces.

In the event of using any other supporting area material, always consult the adhesive manufacturer's technical specifications.

2. How to Apply the Adhesive:

It is essential to choose the correct adhesive for the specific support base. Cosentino recommends following the classification determined by the UNE 12004 regulation.

The adhesives classified as C2S2 are the more suitable for Silestone® and ECO Line Colour Series.

Due to the high expansion coefficient of Silestone® and ECO Line Colour Series, the use of expanding cement will be required. Because our products are non-porous, normal cements which set through water evaporation (physical drying) should not be used. Therefore, cements which dry chemically must be used. This cement dries due to chemical reactions and is not affected by contact with air.

A potential problem which can arise during the fitting of Silestone® or ECO Line Colour Series is the possible saponification of the polyester resin used as an agglutinating agent, owing to the humidity and alkaline pH which causes the adhesion between the Silestone/ECO Line Colour Series and the adhesive. Saponification can easily occur when using standard cement adhesives (arising due to the presence of moisture through the evaporation of the water mixed into the mortar and the alkaline pH of the cements).

As a general rule, for any format, the following products can be considered 'versatile' or generic under the C2S2 classification please see Annex.

The suppliers will be able to suggest specific products (including ecological products) which are suitable for a given application, taking into account the characteristics of the job and the type of fitting required. Always check with the supplier.

For large format pieces of Silestone®, as a general rule, a suitable solution would be, for example, Ardex s28 for the interior, flooring and walls, or Ardex N23 for large format interior or exterior flooring. In the Mapei range, dependant upon application or the type of support, are Elastorapid, Keraquick+Latexplus or Keralastic. From the Puma range, Pegoland Flex Record C2 TE S2 (Dual component) could be used for normal setting, or Pegoland Fast Extra C2 FT S1 (Dual component) for fast setting. Please see Annex.

Prior to beginning large format work always check the suitability and specification of adhesives with the provider to ascertain the correct product for the project in the terms of the adhesive's characteristics.

3. Tiles Setting

The cement adhesive must be mixed in a clean container, as recommended by manufacturer, using a slow electric mixer, blend until a smooth lump-free mortar is achieved.

The fitting should be carried out within the curing time of the adhesive, that is, the time it takes to dry superficially. The mortar should not be remixed, nor should any water be added to it to attempt to extend its useful life.

The fitting should be carried out using the double layer method applied with notched trowel. The adhesive should be on the piece (back-buttered), and the support, exerting gentle pressure and applying lateral movement on the piece to ensure that the adhesive is completely in contact with the piece.

After laying the pieces, they can be adjusted as long as the "curing time" of the adhesive is not reached.

Use cross joints and leave one joint between the pieces (without any filler). Fill in every corner of the joint, making sure that there are no air bubbles or untreated areas. Levellers are useful in case of big sizes.

Choosing the joint width:

Minimum joint widths are required due to the thermal expansion coefficient of Silestone® and ECO Line Colour Series. In extreme cases, a 3mm expansion can be incurred for a 2m slab at 20°C.

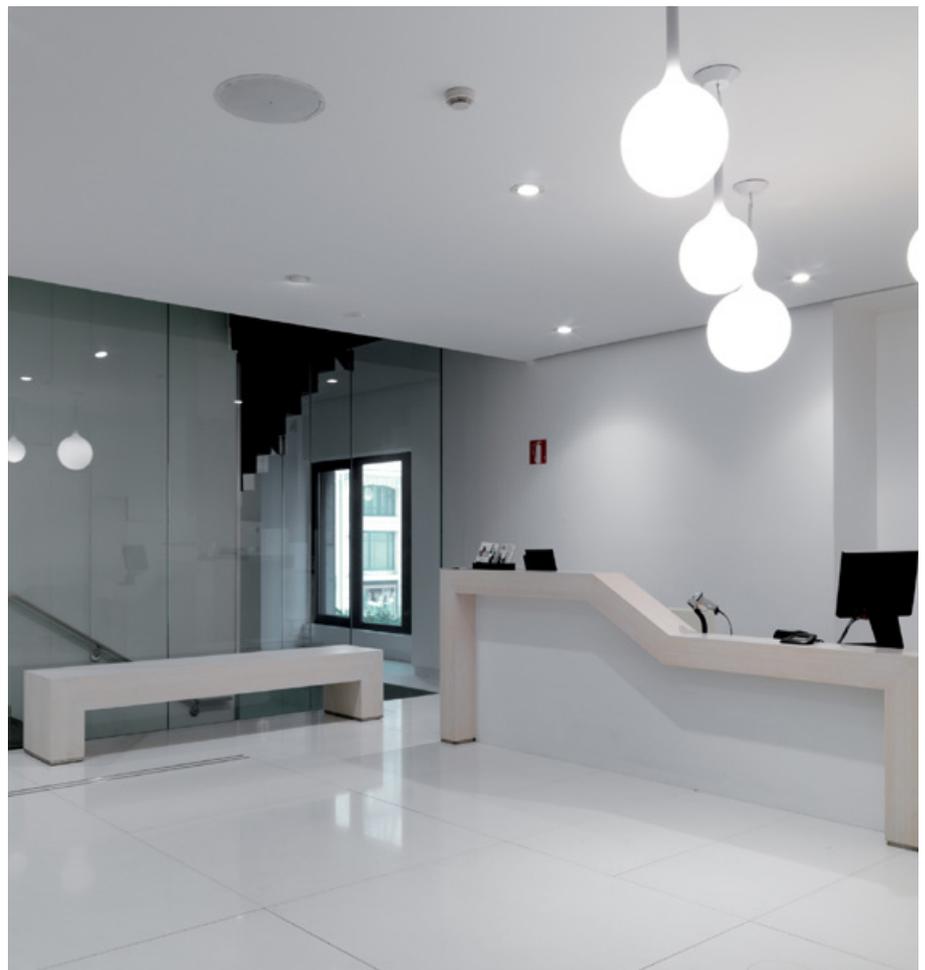
But the performance of an entire system depends on several factors, including the support, the anchoring, adhesive, position, temperature, and so on. Providing an overall value of thermal expansion is therefore very difficult, as it depends on the final configuration and factors beyond our products.

