

INSTALLATION GUIDE



KalingaStone®
TERRAZZO, MARBLE & QUARTZ

KalingaStone®
MAXGUARD™
Bacteria Free Surfaces

KalingaStone®

TERRAZZO, MARBLE & QUARTZ

Do's & Don'ts pertaining to Installation of Kalinga Stone Engineered (Marble/Terrazzo/Quartz Stone) in Flooring (*Interior Applications only):

1. Engineered Marble / Terrazzo / Quartz slab of thickness 15 mm / 18mm for marble/terrazzo and 15 mm / 20mm for Quartz, the slab should be cut in minimum 3 equal pieces. In case of 12 mm thickness, keep maximum size of 2' x 2'.
2. We recommend using water liberally while cutting to avoid burning and chipping of Engineered marble slabs. Diamond CD blades should be used for cutting to avoid chipping in marble.
3. At 'L' section, Diamond Core Bit shall be used before cutting. By adopting this process, possibility of crack development at $(90^\circ + 45^\circ = 135^\circ)$ will be fully avoided. If possible, avoid provision of 'L' Section, instead provide a strip of Marble / Terrazzo / Quartz.
4. Clean sides of Engineered Marble / Terrazzo / Quartz with a polish paper for seamless joints.
5. Ensure the substrate / bedding layer (thickness not to exceed 20 - 25 mm) to be in line & level. Also ensure that surface is properly cleaned & it is free from dust, oil, grease etc.
6. To level surface, cast 25-60 mm thick well leveled & properly compacted PCC surface with 1 part grey cement: 2 parts sand: 3 parts grit (coarse aggregate of 10 mm size). Ensure adequate curing for minimum 7 to 10 days before installation of Marble / Terrazzo / Quartz.
7. As per site requirement, a well leveled, properly compacted and adequately cured as well as properly dried PCC sub-base should be prepared.
8. The PCC sub-base should be properly cleaned and made free from dust, dirt, oil, grease etc. at the time of installation of Engineered marble/terrazzo/quartz.
9. Apply adhesive:-
 - (a) **For interior flooring application only:-**
Use Adhesive conforming to IS 15477: 2019 Type 4 Indian Standard / C2TES1 / C2TES2 conforming to EN 12004: 2017 standard.
 - (b) **For Interior wall cladding (height upto 10 ft):-**
Use Adhesive conforming to IS 15477: 2019 Type 4 Indian Standard / C2TES2 conforming to EN 12004: 2017 standard.
 - (c) **For dry wall substrate like engineered plywood, Bison Board, cement board etc:-**
Use Adhesive conforming to IS 15477: 2019 Type 5 Indian Standard / R2T (Improved (2) reaction adhesive (R) and slip resistant (T) classified as R2T) conforming to EN 12004: 2017 standard.
 - (d) **For substrate (Exposed to Sun / partially Exposed to Sun), fully avoid installation of Marble / Terrazzo / Quartz either in flooring or wet cladding. Under unavoidable circumstances (especially in case of partial exposure), use Type 5 adhesive only ensuring full involvement of Adhesive supplier.**

10. Make sure not to spread more adhesive than that needed to lay Engineered Marble within a 15 minute period. Engineered Marble piece can be adjusted up to 25 minutes after fixing.
11. Engineered Marble shall be installed with slight twisting action, making sure that complete bonding (100 % bonding) is achieved. Kindly ensure full involvement of concerned adhesive supplier's authorized technical team.
12. While installing / fixing the tile / stone on the floor, to avoid undulation, it is recommended to use tile leveling system with spacer clips, wedges** and plier.
13. Subsequently we recommend use of a vibrator machine / rubber hammer after the tile / stone is laid on the floor. The vibrator machine, due to its powerful vibration when moved over the tile / stone, helps the adhesive paste to level up and evenly spread out. This eliminates the chances of any air gap / hollowness beneath the tile / stone. Remove excessive adhesive if any, coming out from the joints, with damp cloth / sponge.
14. Keep approx. 10 mm wide gap below skirting to take care of product's thermal expansion. Provide suitable Backer Rod of bigger size (say 12 - 15 mm dia.) in said gap of 10 mm width below skirting so that it is tightly fitted.
15. Keep 6 - 8 mm wide expansion joint after every 5 metres on both sides (i.e. along length & breadth).
16. Not to fill joints immediately. Instead it should be kept open for minimum 3 - 4 days for evaporation of excess moisture etc. The joints should be cleaned thoroughly before filling.
17. White cement or white cement based grouts should neither be filled in joints, nor should be kept on Marble / Terrazzo / Quartz surface under any circumstances.
18. Only epoxy to be used for filling the joints. Excess epoxy lying over joints should be cleaned immediately. However, for grouting of seamless joints of antique finishes or of quartz surfaces, which are not re - polishable, we recommend to use 2" wide ABRO masking tape on both sides of seamless joints and to remove the masking tape after half an hour of epoxy filling in perfect level of finished surface.
19. POP should not be applied directly on Engineered Marble / Terrazzo / Quartz.
20. Before installation of Engineered Marble / Terrazzo / Quartz, please check the shade as there could be a possibility of batch to batch shade variation. Hence, material to be used according to the batches.
21. We should avoid keeping hot steel vessels directly on Quartz stone kitchen top. Instead one should use any coaster. We also recommend to put soft rubber sheet / perforated mat on sink's surroundings, where steel vessels are usually cleansed.
22. Quartz stone cannot be re-polished. We advise not to polish the joints of the quartz kitchentop. Only edges of quartz stone should be polished to get the desired finish.
23. One should avoid using any acidic or alkaline cleaner on Engineered Marble / Terrazzo / Quartz surfaces. Only neutral pH cleaners (e.g. Akemi Crystal Clean / Equivalent) should be used for regular cleaning. Stubborn stains, if any, can be removed with 'cif' cleaning cream (white bottle). If the stain still persists, it can be removed with Iso Propyl Alcohol.

24. Lamination film should be removed from surface of Engineered Marble / Terrazzo and Quartz the very next day of installation, whether it is floor, wall cladding or kitchen counter top.
25. Material should be stored in covered shed only. For more information, please visit www.kalingastone.com

Note :-

- (A) ***'Wedge' means a piece of wood, metal, etc. having one thick end and tapering to a thin edge, that is driven between two objects or parts of an object to secure or separate them.
- (B) We don't recommend installation of Kalingastone marble/terrazzo/quartz for exterior.
- (C) Kalingastone Marble can be used with antique finish* (Honed / Leather / Silken finish) in exterior adopting dry cladding system only. [*The finished marble surface may fade gradually over the time.]

