# Best Practices

Working correctly preserves its durability

**Ascale sintered stone surpasses** the limitations of traditional materials, making it the ideal solution for any type of cladding and surface. It offers a versatile, lightweight, and large-format design (162 × 324 cm in 12 and 20 mm thicknesses; 160 × 320 cm / 120 × 280 cm in 6 mm thickness; and 100 × 300 cm in 3 mm thickness).

Ascale is the result of combining 100% natural mineral elements through pressure and temperature, achieving a highly functional and aesthetically exceptional surface that blends the beauty of natural stone with the strength and durability of sintered stone. A balance between nature and performance.

**Ascale has an environmental management system** in place to identify and minimize the impact of its operations on atmospheric emissions, wastewater, waste, and noise pollution.

Our commitment is supported by ISO 14001 certification, which validates the effectiveness of our environmental management system in accordance with the most demanding international standards.

Ascale also holds a Carbon Footprint certification, enabling us to measure and control our greenhouse gas emissions—an important step toward more sustainable, low-carbon production.

**Applying continuous improvement criteria,** we carry out internal waste recovery and selective collection of materials such as cardboard, plastic, and wood.

Ascale is committed to optimizing water management, based on the principles of reuse and efficiency across its different processes.

In addition, the company continuously implements energy efficiency criteria in its facilities and operations.

A commitment that translates into the adoption of environmental practices aimed at reducing environmental impact.

Certificates:

## Thickness

3 mm / 6 mm / 12 mm / 20 mm

## Finish

Polished • Matt • Feel • Velvet | *Vein*-touch & 3D

## Size

100 x 300 cm / 120 x 280 cm / 160 x 320 cm / 162 x 324 cm

# Advantages

- LIGHTNESS / LIGEREZA / LÉGÈRETÉ / LEICHTIGKEIT
- EU MADE IN EU / FABRICADO EN / FABRIQUÉ EN / HERGESTELLT IN
- WATERPROOF / IMPERMEABLE / IMPERMÉABILITÉ / WASSERDICHT
- CUT RESISTANCE / RESISTENCIA AL CORTE / RÉSISTANCE AU CISAILLEMENT / SCHERFESTIGKEIT
- RECYCLED / RECICLADO / RECYCLAGE/ RECYCLING
- LARGE FORMAT / GRAN FORMATO / GRAND FORMAT / GROSSES FORMAT
- 100% NATURAL / 100% NATURAL / 100% NATUREL / 100% NATÜRLICH
- UV RESISTANCE / RESISTENCIA RAYOS UV / RÉSISTANCE AUX UV / UV-BESTÄNDIGKEIT
- HIGH RESISTANCE / ALTA RESISTENCIA / HAUTE RÉSISTANCE / HOHE WIDERSTANDSFÄHIGKEIT
- HYGIENIC / HIGIÉNICO / HYGIÉNIQUE / HYGIENISCH
- LOW TEMPERATURES RESISTANCE / RESISTENCIA A BAJAS TEMPERATURAS / RÉSISTANCE AUX BASSES TEMPÉRATURES / NIEDRIGE TEMPERATURBESTÄNDIGKEIT
- HIGH TEMPERATURES RESISTANCE / RESISTENCIA A ALTAS TEMPERATURAS / RÉSISTANCE AUX HAUTES TEMPÉRATURES / HOHE TEMPERATURBESTÄNDIGKEIT
- STAIN RESISTANCE / ANTIMANCHAS / ANTI-TACHES / FLECKENBESTÄNDIG

**EASY**- cut

DREAM **BIGGER,** CUT **SIMPLE**

# GOOD PRACTICES MANUAL

Large-format porcelain represents an evolution in contemporary architecture and design, offering high-value aesthetic solutions together with exceptional technical performance.

However, its dimensional and mechanical characteristics require specific knowledge and rigorous execution at every stage of the process—from substrate assessment to final maintenance.

This Ascale Best Practices Manual has been created as a brief complementary guide to installation, cutting, cleaning, and maintenance manuals. Its purpose is to support on-site decision-making and improve the overall quality of projects.

## 1 / PRE-ASSESSMENT OF THE SUBSTRATE

The substrate on which the work will be carried out is not simply a base, but a determining structural element that directly conditions the performance of the entire system.

