Any tiled area can look beautiful with the right workmanship. Hence, in this manual detailed description of laying and installing iMarble is provided as per the recommendations of Qutone so as to achieve perfect finish and nullify tolerances.
1. **iMarble**

iMarble is an Intelligent Innovation of Qutone in Slab Tile Segment and is considered as the New Generation Tiles. iMarble is Technically Advanced product with enhanced Flexural Strength, Large Size, Myriad Designs, Authentic Textures, Flawless Consistency, Resistance to Scratch, Stains and Bacteria. iMarble is the next biggest Invention as a Slab Tile enriched with all the Elegance, Aesthetics & Beauty of Italian Marble while eliminating the inherent disadvantages of Marble. iMarble is an advancement set out to revolutionize the Tiles Industry to grace and beautify Interiors, Exteriors, Claddings and Floorings of all living spaces.

2. **The "Intelligence" of iMarble**

2.1. **Installation Friendly:**

What makes iMarble intelligent is; The Grand Sizes it is available in. This makes installation a very simple and joyous.

For example, one single slab of 1200x2400mm will replace 8 tiles of standard 600x 600mm size. Attributing –

2.1.1. Lesser number of visible joints
2.1.2. Avoid distortion over the surface
2.1.3. No undulation on the surface
2.1.4. Faster Installation
2.1.5. 45% reduction in grouting (Tile Joint Filling)

iMarble Slab Tiles are installation friendly as it requires less of high traditional skills, material handling efficiency, storage spaces etc. In this manual, we will elaborate on all the aspects of iMarble to educate the users to extract maximum advantage of the product and beautify their living spaces with less troubleshooting.

2.2. **Pre-polished:**

Polishing natural marble is a hard task. The process of polishing, cleaning, sealing, buffing etc. not only increases the Cost of Installation but also increases the installation time. The high degree skills required for these processes also stands at high risk of poor workmanship. iMarble is a Finished Product in all respect –

2.2.1. Pre-Polished Surface
2.2.2. Precisely Sized
2.2.3. Consistent and Variation free surface
2.2.4. No post installation treatment required
2.2.5. Easy Cleaning after laying / installation

2.3. **Light Weight:**

The iMarble weighs at least 60% less than traditional and current Italian marble. This adds to the simplicity of Transport, Handling and Installation of the Slabs, along with reducing the Dead Load on the structure.
2.5. Environment Friendly:

iMarble, in many ways, contributes to sustain the Ecology and in preservation of natural resources like Water, Land, Energy etc. over natural Marble.

2.5.1. Low on Solid Waste: Only 5% Solid Waste needs to be disposed of during the life cycle of iMarble as compare to 60% Solid Waste generation in natural Marble’s life cycle.

2.5.2. Low on Water Consumption: Only 10% water is required during production. Processing, Installation and Finishing of iMarble – as compare to natural Marble

2.5.3. Low on Energy Requirement: The energy required for Production, Transportation, Installation and Finishing of iMarble is very low as compare to natural Marble

2.5.4. Low on Environmental Pollution: The environmental pollution during the process of natural Marble’s Mining, Block Processing, Slab Processing and Polishing is comparatively very high. The Land, Air and Water pollution associated with production, processing and installation of natural Marble is immensely high as compare to iMarble. Thereby, use of iMarble promotes the cause of saving the Environment from pollution.

2.6. Saves Energy:

Smart functioning of iMarble makes it energy efficient. It carry out a turbulence of their own with wind to maintain a constant circulation of air that maintains ideal temperature in the room.

2.7. Protection Against Rain Water:

The surface of iMarble is developed in such a way that it doesn’t let rain water penetrate in the concrete and protects the structure against erosion.

2.8. Prevents Thermal Bridges:

The positioning of a continual insulating layer to cover the wall guarantees a decrease in heat dispersion, eliminating heat bridges and interruptions of insulating material due to beams and corner pillars, generally present in traditional walls.

2.9. Reduces Thermal Expansion:

Overall energy behavior minimizes dispersion and promotes thermal balance by reducing energy requirements to a minimum.

2.10. Increases Building's Lifespan:

As the external surface of the building is robust and non-penetrable, the foundation strength of the building remains solid for long, extending the life of the building.