1. Standard Slab Sizes

- (A) Marble / Terrazzo: 3040 mm x 1250 mm
- (B) Quartz Slab Size: 3150 mm x 1450 mm
Jumbo: 3250 mm x 1650 mm | Super Jumbo: 3300 mm x 2000 mm

Thickness	Flooring Size (Max)			Wall Cladding Size	
	Marble / Terrazzo	Quartz		Marble / Terrazzo	Quartz
20 mm	5' x 4'	3'5" x 4'9"		5' x 4'	5'2" x 4'9"
18 mm	3'4" x 4'	3'5" x 4'9"		5' x 4'	5'2" x 4'9"
15 mm	3'4" x 4'	3'5" x 4'9"		5' x 4'	5'2" x 4'9"
12 mm	2' x 2'	3'5" x 4'9"		5' x 4'	5'2" x 4'9"

2. Recommended Export Sizes

Marble / Terrazzo (For 3040 mm x 1250 mm slabs – All Thicknesses)

600 x 600 mm | 600 x 1200 mm | 1200 x 1200 mm

Quartz Slabs (For 3150 mm x 1450 mm slabs)

Recommended Sizes for International Market: 700 x 700 mm | 720 x 720 mm

3. Tools & Equipment Required

Tool / Equipment	Purpose
Zero Chipping Diamond Blade	For clean, chip-free cutting of slabs
Diamond Core Bit	For precision corner cuts, especially 'L' shapes
Tile Leveling System	Includes spacers, wedges, pliers – to avoid undulations
Vibrator Machine	To eliminate air gaps and ensure full adhesive coverage
Polishing Paper	To smoothen slab edges before laying
ABRO Masking Tape (2")	For clean epoxy joints without stains
Heavy-duty Trowel	For adhesive application
Backer Rod (12–15 mm)	To fill expansion gap below skirting
Caulking Gun	For silicone sealant application
Wet Cutting Machine	Reduces heat and chipping during slab cutting
Rubber Mallet	Gentle adjustment of tiles without damage
Vacuum Cleaner / Blower	Dust removal from sub-base before laying
Diamond Polishing Pads	For final surface finishing after installation

4. Pre-Installation Checklist

- Store slabs in shaded area (no direct sunlight).
- Inspect shade/design by removing surface film.
- Use ample water while cutting.
- Avoid 'L' cuts; use straight strips where possible.
- Clean slab edges before installation.
- Ensure sub-base is dry, level, cured & dust-free.

5. Adhesive Recommendation

a) For Marble / Terrazzo:-

Use adhesive conforming to:

- IS 15477:2019 Type 4
- EN 12004:2017 – C2TES1 or C2TES2 (S1/S2)

For partially sun-exposed flooring (even under sheds), use PU or Flexible Epoxy Adhesive only.

b) For Quartz:-

Use adhesive conforming to:

- IS 15477:2019 Type 5
- EN 12004:2017 – R2T classification

6. Installation Process

- Spread adhesive for max 15 mins working time.
- Adjust slabs within 25 mins of placement.
- Fix slabs with twisting motion for 100% bonding.
- Use leveling systems and vibrator machine after laying to avoid lippage and ensure no hollow spots.
- Clean excess adhesive immediately.

7. Joint & Grouting Guidelines

- Ideal joint width: 2–3 mm.
- Large areas (malls/lobbies): provide 6–8 mm expansion joints every 5 m (grid format).
- Keep joints open for 3–4 days before grouting.
- Use epoxy grout only (no white cement).
- For seamless joints, protect with ABRO tape, remove after 30 mins.
- Fill joints with Resin T8 + matching marble powder + hardener, clean immediately.

8. Skirting & Expansion Treatment

- Leave 10 mm gap below skirting for expansion. (Refer Fig :-1)
- Insert 12–15 mm backer rod, then fill with High-Performance Silicone (991) Sealant (Dow Corning / Akemi).
- Large areas (malls/lobbies): provide 6–8 mm expansion joints every 5 m (grid format). (Refer Fig :-2)
- Allow 4–5 days drying after sealant application.

9. Post-Installation Care

- Remove surface film next day after fixing.
- Cover floor with PVC sheets (dust-free surface).
- Avoid direct contact of POP / White cement mortar / adhesive with marble.
- Use only Diamond Polishing Pads when required.
- Clean with neutral pH cleaners only (pH=7).

Note: Kalingastone Engineered Marble is strictly not recommended for exterior flooring.

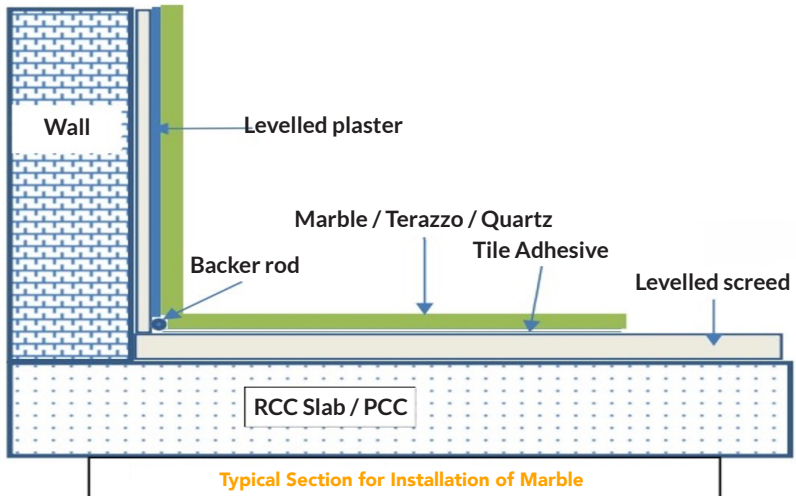


Fig:- 1. Cross- sectional for placement of backer rod below skirting or dead end.