- Verify that the substrate is dry, stable, properly cured, and free of movement.
- Confirm the mechanical strength of the substrate according to the application.
- Check flatness using a 2 m straightedge.
- Ensure there are no active cracks, moisture, or friable areas.
- Thoroughly clean dust, oils, plaster residues, paint, or release agents.
- Check the ambient and substrate temperature before starting installation.

### What should not be done?

- Do not install on substrates with significant unevenness.

- Do not install on surfaces with high residual moisture.

- Do not apply directly onto unstable or non-cured substrates.

- Do not ignore existing structural joints.

## 2 /SELECTION OF THE FIXING SYSTEM

The adhesive is not a secondary element, but a structural component of the system. The correct choice ensures load transfer, stress absorption, and overall durability.

- Use deformable cementitious adhesives classified as C2TE S1 / S2, in accordance with the applicable standard.

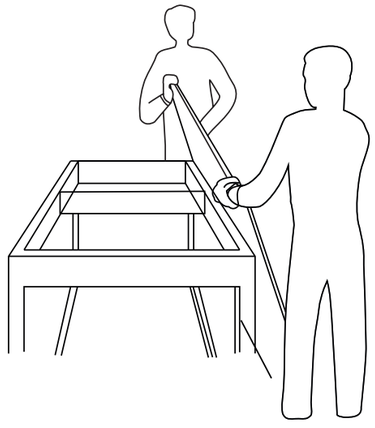
- Select the adhesive based on:
  interior / exterior use, flooring / wall cladding, façade applications, underfloor heating, or high-traffic areas.

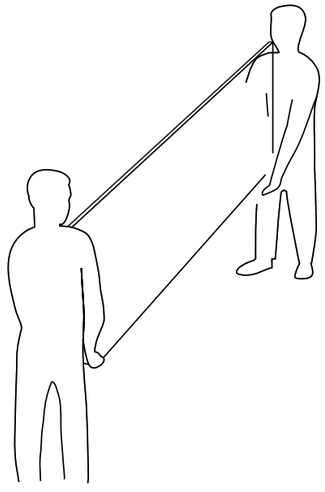
- Verify compatibility with both absorbent and non-absorbent substrates.

A common mistake is using adhesives not suitable for large formats, leading to detachment, voids, and claims.

## 3 / SAFE HANDLING OF THE MATERIAL

Incorrect handling can cause non-visible damage that may appear during cutting or installation.





- Always transport slabs on vertical racks.
- Mandatory use of suction cups, transport frames, and rigid crossbars.
- Store in dry, level areas.
- Handle with a minimum of two operators, depending on the format.
- Use PPE: cut-resistant gloves, safety footwear, and protective goggles.

### Bad practices

- Moving slabs manually without a reinforcement structure.

- Resting slabs directly on uneven edges.

- Dragging slabs across surfaces.

Poor handling practices such as lifting slabs without reinforcement, dragging them, or placing them on uneven surfaces, can cause microcracks that may not be immediately visible but compromise the material's integrity once installed.

With large-format slabs, damage that is not visible at the moment often appears later as breakage. Most breakages on-site occur before installation.



## 4/ SLAB PREPARATION

Before any machining, it is essential to properly prepare the slab. This stage helps anticipate issues and ensures accuracy in subsequent processes.

- Check shade, caliber, and reference before installation.
- Inspect for possible microcracks or transport damage.
- Always work on flat cutting tables or benches.
- Confirm vein or pattern orientation before cutting.

### Bad practices

- Cutting on unstable trestles

- Not inspecting the slab before machining.

- Mixing slabs from different batches without visual control.

As mentioned, it is essential to always work on perfectly flat and stable surfaces. Any irregularity in the working base can generate stress during cutting, increasing the risk of breakage.

## 5 / CUTTING AND MACHINING TECHNIQUES

Cutting and machining large-format porcelain requires a precise technical approach, where every action has a direct impact on the slab's subsequent performance. It is not just about shaping the material, but doing so without generating internal stresses that could lead to medium- or long-term failures.

- Use appropriate tools.
- Perform continuous and controlled cuts.
- Apply cooling during drilling.

