

Foshan CYT Stone Co., Ltd

Artificial stone floor installation plan

Document content 【Technical guidance information】

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1. Ground construction technical plan

1.1. Precautions for laying artificial stone flooring

- 1) The place of use is indoor, not in special environments (such as high temperature, acid, alkali, salt and other chemical environments)
- 2) Special adhesive for laying artificial stones, polymer modified cement-based waterproof dry mixed mortar, requires the use of C1 grade or above adhesive. Suggest Metre 616; Lei Di 315; Yishimei A300.
- 3) During the paving process, the edges and gaps of the board should be cleaned promptly with a sponge and a knife. After installation, the finished board should be protected. After the semi-dry and wet paving is completed, the room temperature should be above 25°C and should be fully dried for 4 weeks. For caulking, it is recommended to use a flexible caulking agent.
- 4) Reasonably arrange the project construction period, and prohibit cross-operation during the installation and maintenance period of the ground construction area.
- 5) Clarify the key points of the entire construction process and ensure quality control of the products.
- 6) During the construction process and within 3 days after the construction, no water pressure washing, impact, vibration, etc. shall be suffered.
- 7) Structural expansion joints should reserve 10mm wide gaps every 8-10m vertically and horizontally, and go as deep as the base layer. U-shaped grooves or silicone strips should be used to seal them in the later stage. Water flow into the joints should be strictly controlled during construction and daily use, and the moisture on the ground should be removed in a timely manner; Structural Seam material (U-shaped groove of stainless steel with silicone strips).
- 8) Note that after each batch of stone paving is completed, a simple isolation belt should be set up. It is strictly prohibited to step on it within 3 days after the semi-dry and wet method is paved. Within 7 days, heavy objects, transport vehicles, cargo handling, erection of ladders, heavy equipment, etc. are not allowed to be stepped on. The base rules are 1 day and 3 days respectively. If there is scaffolding installed and installation trucks (within 1 ton) moving around, the passage needs to be protected by plywood boards of more than 1cm to prevent the stone from being crushed.
- 9) Finished product protection measures must be well covered and covered with breathable carpets + plywood, especially in certain cross-working or passage areas. Avoid damaging the installation results and preventing contamination, scratches, and damage to the ground stones caused by cross-working operations. Note that the breathable carpet cushions need to be spliced into a whole to prevent cement and

sand from falling through the gaps and contaminating the stone surface.

- 10) During the stone construction and paving process, pay attention to leaving seams as required to facilitate water evaporation and offset expansion stress to prevent the expansion and contraction of the surface and structure from causing the stone to protrude or crack; the seam width is 1.0-1.5mm (use a special separator Leave the seams), and the seams can be filled 4 weeks after the semi-dry and wet paving is completed. Use a seam cutter to cut the gaps neatly, clean the dust in the gaps, and fill them with flexible caulking glue of the same color as the stone. It is recommended to use a flexible, high-strength, polishable or breathable caulking agent.

1.2 Construction technical requirements and common tools

1.2.1 Technical requirement

- 1) The base surface must be clean and free of dirt, oil, grease, wax, curing agents, sealants and other debris that may affect the bonding strength of the adhesive.
- 2) Base surface stiffness requirements: have sufficient structural strength to withstand the expected load; when bearing the maximum load, the deformation of the midpoint shall not exceed 1/360 of the single-sided span of the stone.
- 3) There should be no clear water on the concrete and mortar base surfaces, and the moisture content should not be higher than 5%.
- 4) The cement number of the leveling layer is 42.5 or above to ensure the strength of the leveling layer; the shear strength of the base surface is not less than 0.5MPa, and the tensile strength is not less than 1.0MPa.
- 5) When the base surface is concrete, the concrete needs to be cured for more than 4 weeks.
- 6) The base layer should be solid and smooth, without defects such as cracks, hollows, sand, pockmarks, oil stains, and dirt.
- 7) Before construction, the stone to be installed should be inspected. The stone entering the site must be free of defects such as cracks, missing edges, missing corners, warping, stains, color lines, pits, etc. If any, they should be removed.
- 8) The environment during operation, such as weather, temperature, humidity and other conditions, should meet the requirements for construction quality standards. The suitable construction temperature is 5~35°C. If the temperature is too low in winter and there is no insulation measures, construction must be stopped (below 0°C or above It is recommended to stop construction at 40°C).
- 9) When constructing the bathroom floor, the base surface should be waterproofed and meet the bathroom waterproof acceptance standards.