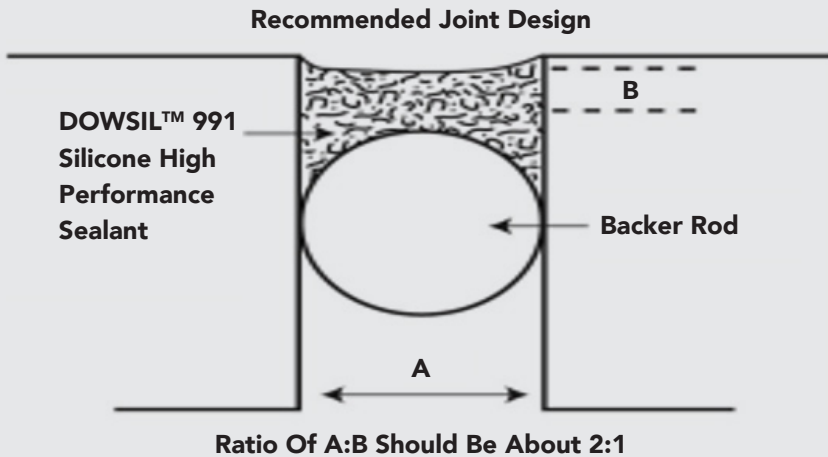


Fig:- 2. Cross- sectional drawing for placement of backer rod and silicone sealent at every 5m x 5m grid.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

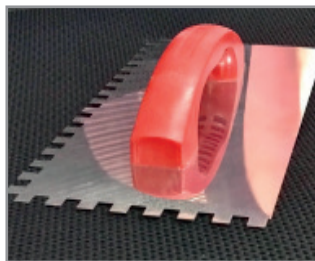


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine



Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Installation Guidelines – Adhesive System

For Kalinga stone Engineered Marble – Interior Wall Cladding (Updated: 13.07.2024)

1. Marble Sizes & Thickness

Thickness	Flooring (max size)	Wall Cladding (max size)
20 mm	5' x 4'	5' x 4'
18 mm	3'4" x 4'	5' x 4'
15 mm	3'4" x 4'	5' x 4'
12 mm	2' x 2'	5' x 4'

Recommended Export Sizes

600 x 600 mm | 600 x 1200 mm | 1200 x 1200 mm
(Available in 20 mm, 18 mm, and 15 mm thicknesses)

2. Site Preparation

- Store marble indoors, away from sunlight.
- Check color, shade, and pattern by removing the protective plastic film before cutting.
- Use water-cooled cutting tools to prevent damage.
- Sand edges lightly before installation for better bonding.
- Ensure surface is dry, level, and cured.

3. Adhesive System

- Use cement-based adhesive conforming to IS 15477:2019 Type 4 / EN 12004:2017 C2TES2 (S2).
- Mixing Ratio: 1 part water: 4.4 parts adhesive powder (e.g., 11.25– 12L water per 50 kg bag)
- Pot life: 3 hours
- Coverage: Approx. 1.2 kg/sqm/mm

Application

- Apply adhesive with a 12 mm square-notched trowel.
- Back-butter marble for 100% bonding.
- Fix within 15 minutes, adjust within 25 minutes.
- Use rubber hammer for final placement to avoid hollowness.

4. Joint & Grouting

- Clean adhesive overflow immediately.
- Leave joints open for 3–4 days for moisture evaporation.
- After drying, fill joints with Tenax T8 Resin + matching marble powder. Add hardener last.
- Avoid white cement / white grout. Use only epoxy-based fillers.
- Clean excess epoxy immediately.

5. Important Notes

- Remove lamination film the day after installation.
- Avoid POP contact during or after installation.
- For heights above 20', use mechanical clamps with adhesive.
- Leave a 10 mm expansion joint every 10 ft vertically, fill with silicone sealant.
- For marine plywood / bison panel, use PU Adhesive (EN 12004 R2T).
- Do not use Araldite or cement-based adhesives on wood-based panels.
- Clean marble with neutral pH (pH=7) cleaners only.

6. Tools Required

- Wet saw / bridge saw (with water supply)
- 12 mm notched trowel
- Stirrer mixer / paddle mixer
- Rubber hammer
- Sponge & damp cloth
- Sandpaper / polish paper
- Mixing bucket
- Spirit level & plumb line
- Clamps (for high installations)
- Epoxy mixing tools (for resin application)

7. Restrictions

- Not suitable for exterior adhesive cladding.
- For exterior use, adopt dry cladding system with antique finish only (honed/leather/silken). Use stone sealer to prevent fading from sunlight.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

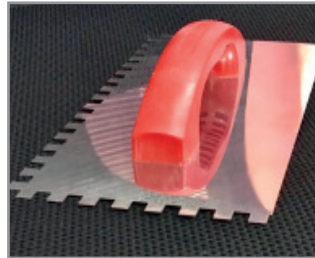


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine

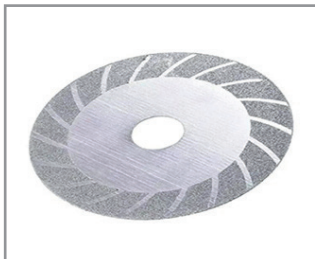


Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Kalinga stone Terrazzo Flooring Installation Guide (Interior Use Only)

Updated: 13.07.2024

Standard Sizes

Thickness	Flooring Sizes	International Cut Sizes
20 mm	5' x 4' (Full slab)	600x600, 600x1200, 1200x1200 mm
18 mm	3'4" x 4'	Same as above
15 mm	3'4" x 4'	Same as above
12 mm	2' x 2'	Not recommended for flooring

Do not use full-size slabs directly for flooring.

Tools Required for Installation

Tool	Purpose
Wet Cutter / Bridge Saw	For clean, chip-free cuts
Diamond Core Bit	For 'L' sections to avoid cracks
Notched Trowel (12 mm)	For adhesive spreading
Tile Leveling System	For level installation (clips, wedges, pliers)
Vibrator Machine	To remove air gaps under tile
Mixing Stirrer	For adhesive paste preparation
Sponge / Damp Cloth	For cleaning excess adhesive
Polishing Pads (Diamond)	Final surface finish
ABRO Masking Tape	For protecting joints while grouting
Backer Rod	For expansion joints (10-15 mm dia.)
Caulking Gun	For silicone sealant application

Installation Guidelines

Pre-Installation

- Store slabs in shaded area (no direct sunlight).
- Remove plastic film and inspect color/design before cutting.
- Use water generously during cutting to avoid chipping.
- Avoid 'L' cuts if possible. Use strips instead.

Sub-Base Preparation

- Use well-cured, dry, compacted PCC sub-base.
- Ensure it's clean and free from dust/oil.