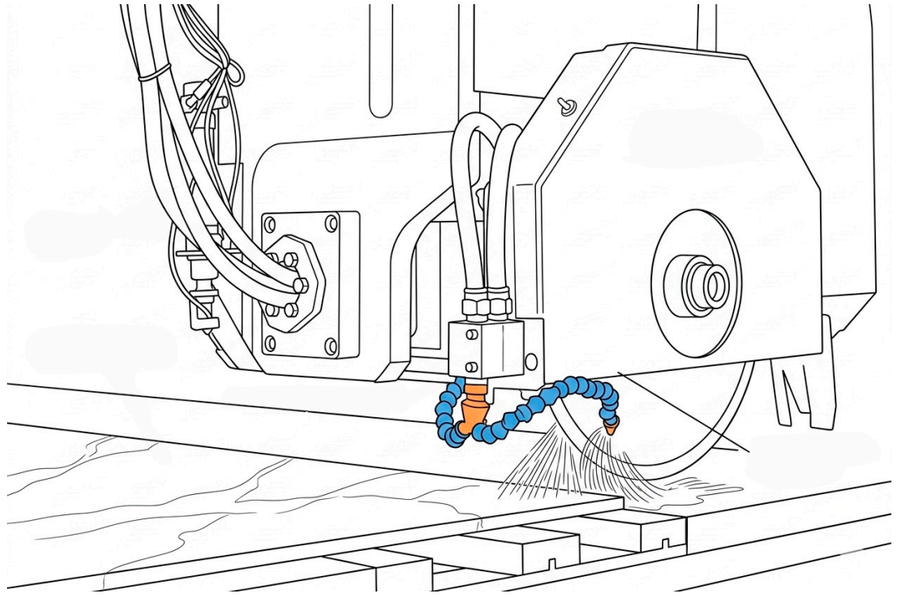
A good cut depends not only on the tool, but on the method. Technique makes the difference between a professional finish and breakage. Many failures do not occur at the moment of cutting, but as a result of improper machining that has imperceptibly weakened the slab.

## Bad practices

- Excessive pressure.
- Inadequate or worn tools.
- Lack of cooling.

One of the most critical aspects is the management of singular points such as cut-outs, fittings, or perforations. In these cases, stress concentration is high, making it essential to avoid right angles and always create relief radii to reduce the risk of cracking.

Likewise, factors such as applied pressure, cutting speed, and tool condition directly influence the result. A cut that appears correct may have generated micro-stresses that will later become evident during handling or use.







The installation of large-format porcelain is a critical phase where all previous work comes together. Precision in execution is essential to ensure a durable, defect-free result.

One of the fundamental principles is the use of double bonding. Due to the material's low absorption and large surface area, adhesive must be applied both to the substrate and to the back of the slab. This ensures full and uniform transfer, preventing the formation of voids.

- Uniform adhesive application.
- Double bonding is mandatory.
- Air removal.

The method of adhesive application is key. Troweling should be carried out in a single direction, both on the substrate and on the slab, facilitating air evacuation during placement. Installation should be accompanied by controlled pressure or light vibration to ensure full contact.

Lack of full coverage is one of the most serious failures in this type of installation. Internal voids create points of load concentration which, under mechanical stress, can lead to cracks or breakage.

In this context, installation cannot be approached as a simple mechanical operation. It requires control, continuous verification, and technical knowledge to ensure that each slab is properly integrated into the system.

*VISIBLE*
**PRECISION**

Large-format surfaces amplify any imperfection. What may go unnoticed in smaller formats becomes an evident defect here. For this reason, leveling control is not a final adjustment, but a critical phase during installation.

The use of leveling systems helps align slabs and reduce lippage between edges, improving the final finish. However, it is important to understand that these systems do not correct structural defects in the substrate or replace proper prior preparation.

Continuous verification during installation is essential. It is not enough to rely on the system; manual checks of flatness and joint alignment are necessary to ensure both aesthetic and technical continuity.

- Use leveling systems suitable for large formats.
- Continuously control lippage and flatness.
- Adjust slabs progressively and evenly.

### Bad practices

- Using the leveling system to correct the substrate.
- Forcing slabs into alignment
- Applying excessive pressure

## 8 / JOINT EXECUTION

Large-format porcelain has low deformation capacity, which makes properly dimensioned joints essential to accommodate thermal changes, structural movements, and substrate expansion.

It is essential to respect all types of joints: structural, perimeter, and movement joints. Their omission or incorrect execution is one of the main causes of lifting and cracking.

- Respect existing structural joints.
- Maintain minimum spacing between slabs
- Use flexible grouts in critical areas

### Mistakes to avoid

- Butt-joint installation (without joints)
- Rigid sealing in dynamic areas.
- Ignoring perimeter joints.