1.2.2 Common tools

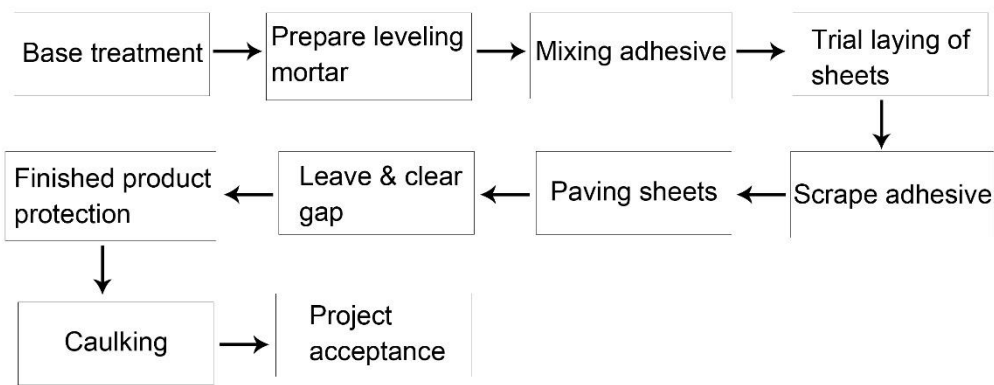
Mixing bucket, mixer, tooth shaped trowel (tooth pitch 10x10mm), level, rubber hammer, laser line projector, plumb line, caulking trowel, sponge block, divider, tape measure, ink box, right angle ruler, as shown in picture.



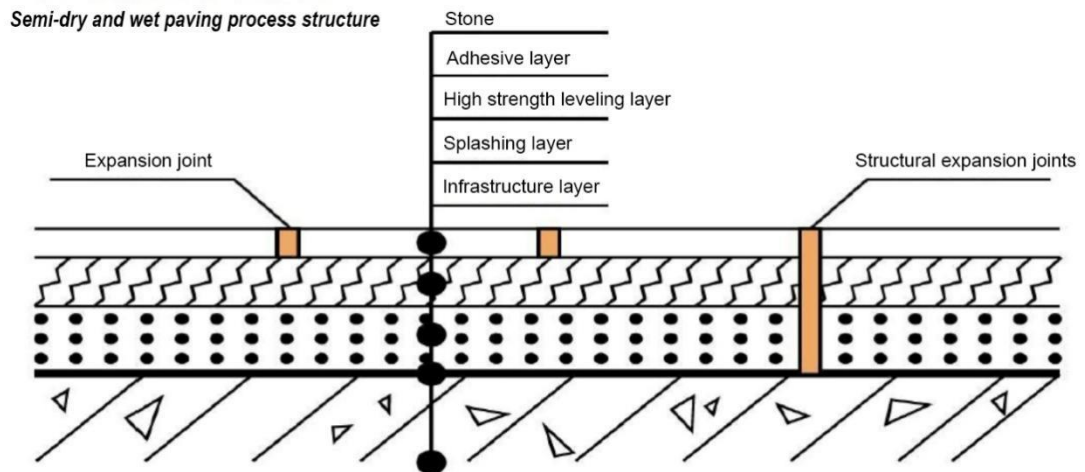
1.3 Paving scheme - semi dry wet method

1.3.1 Semi-dry and wet process

The installation process flow of conventional product floor semi-dry and wet paving is shown in Figure 2, and the installation diagram is shown in Figure 3.