Adhesive Usage

- Use C2TES1 / C2TES2 adhesive as per EN 12004:2017 or IS 15477:2019 Type 4.
- For sun-exposed floors (even under roof), use PU/Flexible Epoxy Adhesive.
- Mix powder to water (1:4.4 ratio). No extra water after mixing!
- Use within 3 hours (pot life). Coverage: 1.2 kg/sqm/mm.
- Apply adhesive with a 12 mm notched trowel and back butter slabs.

Laying Process

- Lay tiles with light twisting for 100% contact.
- Adjust within 25 mins; apply adhesive for max 15 mins at a time.
- Use tile leveling system + vibrator machine to ensure flat surface & no hollow spots.
- Remove excess adhesive immediately.

Joints & Grouting

- Maintain 2–3 mm wide joints. For seamless look, leave 10 mm below skirting (fill with backer rod).
- Provide 6–8 mm expansion joints every 5m x 5m area (for malls, lobbies).
- Wait 3–4 days before grouting to allow moisture to escape.
- Use epoxy grout only – no white cement.
- Use ABRO tape to avoid surface stain during grouting.
- Mix T8 resin + terrazzo powder + hardener. Clean excess grout immediately.

Skirting & Expansion Joints

- Leave 10 mm gap under skirting; insert 12–15 mm backer rod.
- Fill with high-performance silicone sealant (Dow Corning / Akemi).
- Let it dry for 4–5 days.

Post-Installation Care

- Remove lamination film the next day.
- Cover surface with thick PVC sheet (avoid dust contact).
- Prevent POP contact with terrazzo.
- Polish only with diamond pads.
- Clean using pH-neutral cleaner only (pH = 7).
(No acidic/alkaline cleaners!)

Note: Exterior installation is NOT recommended.

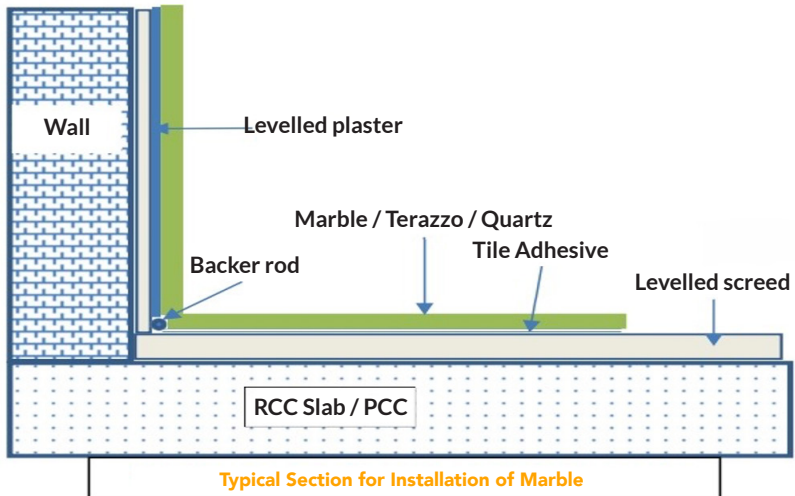


Fig:- 1. Cross- sectional for placement of backer rod below skirting or dead end.

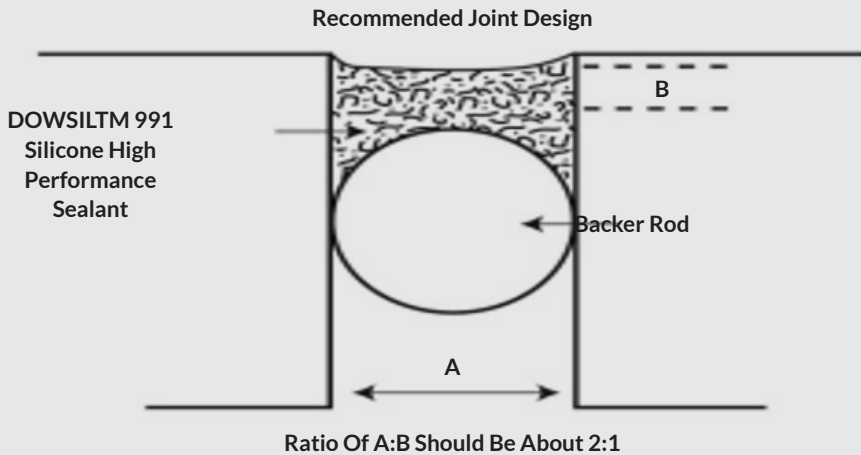


Fig:- 2. Cross- sectional drawing for placement of backer rod and silicone sealent at every 5m x 5m grid.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

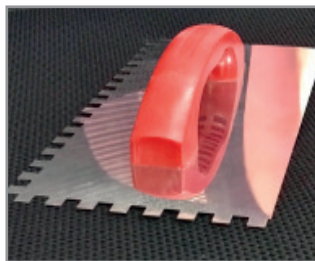


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine



Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Kalinga stone Terrazzo Wall Cladding Guide (Interior Only)

Updated: 13.07.2024

Standard Slab Sizes

Thickness	Wall Cladding Size	International Sizes
20 mm	5' x 4'	600x600 / 600x1200 / 1200x1200 mm
18 mm	5' x 4'	Same as above
15 mm	5' x 4'	Same as above
12 mm	5' x 4'	Not recommended for exterior

Tools Required

- Wet Cutter with water feed
- Diamond polishing paper
- Stirrer mixer
- 12 mm Notched trowel
- Rubber hammer
- Sponge / Damp cloth
- ABRO masking tape
- Epoxy + terrazzo powder (for joint filling)
- Backer rod (for expansion joints)
- Caulking gun
- Silicone sealant
- PU Adhesive (for plywood/bison panel)
- Clamps (for height >20 ft)

Installation Guidelines

Pre-Installation

- Store in shade only, never under direct sunlight.
- Inspect shade/design before cutting (remove lamination film).
- Use water generously while cutting to avoid chips.
- Clean edges with polish paper before installation.

Surface Preparation

- Substrate must be dry, level, defect-free, and cured.
- For plywood/bison panel, use PU adhesive (EN 12004 R2T).

Do not use araldite or cement-based adhesives on these surfaces.

Adhesive Application

- Use C2TES2 (EN 12004: 2017) / IS 15477: 2019 Type 4 adhesive.
- Mix 50 kg adhesive with ~11.5–12 L clean water (1:4.4).
- Pot life: 3 hrs | Apply within 15 mins | Adjust within 25 mins
- Spread adhesive with 12 mm notched trowel + back-butter the slab.
- Press slab with rubber hammer for full bond & no hollow spots.
- Clean excess adhesive immediately.