2.11. Prevents Internal Condensation:

The presence of an air gap facilitates evacuation of water vapor from the interior and promotes the removal of possible moisture, eliminating surface condensation.

2.12. Provides Acoustic Insulation:

Ventilated walls tend to increase the reflection of external noise as the particular construction, consisting of layers of facing, air gap and insulating material ensures a certain level of acoustic absorption.

2.13. Zero Porosity-Restrains Fungus Growth:

Another quality that iMarble is imbued with is its low or zero porosity. When water settles on natural marble, it seeps in, making the marble weak, inviting fungal, algae growth, etc. With iMarble, all these problems can be avoided.

2.14. Low Maintenance:

iMarble needs minimum care because of its low porosity, highly compact body and high hardness index.
2.15. Compact Yet Tough:
Natural marble has a very low modulus of rupture (MOR), while processed slabs of iMarble are compact made and have a very high breakage strength, making iMarble a far more stronger choice than traditional marble.

2.16. Tough Yet Flexible:
The vitrified body gives impeccable strength to withstand the harshest of environment yet due to a large span with special thickness; there is a certain amount of flexibility. The high flexural strength & flexible body of iMarble smoothly adjusts to the undulations of the surface and provides flawless and flat installation effortlessly.

2.17. Fire Resistant:
These tiles are fire resistant and can withstand flames for a definite period of time.

2.18. Best for Renovating Old Buildings:
Light weight system of these tiles can be used even on older buildings. It can easily be placed on walls and floors, over the top of any material without the need for demolition. This eliminates the typical inconveniences associated with renovations.

2.19. Ideal for Ventilated Facades:
iMarble 800x2400 is specially recommended for facades i.e. ventilated and non-ventilated. It can be installed easily by means of wet as well dry cladding.

2.20. Resin Free:
Resin is a synthetic polymer used as an adhesive for treating cracks in natural marble. iMarble uses no resin treatment as there are no cracks in it. Since resin has an adverse effect on the skin, iMarble is a far more better and healthier option than natural marble.
3.1.2. Finishes

**POLISHED**
Use of special transparent glaze on the surface, gives a polished look to the tiles. The polished surface reflects high-end grace and potency.

**PEARL**
Pearl finish stands for detailed natural veining and subtle poise that it derives through modern technology.

**MATT WOOD**
It is a perfect mélange of matt and wooden finish. Surface treatment gives it a perfect look and also makes it highly scratch resistant.

**MATALLIC**
Pure rusted metals are reproduced with special inks giving the realistic effect.

**MATT**
Top grade matt finish is derived using state-of-the-art technology which provides high resistance to fading and discoloration to tiles.

**SUGAR**
Application of the sugar-like granules on the surface imparts a distinctive texture, shine, and coarse surface design.

**LEATHER**
Detailed surface contour and refined surface polish for this finish is derived using punch effect and special granules.

<table>
<thead>
<tr>
<th></th>
<th>INDICATIVE USAGE AREA</th>
<th>6mm &amp; 9mm</th>
<th>12mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indoor paneling</strong></td>
<td></td>
<td></td>
<td>○</td>
</tr>
<tr>
<td><strong>Indoor paving</strong></td>
<td></td>
<td></td>
<td>○</td>
</tr>
<tr>
<td><strong>Outdoor natural stone facade</strong></td>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td><strong>Outdoor paving</strong></td>
<td></td>
<td></td>
<td>○</td>
</tr>
<tr>
<td><strong>Ventilated facade with exposed anchor</strong></td>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td><strong>Ventilated facade with hidden anchor</strong></td>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td><strong>Counter Tops</strong></td>
<td></td>
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<td>○</td>
</tr>
<tr>
<td><strong>High-traffic paving</strong></td>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td><strong>Indoor paneling over the material</strong></td>
<td></td>
<td></td>
<td>○</td>
</tr>
<tr>
<td><strong>Indoor paving over the material</strong></td>
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<td></td>
<td>○</td>
</tr>
<tr>
<td><strong>Furniture</strong></td>
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</table>