Conventional product floor semi-dry and wet paving installation process



Installation diagram of semi-dry and wet floor paving for conventional products

1. Base treatment: Clean the laitance, floor ash, oil stains, coatings, sealants and other substances that affect the bonding strength on the base, remove protrusions on the base to ensure that the thickness of the leveling mortar is not less than 3cm, and finally spray cement slurry on the base (Water: cement = 1:1) to moisten the ground. If there is water, it is recommended to sweep it dry with a broom or absorb it with dry cement.



2. Prepare leveling mortar: cement: sand = 1:3 (volume ratio), add water and mix until it is in a dry and wet state of "shaping by hand and falling apart when shaken by hand"; cement should be 32.5 and above low-alkaline ordinary Portland cement, sand and gravel Use medium sand or coarse sand, with a mud content of <3% and no organic impurities. Note: The thickness of the leveling mortar layer laid should be no less than 3cm and no more than 5cm.



3. Mix adhesive: mix and use it in proportion according to the merchant's instructions for the selected adhesive (the adhesive must be used up within the specified time, and it is prohibited to use it if it has not been used up after the specified use time or the surface is peeling and caked); C1 grade artificial stone binder is recommended, such as Metanite 616, Lei Di 315, and Mapei.



Mixer mixes the clay evenly

4. Trial paving of boards: Place the boards to be laid on the leveling mortar, fully knead and vibrate them; check whether the color, size, and corner flatness of the boards are appropriate, and make adjustments as needed, such as changing sides and boards.



For trial paving of sheets, the stones need to be placed on the leveling mortar.



5. Apply scraping adhesive: Uncover the test plank and pour a thin layer of thinner slurry on the leveling mortar to enhance the bonding strength between the adhesive and the leveling layer. Then use a dry rag or brush to clean the floating ash, grease, rust and other attachments that affect the adhesion of the stone. First, use the straight edge of a 10mm*10mm toothed trowel on the back of the plate to scrape the adhesive thinly. One layer, then add adhesive and smooth it out. Use the toothed edge of the trowel to comb out the adhesive at a 45° angle to create full and uninterrupted jagged stripes with a thickness of about 6~8mm. Bond the four sides of the stone. Top up with agent and chamfer and comb.



6. Paving: Smoothly place the stone slab coated with adhesive on the leveling mortar

layer, fully knead it, and gradually tap it from the center to the surroundings with a rubber hammer until it is firm and leveled (violent tapping is strictly prohibited at the corners of the stone). It is recommended to hit with a wooden board).



7. Leave seams and clear seams: When paving the product, the width of the expansion joints should be 1.0-1.5mm. After the seams are left, clean the seam edges with a sponge in time; 6~10mm structural expansion joints should be reserved every 8~10m vertically and horizontally, and Deep to the base layer to prevent the stone from bulging or cracking due to surface or structural stress. (Structural expansion joints are determined according to site conditions and overall effect).



8. Quality inspection: During the paving process, every 30 pieces of paving need to be pried open 1 piece for quality inspection.