Jointing & Expansion

- Leave joints open for 3–4 days before grouting.
- Use only epoxy (T8 Resin + Terrazzo powder). No white cement.
- For heights over 20 ft, use clamps + adhesive for safety.
- Provide 10 mm expansion joint at every 10 ft vertical height, fill with silicone sealant.

Post-Installation

- Remove lamination next day.
- Ensure no POP touches terrazzo.
- Use neutral pH (pH=7) cleaner only.

(No acidic/alkaline cleaners!)

Important Notes

- ❌ Not suitable for exterior use with Big Chips design.
- ✅ For exterior, use Small Chips design + antique finish (honed/leather/silken).
Apply sealer to reduce UV fading.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

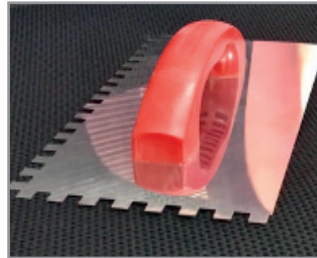


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine

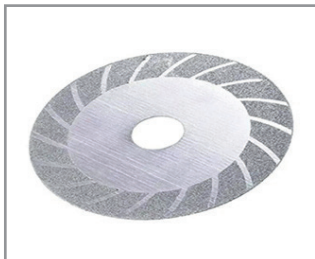


Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Kalinga stone Engineered Quartz – Interior Flooring Installation (Adhesive System)

Version: 13.07.2024

Standard Slab Sizes & Recommended Applications

Slab Dimensions	Thickness	Recommended Size (Flooring)	Recommended Size (Wall Cladding)
3150 mm x 1450 mm (≈10'4" x 4'9")	20 mm	3'5" x 4'9"	5'2" x 4'9"
3150 mm x 1450 mm (≈10'4" x 4'9")	15 mm	3'5" x 4'9"	5'2" x 4'9"

Recommended Sizes for International Market:

- 700 mm x 700 mm
- 720 mm x 720 mm

Adhesive-Based Installation – Step-by-Step Guide

Pre-Installation Checklist

1. Storage & Handling

- Keep slabs under a covered shed; avoid direct sunlight.
- Always lift slabs vertically and with proper support.

2. Visual Inspection

- Remove plastic film to check for uniformity in shade, pattern, and grain.
- Ensure no cracks or edge chipping before cutting.

3. Cutting & Edge Preparation

- Use wet cutter to avoid chipping/burning.
- For L-joints: Use Diamond Core Bit before cutting to prevent cracks ($90^{\circ}+45^{\circ} = 135^{\circ}$ tension point).
- Prefer straight joints over L-shaped cuts when possible.
- Clean edges with polish paper for smooth bonding.

Sub-Base Preparation

- Use a well-compacted, cured, and dried PCC base (plain cement concrete).
- Surface must be clean, level, and free of dust, oil, grease, or loose particles.

Adhesive System (No Cement)

Use PU Adhesive or Flexible Epoxy Adhesives conforming to:
IS 15477:2019, Type 5 or EN 12004:2017 – R2T Classification

Application Process:

1. Spread adhesive on both substrate and back of slab.
2. Use notched trowel to comb adhesive for consistent depth.
3. Lay quartz slab using a twisting motion to ensure 100% bonding.

4. Do not apply more adhesive than can be used in 15 minutes.
5. Slab can be repositioned up to 25 minutes after placement.

Leveling & Finishing

- Use tile leveling system (clips, wedges, plier) to avoid lippage.
- Use vibrator machine after laying to ensure uniform adhesion & eliminate air pockets.
- Immediately remove excess adhesive with damp cloth before it sets.

Joint Guidelines & Expansion Control

Tile-to-Tile Joints:

- Maintain 3–4 mm wide joints for optimal aesthetics and stress absorption.

Seamless Joints (Optional – for smaller spaces):

- Maintain approx. 10 mm gap below skirting for thermal expansion.
- Insert 12–15 mm backer rod into skirting gap.
- Fill with High-Performance Silicone Sealant (Dow Corning / Akemi).
- Do not use white cement or white cement-based grouts.

Large Areas (Shopping Malls, Lobbies):

- Provide 6–8 mm expansion joints every 5m x 5m grid (length & width).
- Use backer rod + silicone sealant in these joints as well.
- Allow sealant to cure for 4–5 days before foot traffic.

Post-Installation Process

1. Leave joints open for 3–4 days to allow moisture escape.
2. Clean joints, then grout using:
 - o Akemi Marble Filler (1000 Transparent Water clear L-Special) or equivalent.
 - o Mix filler + quartz powder of matching shade.
 - o Add hardener just before application.
 - o Remove excess filler within 10–15 mins using sharp knife.
3. Remove lamination film the next day.
4. Cover flooring with thick PVC sheets to protect from dust.
5. Do not allow POP (Plaster of Paris) to touch quartz surface.

Care & Maintenance

- Use only neutral pH cleaners (pH=7).
- Avoid acidic or alkaline cleaning agents.
- Engineered Quartz cannot be re-polished – only edge polishing is allowed.

Tools & Materials Checklist

Category	Tools/Materials
Cutting	Wet Cutter, Diamond Core Bit
Surface Prep	Polish Paper, Trowel (Notched), Leveler
Adhesive	PU / Flexible Epoxy Adhesive (R2T)
Placement	Tile Leveling System (clips, wedges, plier), Vibrator Machine
Joint Work	Backer Rods (12–15 mm), Silicone Sealant Gun, Akemi Filler Kit
Grouting	Matching Quartz Powder, Hardener, Sharp Knife
Protection	Damp Cloth/Sponge, PVC Cover Sheets
Cleaning	Neutral pH Cleaner

Not for Exterior Use

Engineered Quartz Cannot Be Re-polished

Refer to cross-sectional diagrams for skirting & expansion joint treatment.