The above data is indicative.
### 3.1.4. Product Technical Characteristics

#### Regulatory Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deviation in Length &amp; Width</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
<tr>
<td>Deviation in Thickness</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
<tr>
<td>Straightness of Sides</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
<tr>
<td>Rectangularity</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
<tr>
<td>Surface Flatness</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
<tr>
<td>Colour Difference</td>
<td>Unaltered</td>
<td>No Change</td>
<td>ISO - 10545-16</td>
</tr>
<tr>
<td>Glossiness</td>
<td>As per Mfg.</td>
<td>&gt;90%</td>
<td>Glossmeter</td>
</tr>
</tbody>
</table>

#### Structural Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption</td>
<td>±0.05</td>
<td>±0.05</td>
<td>ISO - 10545-3</td>
</tr>
<tr>
<td>Apparent Density</td>
<td>&gt;2.00 g/cc</td>
<td>&gt;2.10 g/cc</td>
<td>DIN 51082</td>
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</tbody>
</table>

#### Massive Mechanical Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modulus of Rupture</td>
<td>Min 35 N/mm²</td>
<td>Min 40 N/mm²</td>
<td>ISO - 10545-4</td>
</tr>
<tr>
<td>Breaking Strength</td>
<td>Min. 1300 N</td>
<td>Min. 2000 N</td>
<td>ISO - 10545-4</td>
</tr>
<tr>
<td>Impact Resistance</td>
<td>As per Mfg.</td>
<td>Min. 0.55</td>
<td>ISO - 10545-5</td>
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</table>

#### Surface Mechanical Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Abrasion Resistance</td>
<td>As per Mfg.</td>
<td>Min. class 3</td>
<td>ISO - 10545-7</td>
</tr>
<tr>
<td>Moh’s Hardness</td>
<td>As per Mfg.</td>
<td>Min. class 4</td>
<td>EN 101</td>
</tr>
</tbody>
</table>

#### Thermo Hygrometric Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frost Resistance</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-12</td>
</tr>
<tr>
<td>Thermal Shock Resistance</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-09</td>
</tr>
<tr>
<td>Moisture Expansion</td>
<td>Nil</td>
<td>Nil</td>
<td>ISO - 10545-10</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>Max. 9.0 x 10⁻⁴</td>
<td>Max. 6.5 x 10⁻⁴</td>
<td>ISO - 10545-08</td>
</tr>
<tr>
<td>Crazing Resistance</td>
<td>As per Mfg.</td>
<td>Min. 10 Cycle</td>
<td>ISO - 10545-11</td>
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</tbody>
</table>

#### Chemical Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Resistance</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-13</td>
</tr>
<tr>
<td>Stain Resistance</td>
<td>Resistant</td>
<td>Resistant</td>
<td>ISO - 10545-14</td>
</tr>
</tbody>
</table>

#### Safety Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slip Resistance</td>
<td>As per Mfg.</td>
<td>&gt;0.40</td>
<td>ISO - 10545-17</td>
</tr>
<tr>
<td>Fire Resistance</td>
<td>As per Mfg.</td>
<td>Fire Proof</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

### 3.1.4. Product Technical Characteristics : 1200x3000mm (6 mm Thickness)

#### Dimensions & Surface Quality

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE MEGA THIN SLAB VALUE</th>
<th>TEST METHOD</th>
</tr>
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<tbody>
<tr>
<td>Deviation in Length &amp; Width</td>
<td>±0.5%</td>
<td>±0.2%</td>
<td>ISO - 10545-2</td>
</tr>
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<td>±0.5%</td>
<td>±0.2%</td>
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<tr>
<td>Rectangularity</td>
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<td>±0.2%</td>
<td>ISO - 10545-2</td>
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<td>Surface Flatness</td>
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<tr>
<td>Colour Difference</td>
<td>Unaltered</td>
<td>No Change</td>
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<tr>
<td>Glossiness</td>
<td>As per Mfg.</td>
<td>&gt;90%</td>
<td>Glossmeter</td>
</tr>
</tbody>
</table>