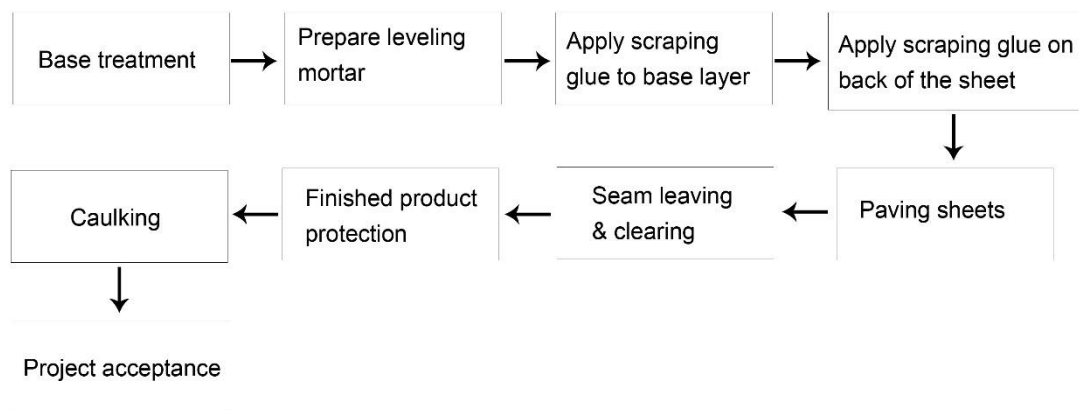
9. Finished product protection: Preliminary protection: Do not allow people to enter the house within 3 days, surround it with cables or simple railings, and make signs; Post-production protection: After 3-4 days, soft carpet + plywood will be closely assembled, and the carpet will be uncovered every 7-10 days to allow moisture to seep through. After joint acceptance by the project company, supervision unit, and construction unit, it can be covered and protected only after taking photos and signing for confirmation.



1.4 Paving plan two - thin base method

1.4.1 Thin bottom method process

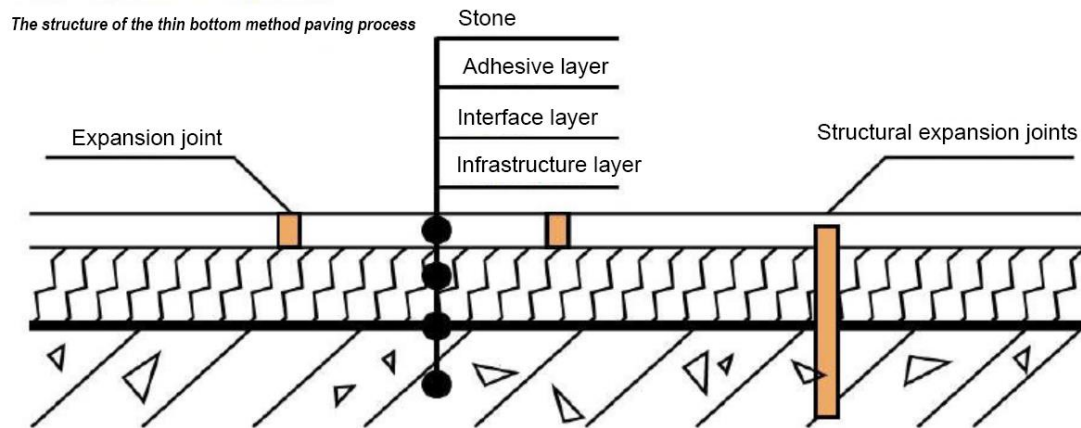
The process flow of thin-bottom paving method is shown in Figure 3.



Thin bottom method paving and installation process

1.4.2 Thin base method paving process structure diagram.

The structure of the thin bottom method paving process is shown in Figure 4.