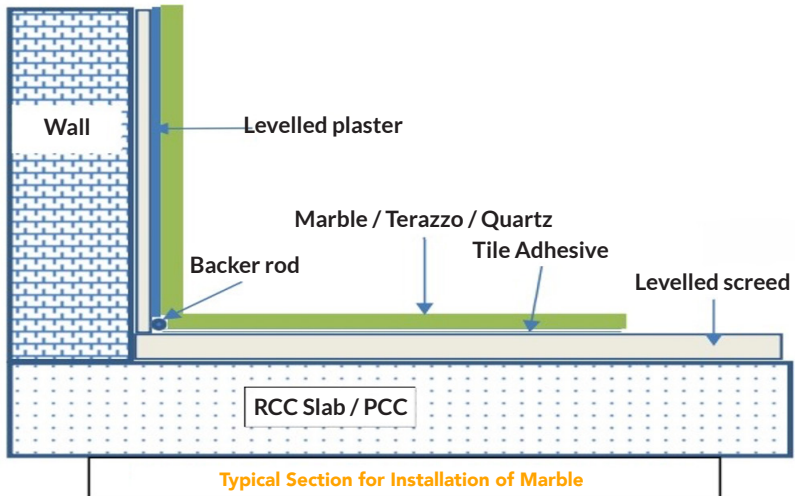


Fig:- 1. Cross- sectional for placement of backer rod below skirting or dead end.

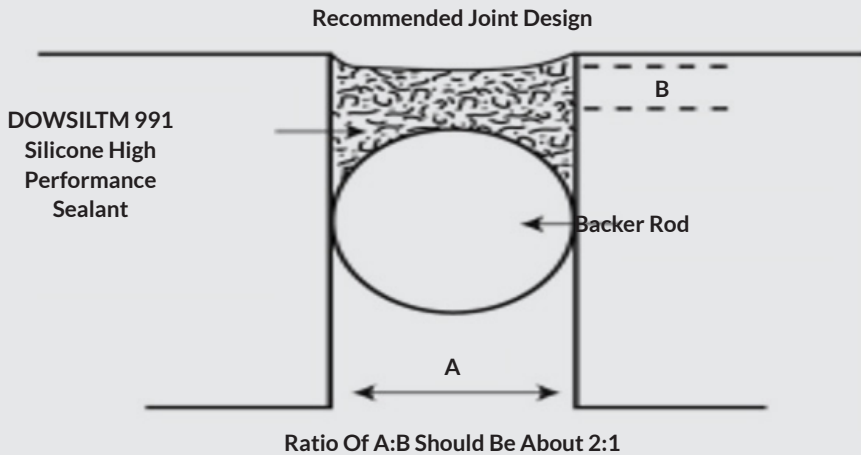


Fig:- 2. Cross- sectional drawing for placement of backer rod and silicone sealent at every 5m x 5m grid.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

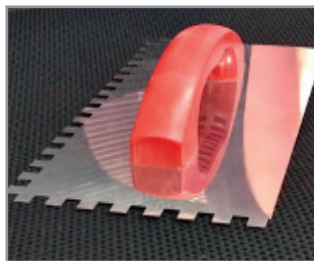


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine



Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Kalinga stone Engineered Quartz – Interior Wall Cladding (Adhesive System)

Updated: 13.07.2024

Quartz Slab Sizes

Size (mm)	Thickness	Wall Cladding Recommended Size
3150 x 1450	20 mm	1575 x 1450 mm (5'2" x 4'9")
3150 x 1450	15 mm	1575 x 1450 mm (5'2" x 4'9")

International Sizes:

- 700 x 700 mm
- 720 x 720 mm

Tools Required for Installation

Tool	Purpose
Wet Saw / Bridge Saw	Cutting slabs accurately with water to avoid chipping & burning
Diamond Blade	For smooth, precise cutting of engineered quartz
Polishing Paper / Emery Paper	Smoothing slab edges before fixing
Notched Trowel (12 mm square)	For combing adhesive and maintaining bed thickness
Mixing Paddle + Drill	For preparing lump-free adhesive paste
Rubber Mallet	For tapping slabs into place without damage
Spirit Level / Laser Level	Ensuring wall alignment & slab leveling
Measuring Tape & Chalk Line	For marking layout and dimensions
Sponge / Damp Cloth	For wiping off excess adhesive from joints immediately
Sharp Utility Knife / Scraper	Cleaning joint filler within time limit
Safety Gear (Gloves, Safety Goggles, Dust Mask)	Protection during cutting, mixing, and installation
Suction Cups / Lifting Handles	For safe handling and placement of large slabs
Clamps / Anchors (if height > 20')	For additional support in high-level installation
Caulking Gun	For applying silicone or flexible joint sealants
Clean Buckets	For mixing and carrying adhesive paste
Vacuum Cleaner / Air Blower	Cleaning substrate surface before installation

Pre-Installation Checklist

- Store slabs in **covered area**, avoid direct sunlight
- **Inspect color, design** after removing protective film
- Cut with **water-cooled saw** only
- Ensure **dry, cured, and level** surface
- **Do not use cement mortar** for wall cladding
- Clean slab edges before installing

Adhesive Guidelines

Use adhesives as per:

- **Cement Substrates/Plywood/Bison Panel:** IS 15477:2019 Type 5 / EN 12004 R2T (PU Adhesive).
- Apply adhesive to both **wall & slab back** using notched trowel

Installation Steps

- Install with **twisting motion** for full bonding
- Use **rubber mallet** to press & remove air pockets
- Clean excess adhesive **immediately**
- Leave joints **open for 3–4 days**, then grout with:
 - o **Akemi Marble Filler 1000 + matching quartz powder**
 - o Add hardener last; clean excess in 10–15 mins

Post-Installation & Maintenance

- Remove lamination film next day
- No **POP contact** during/after work
- Use clamps for slabs **above 20 ft** height
- Provide **10 mm joint every 10 ft**, seal with **silicone**
- Clean only with **neutral pH (7)** cleaners – no acids or alkalines
- Only **edges** can be polished – surface is non-repolishable

Not Recommended

- **Exterior wall cladding with adhesive or cement mortar.** For exteriors: Use **dry cladding system only**, with antique finishes + stone sealer.