#### Physical Properties

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE MEGA THIN SLAB VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption</td>
<td>±0.05</td>
<td>±0.05</td>
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<tr>
<th>CHARACTERISTIC</th>
<th>STANDARD AS PER ISO-13006/ En14411 GROUP</th>
<th>IMARBLE MEGA THIN SLAB VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to low concentrations of Acids &amp; Alkalis</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-13</td>
</tr>
<tr>
<td>Resistance to high concentrations of Acids &amp; Alkalis</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-13</td>
</tr>
<tr>
<td>Resistance to household chemicals &amp; swimming pool Salts</td>
<td>No Damage</td>
<td>No Damage</td>
<td>ISO - 10545-13</td>
</tr>
<tr>
<td>Lead &amp; Cadmium Release</td>
<td>Resistant</td>
<td>Resistant</td>
<td>ISO - 10545-15</td>
</tr>
<tr>
<td>Stain Resistance</td>
<td>Resistant</td>
<td>Resistant</td>
<td>ISO - 10545-14</td>
</tr>
</tbody>
</table>
04. Inspection

4.1. iMarble Slab Packaging

Before starting the installation process, Qutone recommends cleaning the slab thoroughly and doing a careful visual inspection of the slab to check whether the slab is according to the standard quality requirements. This is a checklist of items to be inspected visually:

- Fissures
- Pollution
- Thickness
- Shine variations
- Color tones of the different slabs
- Stains
- Pricks
- Flatness
- Imperfections

This should be the initial step before starting the installation. We recommend doing the inspection against the light to spot possible defects that are not seen when the tile is laid flat.

*No claims will be entertained for products already installed, even if they had defects at the time of the delivery. Marble workers should be asked for their opinion for determining whether the slabs are appropriate for use or not. If they are not appropriate, they should be exchanged before the slabs are installed or cut or modified.

4.2. iMarble Slab Characteristics

To check the flatness, a slab should be placed horizontally on a flat base. The flatness is measured by positioning an aluminum rod or a similar object on the slab that covers its entire length.

4.3. iMarble Slab Color Tone

Variation in shade, color tone and design pattern is an inherent characteristic of ceramics. At Qutone, we take utmost care to keep the variations at bay. However, there could be certain amount of variations which are beyond technical barriers; therefore it is advised to purchase sufficient tiles to complete the job.

Before opening the boxes of tiles, please check manufacturing date, design name, batch no. and color tone, it is advisable to use tiles of same date/tone/batch no in a single room.

The iMarble slab tile boxes should be segregated according to the selected colour, design and tone for specific area and to be stacked separately to avoid mixing of boxes/tiles to achieve pleasing blend and flow less appearance of the design.

4.4. iMarble Slab Design

1) Uniform Design (Single Face)
2) Book Match Design (2 Faces)
3) Random Design (Abstract Variation)

Users are requested to understand the designs and their patterns

Refer the product catalogue for design details

Installing book-match patterns requires additional care to adjust the slab tile to derive the required pattern, book-matching between two pieces is subject to the typical tolerance of Natural Kiln Fired products.
05. Handling And Storage

Loading, unloading and transporting Qutone iMarble shall be done by means of a forklift, bridge crane or other hoisting device.

During the process of handling and transporting, make sure that the slabs are balanced considering their center of gravity.

To allow the extraction of the slabs easily, it is recommended to position the pallets in a suitable area where the lift truck can be moved around all sides of the pallet.

For the correct handling of the pallets, a fork lift truck must be used, at least 2.5 m long, with the forks positioned in the maximum width position. Under normal conditions, the forks are positioned in the middle of the long side of the pallet, as they must grip the whole depth of the pallet. To allow the extraction of the slabs easily and safely, it is recommended to position the pallets in a suitable area where the lift truck can be moved around all sides of the pallet. For manual handling and subsequent lying of the slabs, in order to guarantee the operator’s safety and the integrity of the slabs, it is strongly recommended to use a two double/single suction cups.

5.1.1. Transporting with a clamp

Be careful while moving and handling the slabs to prevent splintering or breakage. Imarble recommends use of following type of clamp for lifting and moving the slab.
Use of such clamp helps in avoiding breakage and bending of the slab.

Recommendations
Do not clamp more than 2 slabs at a time
Remove the plastic covering before clamping
Cover all the metal substance with adhesive foam tape that may come in contact with the slab
In case of unavailability of this type of clamp use a 2 cm thick plank of approximately 3 m x 20 cm so the clamp can catch 12 mm slabs.
Make sure you fix the ends of the slab with jacks to the plank so that the slab doesn't slump during handling.