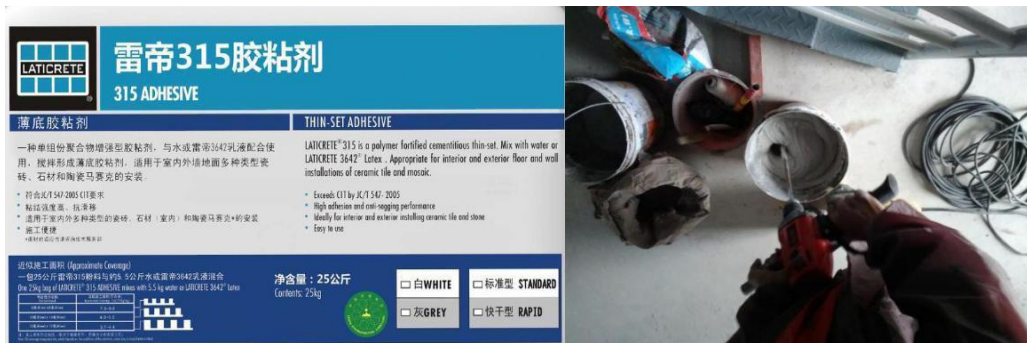


1.4.3 Thin bottom construction method

- 1) Basic inspection: Confirm that the base flatness and structural strength meet the requirements; there is no dirt or water on the construction surface. When the base layer is a concrete base surface, cement slurry or adhesive slurry (water: cement=1:1) can be used as an interface agent to moisten the base surface.



- 2) Mixing adhesive: Prepare and use the adhesive in proportion according to the merchant's instruction manual of the selected adhesive + (the adhesive must be used up within the specified time, and it is prohibited to use it if it has not been used up beyond the specified use time or the surface is peeling and caked). C1 grade or above adhesives are recommended.



Scrape adhesive for base layer: Use the straight edge of a 10mm*10mm toothed trowel to apply a layer of adhesive evenly on the base layer, and then use the serrated edge of the trowel to comb out the adhesive into full and uninterrupted jagged stripes with a thickness of approximately 6-8mm.



- 3) Scrape adhesive on the back of the board: Use a dry rag or brush to clean the floating dust, grease, rust and other attachments that affect the adhesion of the stone. Apply a layer of adhesive with a thickness of about 3~4mm on the back of the stone. At the same time, replenish the adhesive on the four sides of the board and chamfer.



- 4) Board paving: Smoothly place the adhesive-coated stone slab on the leveling mortar layer, fully knead it, and use a rubber mallet to gradually tap from the center to the surroundings until it is firm and leveled (violent tapping is strictly prohibited at the corners of the stone. It is recommended that knock on the backing board).



- 5) Seam clearing: When paving the product, the expansion joint width should be 2mm. After the joint is completed, clean the seam edge with a sponge in time. 10mm structural expansion joints should be reserved every 8-10m vertically and horizontally, and should be as deep as the base layer to prevent the surface or structure from Stress causes the stone to bulge or crack. In case of parquet products, the seam position should be adjusted according to the parquet pattern. When leaving seams, use the same spacer to ensure that the width should be consistent to avoid misalignment of the installed panels, which will increase errors and affect the decorative effect.



- 6) Quality inspection: During the paving process, every 30 pieces need to be pried open 1 piece for quality inspection; and a hollowing hammer is used to check whether the boards are hollow after being laid. Before taking care of the ground cuts, check whether the paved floor is loose or has hollow corners. If so, repair it by grouting repairs or re-paving immediately.



- 7) Finished product protection: After each batch of stone paving inspection is completed, a simple isolation belt should be set up. No one is allowed to enter within 3 days, and no heavy objects or transport vehicles are allowed to enter within 7 days. After 7 days, carpets + glued templates should be used for close protection. If there are scaffolding and installation vehicles, (within 1 ton), the passage needs to be protected by a plywood board of more than 1cm to prevent the stone from being crushed. After joint acceptance by the project company, supervision unit, and construction unit, it can be covered and protected only after taking photos and signing for confirmation. Note that the breathable carpet cushions need to be spliced into a whole to prevent cement and sand from falling through the gaps and contaminating the stone surface.



- 8) Caulking: Caulking should be carried out 28 days after the paving is completed or after the adhesive has cured and dried and should meet the following requirements:
Use a stone cutting machine to cut the gaps between the plates, control the gap width to 1.5mm~2.0mm and uniformly, clean it to the thickness of the inorganic artificial stone, and fill the gaps with epoxy glue caulking agent of the same color as the inorganic artificial stone, the glue filling should be even and full, and the bonding should be firm. Decorative expansion joints should be cleaned down to the base layer. Before the

ground care construction, use neutral weather-resistant silicone sealant to fill it; after the floor care construction is completed, use stainless steel U-shaped grooves and other buffers to fill it.