Figure 1 Mallet (Rubber Hammer -500gm)



Figure 2 stone suction catcher



Figure 3 Stirrer (Adhesive Mixer)

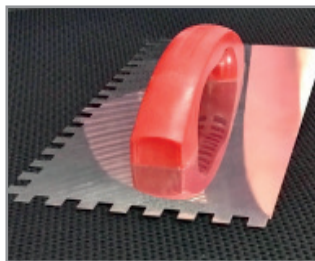


Figure 4 Notch Trowel



Figure 5 Stone Vibrator



Figure 6 Stone Cutter machine



Figure 7 Diamond Blade (Zero Chipping)



Figure 8 Spirit level

Tools and Materials Needed:

- Quartz countertop slabs
- Measuring tape
- Level
- Caulk or adhesive (recommended for quartz)
- Power drill and bits
- Saw (if trimming is needed)
- Clamps
- Safety gear (gloves, goggles)
- Silicone sealant (for joints and edges)
- Screwdriver
- Screws
- Angle grinder (for adjustments or cuts)
- Painter's tape
- Support brackets (if required)

Step 1: Preparation

- **Measure Your Countertop Area**
Measure the length, width, and depth of the countertop space, ensuring to measure for any sinks, cooktops, or other cut outs that will be included in the countertop. It's crucial to measure carefully for a perfect fit.
- **Prepare the Cabinets**
Ensure that the base cabinets are level, square, and stable. Adjust any cabinets that are out of alignment, as this could cause the countertop to be uneven. If needed, install additional supports to accommodate the weight of the quartz.



Fig:- Crafting the perfect counter cabinet for sleek functionality.

- **Remove Old Countertop (If Applicable)**

If you are replacing an existing countertop, carefully remove it. Use a crowbar or pry bar to lift the old countertop away from the cabinets, taking care to avoid damage to the cabinets or surrounding surfaces.

Step 2: Dry Fitting the Quartz Slabs

- **Position the Quartz Slabs**

Place the quartz slabs on the cabinets without securing them. Make sure they fit the measurements you took earlier and that they align with the edges and any cut outs. This is also a good time to verify if any trimming or adjustments are needed.



Fig:- (b) Ensuring the slab is perfectly sized for precision and fit.



Fig:- © Ensuring the slab is perfectly sized for precision and fit.

- **Check for Leveling**

Use a level to ensure that the slabs are level and even. If any part of the countertop is uneven, you can adjust by adding shims beneath the cabinet or cutting the countertop to fit properly.



Fig:- (d) verifying counter alignment for precise levelling.

Step 3: Cutting and Adjusting (If Necessary)

- **Mark the Necessary Cuts**
If the quartz needs to be trimmed to fit around walls, sinks, or other appliances, mark the areas that need to be cut with a pencil or painter's tape.
- **Cut the Quartz**
Using a circular saw or an angle grinder equipped with a diamond blade, carefully make the cuts along the marked lines. Ensure to use proper safety equipment, as cutting quartz can produce dust and debris.



Fig:- (e) Cutting quartz slabs requires precision with diamond blade saws for clean, accurate results.

- **Smooth the Edges**
After cutting, use a stone polisher or sandpaper to smooth out the edges of the quartz, ensuring they are free from rough spots or chips.



Fig:- (f) Smooth quartz edges using abrasives.

Step 4: Securing the Quartz Countertop

- **Apply Adhesive**
Apply a thin layer of caulk or adhesive to the top edges of the cabinet or support base. You may use a construction adhesive suitable for quartz or a high-strength silicone adhesive.
- For kitchen top fabrication we would recommend Dowsil 995 with Primer P for Cement board/ Marine Plywood etc. and Primer 1200 OS for the Stainless steel for best structural strength and bonding with the material.
 - For Wall/ Cementitious surface
 - o All cementitious surfaces shall be allowed to adequately cure and dry properly as per standard practice. All surfaces shall be plumb in line, free from defects / undulations. Installation shall be made on a dry surface.
 - o We do not recommend to lay Engineered Quartz slab with cement in wall cladding.
- PU Adhesive conforming to IS 15477:2019, Type 5 / EN 12004: 2017 as R2T, which is an improved (2) reaction adhesive (R) and slip resistant (T).
- Kalinga Stone Engineered Quartz slab shall be installed with slight twisting action, making sure that complete bonding (100 % bonding) is achieved.



Fig:- (g) Clamp quartz slab securely for stability.

- **Clamp the Slab (If Necessary)**
If required, use clamps to hold the countertop in place while the adhesive sets. Allow the adhesive to dry as per the manufacturer's instructions (usually 24 hours).
- For seamless appearance at stone joints and fascia strip, it is recommended to use Akemi Akepox 5010 or Akemi L Special.

Step 5: Attaching Sink and Other Cutouts

- **Install the Sink (If Applicable)**
If your quartz countertop includes a sink cut out, install the sink according to the manufacturer's instructions.
Apply a bead of silicone sealant around the edge of the sink opening and under the sink itself before securing it.



Fig:- (H) Mark hob cut out and use core bit for radial cuts

- **Mount Other Fixtures**

For any cooktops, faucets, or other fixtures, install them in the countertop cut outs following the manufacturer's guidelines. Use appropriate adhesives or sealants to secure the fixtures and ensure they are properly sealed.

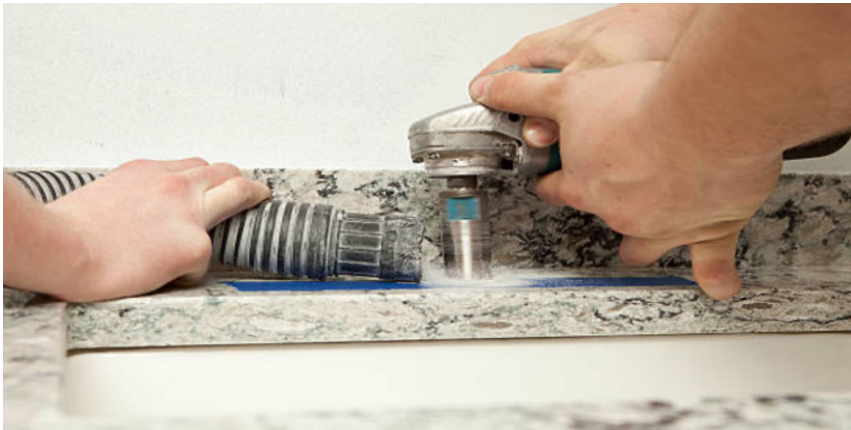


Fig:- (l) core cutting using core bit.

Step 6: Finishing Touches

- **Seal Joints and Edges**

Apply silicone sealant to any seams, joints, and around the sink (DOW SIL SANITARY AND TILE SEALANT). This helps prevent water seepage and ensures a clean, professional look.



Fig:- (j) Apply silicone for sink and corner sealing, preventing water penetration.