Keep the plank at the rear of the slab
- Clamp shall be placed on the slab and the plank
- Lift the slab and the plank only after fixing the clamp
- Sudden changes in the directions shall be avoided

5.1.2. Transporting with slings

Using canvas with slings to move several slabs at the same time is recommended. Metal Slings must not be used to handle imarble slabs.
Using canvas slings to move multiple slabs simultaneously is recommended. Use of metal slings is not advisable for handling imarble slabs. It is recommended to use a suction frame for easier handling of imarble. The suction cups are adjustable, which helps the frame to adapt to any size.

If such a frame is not available, then an aluminum or steel rod secured with jacks can also be used.

5.1.4. Suction Frame

This frame will stop the imarble slab from bending to an extent during handling. We also recommend fixing other parts with jacks to an aluminum rod for transport. It will also prevent the parts from bending during handling.

5.1.5. Slab Storage

Place the slabs length-wise on wooden beams to protect the slabs from splintering. The slabs need at least three support points, which should be distributed evenly along the back of the slab. But we recommend using an unused granite or marble slab with sufficient width to give proper support. But the most effective way to maintain the integrity of the slabs is to store them in their original packaging.

Avoid positioning large slabs against smaller slabs:
5.1.6. Transport by road

The imarble slabs must be completely secured mechanically (with jacks or belts) as they could become loose during transportation. Lightweight slabs and tiles may fall from a truck or on the ground, so it is crucial that they are always safely secured while unloading. Pay extra attention if the slabs are to be stored in an outdoor space. Tie the slabs to sawhorses to make sure the tiles and slabs are protected from gusts of wind.

6. iMarble Slab Installation

There are 5 primary steps of tile laying:
1) Surface Preparation
2) Dry Laying
3) Tile Laying
4) Grouting
5) Initial Cleaning

6.1. Surface Preparation

Plaster the surface of the floor/wall to be tiled smooth and complete the plastering and curing at least two weeks prior to tiling. The surface on which the tiles are to be laid should be clean and free from dirt and particles to avoid contamination. Before laying floor tiles on old mosaic and cement floors, the floor should be clipped with a chisel or sharp tool so that the surface is sufficiently matted to grasp the mortar.

Qutone recommends use of adhesive of class C3E according to En12004 and SI according to ENI2002 standards.

Deviations are more significant among different thicknesses of iMarble, given the way in which each thickness is produced. Before cutting, inspect the slabs to ensure the tone of the different slabs is satisfactory. Make sure you do this inspection under lighting conditions that are similar to the area of installation. We recommend that you don’t blend slabs from different batches.

6.2. Dry Laying

Tiling should preferably be started from the center area so that cut tiles, if any, come only on the sides. Arrange tiles in the desired layout to ensuring that there are equal cut tiles at either end. Proper gradient of floor should be provided for ease in drainage & ensuring avoidance of water accumulation.

Qutone recommends laying of tiles with adhesive. Proper care should be taken in terms of selection of adhesive with the area mended for usage. Various adhesive for varied application are available in the market. Proper market consultation with adhesive supplier is recommended. Follow the instruction of tile adhesive manufacturer for laying the tiles.
6.3. Tile Laying

Take care of the following things before fixing the tiles:
- Entry and Exit points should have doormats in order to avoid abrasive dust particles from entering the floor area.
- Avoid movement on damp surface.
- Avoid pulling heavy, pointed or sharp objects on the flooring surface.

6.3.1. In-door Installation

Make sure to leave 2-3 mm space between the tiles. Create movement joints every 25 mtr or as directed by an expert. The adhesive must be applied to the back of the tile and the sub-layer with a notched trowel.

6.3.2. Outdoor Installation

Try to keep movement joints of approximately 1 cm wide at the corners. Create movement joints every 9-12 mtr or as directed by an expert. Always respect the building's structural joints while laying the tiles.

It is mandatory that the tiles be installed with a large joint between each of them. The width of the joint must be calculated based on the local climate conditions, the tile size and flexibility of the sub-layer.