Without joints, the system cannot absorb stresses, resulting in lifting or breakage.

## 9 / FINAL SITE CLEANING

Final cleaning is not merely an aesthetic matter, but a phase that directly affects both the perception and durability of the material.

Adhesive or grout residues, if not properly removed, can adhere to the surface and cause stains that are difficult—or even impossible—to eliminate. For this reason, it is essential to act at the right time, before the materials fully harden.

The use of suitable products is equally important. Not all cleaners are compatible with porcelain surfaces, and aggressive products may alter the finish or damage the surface.

Therefore:

- Clean residues before they harden.
- Use recommended products.
- Carry out cleaning in phases.

### Mistakes to avoid

- Uncontrolled use of acids.

- Use of abrasive tools.

- Leaving grout residues on the surface.

Cleaning should be understood as a progressive process, carried out in several stages—from the initial removal of residues to the final handover cleaning.

## 10/ MAINTENANCE AND CARE

### DURABILITY
### *OVER TIME*

Large-format porcelain is designed to deliver high performance over time, but proper maintenance is essential to preserve both its appearance and functionality.

Under normal conditions, cleaning should be carried out using neutral products that do not affect the surface. In more demanding environments, such as commercial or high-traffic areas, it is advisable to establish more specific maintenance protocols.

Stains should be treated promptly using appropriate products, avoiding aggressive solutions that could damage the material.

It is also important to prevent mechanical damage, especially on edges and corners, by using protective elements on furniture or any items in direct contact with the surface.

The analysis of on-site incidents shows that problems in large-format applications are rarely due to the material itself, but rather to accumulated errors throughout the process.

One of the most common issues is inadequate substrate preparation. Irregularities, lack of stability, or the presence of moisture generate stresses that the material cannot absorb. This is often compounded by poor adhesion caused by incorrect adhesive application or the use of unsuitable products.

Handling also plays a key role. Many slabs reach the installation phase with prior micro-damage that compromises their performance. Likewise, the absence of joints—or their incorrect execution—prevents proper movement absorption, leading to lifting or cracking.

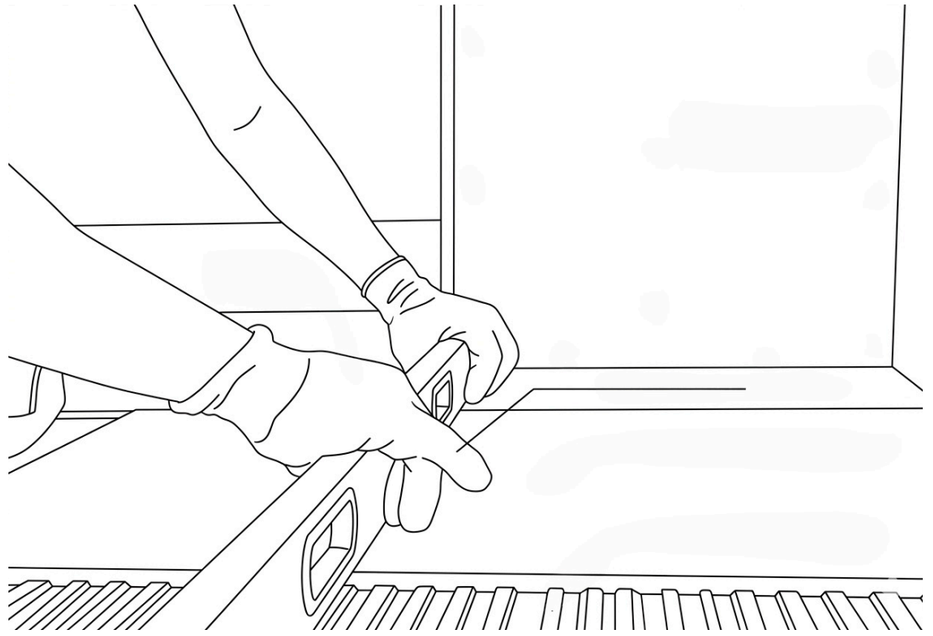
Technical cutting is another critical point. Errors in cut-outs, fittings, or perforations often result in localized fractures, especially when stress concentrations have not been properly considered.

Most importantly, these issues do not always appear immediately. In many cases, they become evident over time, when real conditions of load, temperature, or humidity put the system to the test.