- **Clean the Countertop**
Wipe down the entire surface of the quartz with a damp cloth to remove any dust, adhesive, or residue. Avoid using abrasive cleaners, as this can damage the surface.
- **Allow Curing Time**
Allow the countertop to set and the adhesive to cure according to the manufacturer's instructions (typically 24 to 48 hours).

Step 7: Final Inspection

- **Inspect the Installation**
Check the countertop once the adhesive has set. Ensure that all edges are properly aligned, the surface is smooth, and all fixtures are securely installed.



- **Test for Stability**
Gently test the countertop for stability and ensure that there are no loose areas or gaps between the countertop and the cabinets.

Conclusion

Congratulations! Your quartz countertop is now installed and ready for use. Be sure to maintain it by cleaning it regularly with a neutral pH cleaner & CIF (white Bottle) and avoiding harsh chemicals or abrasives.

This installation process requires precision, so take your time to ensure each step is done properly for the best results. If you feel unsure at any point, consider consulting a professional installer.

Note:-

- Quartz cannot be re-polished. Only edges of quartz should be polished.
- Avoid keeping hot steel vessels directly on Quartz stone kitchen top. Instead one should use any coaster.
- Put soft rubber sheet / perforated mat on sink's surroundings, where steel vessels are usually cleansed.
- Quartz should not come in contact with P.O.P., Cement, any acidic or alkaline material.
- Always protect the quartz with bubble protection sheet after laying till the handover of site.
- Do not stack the quartz under direct Sun light.
- Remove the plastic protection sheet from the quartz slab before cutting the quartz.
- Check the shade before laying every piece of Quartz to avoid shade variation.
- Ensure provision of 10 mm gap filled with Backer Rod & Dowsil '991' Silicone Sealant' below the skirting as expansion joint.
- Clean excess material coming out from the joint immediately & fill the joints of quartz to quartz using recommended epoxy grout only.





Kalinga*Stone*[®]

TERRAZZO, MARBLE & QUARTZ

Updated Version: 09.04.2025

Polishing Process for Laid Kalingastone Engineered Marble / Terrazzo Floor

Following steps have to be followed for polishing of Kalingastone Engineered Marble flooring after Cleaning of the flooring using required chemicals and pads:

- Step 1 Technique Brand Diamond Polishing Pads '50' No.
- Step 2 Technique Brand Diamond Polishing Pads '100' No.
- Step 3 Technique Brand Diamond Polishing Pads '200' No.
- Step 4 Technique Brand Diamond Polishing Pads '400' No.
- Step 5 Technique Brand Diamond Polishing Pads '600' No.
- Step 6 Technique Brand Diamond Polishing Pads '1000' No.
- Step 7 Technique Brand Diamond Polishing Pads '1500' No.
- Step 8 Technique Brand Diamond Polishing Pads '2000' No.
- Step 9 Technique Brand Diamond Polishing Pads '3000' No.
- Step10 Technique Brand Diamond Polishing Pads '5000' No.
- Step11 Technique Brand - Tin Oxide Lux / 5 Extra Abrasive for Polishing.
Instead of using 5 Extra abrasive, it is advisable to do buffing with
Tin Oxide powder and white buffing pad for best results.

Maintenance Procedure for Composite Marble / Terrazzo

Daily Maintenance

Wet mopping to be done by using (2 caps of Akemi Crystal Clean / SC Coat Stone & Tile Cleaner / Equivalent in one bucket of water – 5 Litres).

The mop should be clean and wringed properly before applying at all the time.
(Water should not drip from the mop)

The dirty mop should be cleaned in a separate bucket of water always before dipping in the bucket comprising Akemi Crystal Clean / SC Coat Stone & Tile Cleaner.

The Floor should be finally cleaned with plain water.

As & When Required

Deep cleaning to be done with a soft brush / Red Buffing Pad using Akemi Crystal Clean / SC Coat Stone & Tile Cleaner / Equivalent (2 caps of Crystal Clean / Stone & Tile cleaner in one bucket of water – 5 Litres).

Note: For deep / stubborn stains: Akemi Stone Cleaner / SC Coat KlenzAll Cleaner / Equivalent (2 caps of Akemi Stone Cleaner / SC Coat KlenzAll / Equivalent in one bucket of water – 5 Litres) to be used, if required.

Repeat cleaning the floor with plain water.
Vacuum the dirty water immediately.
Let the floor dry completely.

After ensuring proper cleaning, apply approximately ½ cup SC Coat Shining Powder (Crystallization) / Equivalent plus 1 cup clean water to stone surface.

Refinish using single disc machine fitted with White pad. Keep compound wet while

refinishing with plenty of water. Add SC Coat Shining Powder as needed.

Refinish area until the desired level of shine has been achieved.

Rinse well and use a wet vacuum until to remove all remaining compound.

Let the floor dry completely.



KalingaStone®
TERRAZZO, MARBLE & QUARTZ

Updated Version: 09.04.2025

Maintenance Procedure for Kalingastone Engineered Quartz

Daily Maintenance

Wet mopping to be done by using Crystal Clean of Akemi / SC Coat Stone & Tile Cleaner / Equivalent (2 caps of Crystal Clean of Akemi in one bucket of water – 5 Litres).

The mop should be clean and wringed properly before applying at all the time. (Water should not drip from the mop)

The dirty mop should be cleaned in a separate bucket of water always before dipping in the bucket comprising Crystal Clean of Akemi / SC Coat Stone & Tile Cleaner /Equivalent Cleaner.

The Floor should be finally cleaned with plain water.

As & When Required

Deep cleaning to be done with a soft brush / White Buffing Pad using Crystal Clean of Akemi / SC Coat Stone & Tile Cleaner / Equivalent (2 caps of Crystal Clean / Stone & Tile cleaner in one bucket of water – 5 Litres).

Note: For deep / stubborn stains: Stone Cleaner of Akemi / SC Klenzx PRP-20/ Equivalent (2 caps of Stone Cleaner of Akemi / KlenzAll of DuPont / Equivalent in one bucket of water – 5 Litres) to be used, if required.

Repeat cleaning the floor with plain water.
Vacuum the dirty water immediately.
Let the floor dry completely.

After ensuring proper cleaning, apply approximately ½ cup shining powder (Crystallization) of DuPont / Equivalent plus 1 cup clean water to stone surface. Refinish using single disc machine fitted with White pad. Keep compound wet while refinishing with plenty of water. Add shining powder as needed. Refinish area until the desired level of shine has been achieved. Rinse well and use a wet vacuum until to remove all remaining compound.

Let the floor dry completely.