6.3.3. Tile over Tile Installation

Ensure that the old tiles are fixed properly. If not, remove any unsecured tiles and fill the gaps with a suitable mortar. Before laying iMarble, wash the old tiling with water and soap to get rid of any dust, grease or other impurities and let it dry. Apply bonding resin before tiling over the old tiles. After this step, follow the instructions for indoor or outdoor installation. For fixing the Tiles on wall dado we recommend the use of adhesive please follow the manufacturer's instructions for the same. We do not recommend the use of sand and cement for fixing on dado. Mark and lay the tiles from the center of the area to be tiled so that cut tiles, if any will be on the outer edge towards the wall. It is advisable to maintain a gap of 1 mm to 2mm between adjoining tiles to allow for possible expansion as per BIS/EN tolerance norms.

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6.4. Grouting

Leave a Joint gap of about 3-4 mm between two tiles. The gaps between tiles should be filled with grout available in the market. Always follow the instructions of grout manufacturer. After filing the Joints, floor surface should be cleaned with sponge or a piece of cloth and filler should be allowed to set for 24 hours by avoiding all traffic there on. Before fixing tiles, lay them out in desired pattern and acceptable blend of color.

**DO NOT USE IRON HAMMER OR ANY HEAVY OBJECT TO PRESS THE Tiles**

6.5. Initial Cleaning

The initial cleaning done immediately after the tiling process is complete is of essential importance for removing all mortar, adhesives and epoxy residues that may be left in the joints. We recommend use of an acid decalifying product. Rub energetically to obtain the maximum cleaning. After washing the floor, which is just as important, rinse thoroughly with plenty of water to remove all traces of the detergent used. This process should be carried out as early as the grout is cured. Refer to the adhesive and grout manufacturers' instructions carefully.

**General Recommendations:**

For commercial and heavily used surface areas such as airports, hospitals, supermarkets, and any public spaces with heavy foot traffic which are thus subject to considerable soiling, it is necessary to use automatic cleaning machines with suction of the washing liquids. This allows not only deep cleaning, but also the continuous removal of liquids containing substances that cause soiling, thus preventing the formation of films which are very difficult to remove.

Any detergent on the market can be used in the desired concentration for cleaning the high technology products, with the exception of HYDROFLUORIC acid (HF) or its compounds, according to UNI-EN 176 standards. In order to keep costs limited and speed up maintenance operations, the concentration of the detergent must always be as low as possible. For raised floors we suggest to choose bright or polished surfaces in large sizes: these materials can be dry cleaned or with the minimum use of liquids. After the floor is laid it is necessary to make a very accurate initial cleaning with proper products.

**Detergents:**

The detergents are essential when laying new materials on old floors and for preparing the support surface perfectly as well as after installation to remove all traces of cement, adhesive or sealant from the newly laid materials.

**Matt Materials:**

For these materials, after completing the steps described in the section “Initial Cleaning”, you only need to clean the floor with hot water containing small quantities of an alkaline detergent. On these types of surface it is not advisable to apply waterproofing product: the absence of porosity causes the waterproofing agent to deposit on the surface in an uneven way and to have unpleasant aesthetic effects.

**Relief Materials:**

The procedure described for matt and bright materials is also valid for products with relief surface with the following additions:
- When cleaning, follow the outline of the relief pattern;
- rub aggressively using appropriate bristles;
- rinse abundantly and thoroughly.
07. Cutting Recommendations

7.1 Mechanical Disc Cutting tool

Take care of the following aspects before beginning

- The bench should be straight and free of debris
- There should be enough support for the slab
- Maximum use of water flow shall be maintained while cutting to cool the disc. The water flow shall aim at cutting area.

Cutting Sequence

1. Prepare holes of 3 mm bit diameter on all the inner circles (in case of kitchen counter tops, diameter can be more than 3 mm)
2. Prepare the remaining cuts

Recommendations

1. The disc rotation shall correspond with cutting directions.
2. The cutting disc should be at least 1.5mm more than the slab thickness to ensure a clean cut
3. If the disc is lowered onto the slab, do it in automatic mode at the slowest speed.
4. Keep on checking the plates at regular intervals and do not use the disc if it doesn’t fit into the support plate.
5. If you want to go for a 45 degree angle, then adopt a slower cutting speed. Slow speed also helps in keeping the disc aligned.
6. While using a new disc, make some cuts so the disc segments can adapt and the diamonds open.
7. Cut outs shall have drilled holes of a minimum radius of 3 mm.
8. Do not lower the disc directly on the slab ahead of drilling the corners.