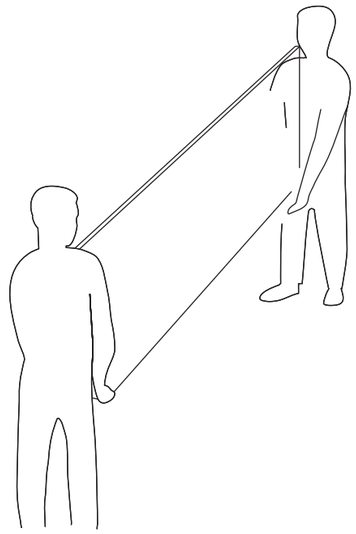
**5 most common mistakes:**

1. Irregular substrate
2. Incomplete adhesion
3. Incorrect handling
4. Lack of joints
5. Defective cutting

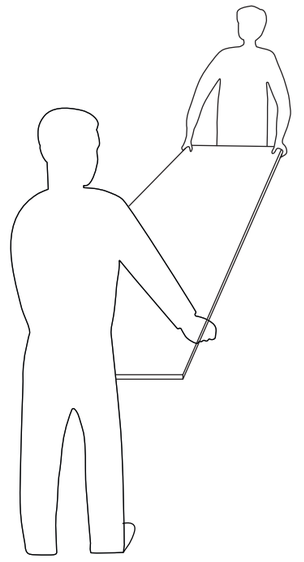
For this reason, prevention does not depend on a single action, but on the correct execution of every phase of the process. At Ascale, final quality is not the result of one factor, but the sum of well-executed decisions.



*Irregular substrate*



*Correct handling*



*Incorrect handling*

## TECHNICAL FEATURES

| PHYSICAL-CHEMICAL PROPERTIES | STANDARD TEST | GROUP BIa (GL) REQUIRED VALUE | AVERAGE VALUE |
|---|---|---|---|
| Thickness | ISO 10545-3 | Complies | Complies |
| Water absorbtion | ISO 10545-3 | ≤ 0,5% | ≤ 0,1% |
| Breaking strenght | ISO 10545-4 | ≥ 700 N e<7,5 mm<br>≥ 1300 N e≥7,5 mm | ≥ 1000 N e=6mmm<br>≥ 3000 N e=8mm |
| Modulus of rupture | ISO 10545-4 | R ≥ 35 N/mm2 | ≥ 50 N/mm2 |
| Impact resistance | ISO 10545-5 | | >0,8 no visible defects |
| Resistance to surface abrasion | ISO 10545-7 | | |
| Linear thermal expansion | ISO 10545-8 | | 5,7.10-6·°C |
| Thermal shock resistance | ISO 10545-9 | | |
| Moisture expansion | ISO 10545-10 | | <0,1 mm/m |
| Crazing resistance | ISO 10545-11 | | |
| Frost resistance | ISO 10545-12 | | |
| Chemical resistance: Cleaning products | ISO-10545-13 | B | A |
| Chemical resistance: Swimming pool salts | ISO-10545-13 | B | A |
| Chemical resistance: Low concentration acids | ISO-10545-13 | | LA matt finish<br>LB polished finish |
| Chemical resistance: Low concentration bases | ISO-10545-13 | | LA matt finish<br>LB polished finish |
| Resistance to stains | ISO 10545-14 | Min.3 | Min. 5 matt finish<br>Min. 4 polished finish |
| Determination of lead and cadmium | ISO 10545-15 | | Cadmium < 0,01 mg/l<br>Lead < 0,1 mg/l |
| Dry heat resistance | EN 13310 | Declared value | |
| UV Resistance | DIN 51094 | Declared value | No change |



At Ascale, we understand large-format porcelain not just as a material, but as a system that requires knowledge, precision, and technical expertise at every stage.

For this reason, we are committed to training, proper material application, and continuous improvement in execution. This document is intended as a practical complement to our more comprehensive manuals on cutting, installation, and maintenance, helping to ensure optimal, long-lasting results aligned with the quality standards that define our products.

Because a good installation does not depend solely on the material, but on how it is handled.

ASCALE

*Nature inspiring innovation*


**HEADQUARTERS**

CTRA. CASTELLÓN, 117
ALCORA 12110 (CASTELLÓN)

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**LOADING ADDRESS**

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CTRA. CASTELLÓN - ALCORA
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