Roughly speaking, based on past experience with projects involving Cosentino products, it is recommended that joints have a size of 2mm every 30cm length. Example:

30x30 3 mm / 60x60 4 mm / 90x90 6 mm

Tiles should never be laid on the header face without any placement joints between the slabs, especially when working with Silestone®.

On newly constructed sites, it is recommended to observe the structural movements to place the expansion joints.



4. Grouting

Ensure that the joints are not covered by the adhesive. 24 hours after laying the tiles before applying the grouting material. The application should be carried out using a rubber trowel, applying pressure until the grouting correctly penetrates the joint and removing excess grout from the surface of the piece with the same trowel. Once it starts to dry, it will start to lose its sheen and the joints should be cleaned and smoothed with a moist sponge before being left to harden. Bloom may continue to be present after the initial cleaning so further cleaning with a damp sponge may be necessary.

The structural and perimeter joints should always be respected, both in the support and in the covering. The sealing of these joints should be carried out with elastic materials or those with suitable prefabricated structures. It is recommended to leave a perimeter joint of 5 mm between the flooring and the vertical structures.

It is recommended to position expansion joints: In interior floors, every 30 m².

It should be taken into account that the expansion joints of interior flooring coincide with those of the building. These joints should not be covered with any kind of rigid covering.

An inspection of the joint should be carried out every five years, checking for the presence of cracks, crevices, etc.

Cosentino® recommends the use of products such as shown in the Annex

Instructions for use and specific recommendations in the products' technical specifications should be followed at all times.

Other Issues to Consider:

Finishes: Cosentino® recommends the use of polished finish in its application as flooring, and Suede finish in those areas where the material is not subject to high humidity environments. The volcano finish has a protective surface treatment applied, and due to the very rough finish requires more maintenance and is not recommended for high traffic rooms.

For proper maintenance and cleaning of our products, consult the document "Use, Cleaning and Maintenance "Silestone® & Eco"

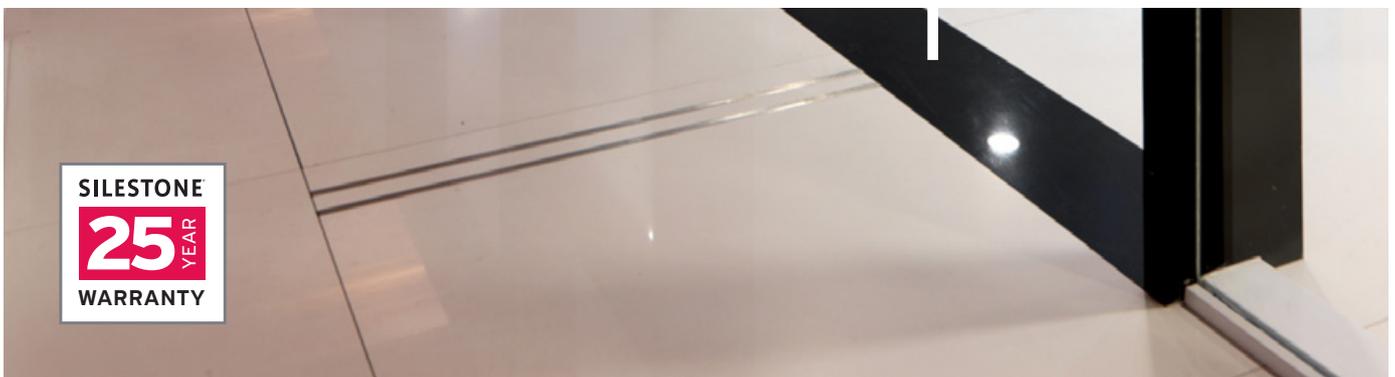
In the case of installation in large spaces, and when the weather or air conditioning systems installed result in a humidity below 60%, you should consult the document "Silestone® and electrostatics". This document also applies to ECO Line Colour Series, since the performance of the resin is homologous.

In the specific application of heating flooring please contact your client manager for advice. Further information on your nearest Cosentino Center can be found at www.silestone.com

List of Adhesives Recommended for Silestone® and Grouting Products

| | ARDEX ADHESIVES | | PUMA | | MAPEI ADHESIVES | |
|----------------|-------------------|-----------------------|----------------------|---------------|------------------|---------------------|
| | INDOOR | | INDOOR | | INDOOR | |
| | SIZE 60X06 CM | SIZE >60X60CM | SIZE 60X06 CM | SIZE >60X60CM | SIZE 60X06 CM | SIZE >60X60CM |
| FLOORING | ARDEX S28 | ARDEX S28 + ARDEX E90 | PEGOLAND FLEX RECORD | | KERAFLEX MAXI S1 | GRANIRAPID |
| CLADDING | ARDEX N23 | ARDEX N23 + ARDEX E90 | | | KERAFLEX MAXI S1 | KERABOND+ ISOLASTIC |
| GROUTING | ARDEX MG | | MORCEMCOLOR PLUS | | ULTRACOLOR PLUS | |
| SPECIAL JOINTS | ARDEX ST/ARDEX SN | | MORCEMCOLOR PLUS | | MAPESIL LM | |

Please contact your adhesives provider for further information.





imagine & anticipate



THE ORIGINAL QUARTZ

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