7.2 Water Jet

Take care of the following aspects before beginning

- The bench should be straight and free of debris
- There should be enough support for the slab
- If the waterjet is used for removing the 3/4" parameter from ½" and ¾" slab, the cut should begin and go off the slab.
Qutone recommends to expand the radius of inner corners where the fitting is to be done for kitchen counter tops as it would make them firmer.

- Keep the pressure low while drilling holes
- To do the cut, begin the cut at an internal point in the cutting layout and cutting towards the perimeter of the slab is recommended
- For large cut outs, follow the given sequence

1. Cut towards the edge from the hole or go for a parallel with the edge and following this direction, move to the finished part
2. Do not cut it from the center
3. Making of the first cut towards the center of the slab is not recommended.

Counter Top Cutting

The minimum distance between a cut out and the edge of the slab must be 5 cm. Distance gap greater than 5 cm, if kitchen design allows it, make the counter top firmer.

The correct way to create the cutout, except water jet, is to first drill the corners and then rest of the cuts.

Guidelines
- Two straight cuts must never be joined
- No squared inner corners
- All inner corners must have radius of 3mm

Irregular cuts are also not recommended such as “Framehouse Sink” in these cases add joints to the Counter top design

Other types of design to be avoided

7.3 Sockets and switches

Gaps made to insert accessories (sockets, switches, etc.) should be done using drills (circular cuts) instead of straight cuts. The circular cuts may overlap.
7.4 sinks

Flush sinks

Qutone recommends the installation of the flush sinks in 12 mm.

Do not remove more than 6 mm in on a slab of 12 mm

Undermount sinks

Use a round edge having a radius of 2 mm to reduce the risk of splintering

Use a rod as a support under the sinks if the size of the sink is too big, so that the weight is on the rod and not on the countertops.

7.5 Tops

- L-shaped countertops
  
  Qutone explicitly recommends dividing L-shaped countertops into several parts to avoid 90° corners in one section.

7.6 Furniture

L-shaped countertops, which are made of a single piece without a 45° angle should have at least a radius of 2 inches.

Before the countertop is installed, ensure the furniture is in perfect condition and level to the ground.

Furniture needs to be in a perfect condition and leveled well before beginning the installation of countertop. First secure the cabinets with each other and then with the wall.

Expansion Joints

The point where the crown and countertop meet shall be sealed with a line of silicone

Use a 100% transparent adhesive to fill these joints and secure the countertops to the furniture and the floor or to secure the Imarble crowns to the wall. This will enable adequate thermal expansion. We do not recommend use of epoxy and liquid nails as adhesives.
Thanks to the characteristics of the production process (high firing temperature, raw materials of great quality, sinterising process), the surface of the material is waterproof (the water absorption is minimum). Therefore the dirt cannot penetrate but it is necessary to remove it from the surface. For this procedure do not use detergents containing waxes or waxing products, in order to avoid the forming of greasy layers; for choosing the most appropriate detergent refer to the following chapters. After the installation of floors, particularly of those made with polished materials, the surfaces should be adequately protected with particle board or other suitable materials in order to protect them from dirt and on-site processing. This prevents damage caused by subsequent processing.
05_Kitchen Tops

06_Wall_Paneling

06_Interior_Backdrop

07_General Flooring
08_Corporate

09_Corridor

10_Foyer

11_Pool Side
10. Recommended Application Areas

- Homes
- Theatres Halls
- Offices
- Super Markets
- Hospitals
- Religious Places
- Schools
- Restaurants
- Industries
- Shopping Malls
- Banks
- Corridors & Halls
- Cafés, Pubs & Bars
- Airport Terminals

11. Technical Features

- Stain Resistant
- Scratch Resistant
- High Abrasion Resistant
- Zero Maintenance
- Almost 0% Water Absorption
- Thermal Resistant
- 11mm Thickness
- High Flexural Strength
- For Wall & Floor
- Easy Installation
- Easy to Clean
- Fire Resistant
- Chemical Resistant