1.5 Crystal surface care

1.5.1 Crystal care tools and materials

Installation materials: resin glue (or marble glue), protective agent, dye, refurbished grinding disc, water grinding disc;

Installation tools: heavy-duty grinder, large intelligent grinder, water-absorbing vacuum cleaner, floor scraper or glass scraper, seam splitter, edge trimmer, brush, insert knife, dusting knife, roller brush, distribution box, cable.



Diagram of partial crystallization care tools

1.5.2 Construction preparation

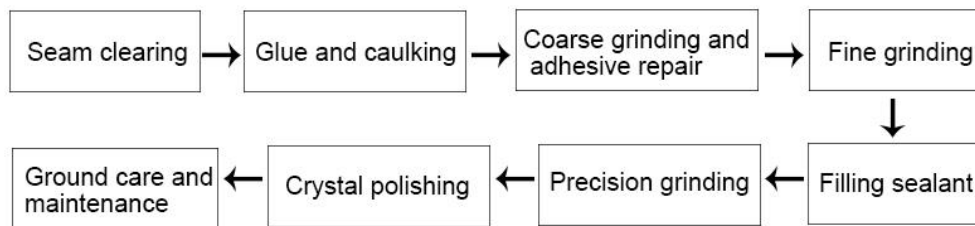
- 1) After opening the protective board, it is necessary to clean the floating dust on the surface of the board before proceeding with the seam opening operation.
- 2) Before construction, it is necessary to make sure that the maturity period of the adhesive layer has been reached (4 weeks for the semi-dry and wet method, 2 weeks for the thin base method), and then proceed with the process of opening, clearing, and filling the joints.
- 3) The construction site needs to determine the location of the machine's power supply, the location for dumping garbage and wastewater, etc.
- 4) Check whether the construction equipment can work normally and whether there are any equipment faults and safety hazards.
- 5) Check whether the grinding discs and crystallization care materials required for each process in the crystallization care operation are complete. If they are not complete, consider whether the missing materials will affect the normal crystallization care work.

or whether supplementary construction can be carried out in the later stage. Otherwise, the construction should be stopped. Construction work will begin after the materials are complete.

- 6) Before confirming the crystal care work, you should check whether there are quality problems with the on-site paving boards and whether they will affect the normal progress of the crystal care work.

1.5.3 Construction process flow

The floor crystal care process is shown in Figure.



1.5.4 Key points of construction operations

- 1) Seam clearing
 - a. Wear protective gear (dust masks, goggles, gloves, etc.) before cutting, and use a seam slitting machine (0.3-0.5MM thickness cutting blade) to evenly slit the stone joints.
 - b. Use a brush or knife to dig out the dirt in the cutting seams, and use a water-absorbing vacuum cleaner to clean it thoroughly to remove the blackened and powdered parts of the seams to make the stone joints uniform and strengthen the adhesion of the seam repair adhesive.
- 2) Glue and caulking
 - a. Prepare a polishable and anti-pollution flexible caulking agent of the same color as the stone (such as Baili 7150 epoxy AB glue or Yalun epoxy reinforced marble glue).
 - b. Use a small putty knife to scrape up the caulking agent. Aim at the gap and the angle of the knife is 45 degrees to the slope of the gap. Use the putty knife to press (fill) the caulking agent into the joint until the colloid bulges out about 1mm in the middle., otherwise it should be dragged and filled again. After compaction to confirm that the bulge is 1 mm, scrape off the excess glue and let it dry naturally to make the overall connection of the stone floor consistent and enhance the colloid bonding performance of the stone joints.



3) Coarse grinding and adhesive repair

- a. Use a heavy-duty grinder equipped with diamond resin refurbished abrasives (50#, 150#, 300#) to level and coarsely grind the ground shears back and forth in a "#" shape. After each grinding pass, you should use a water-absorbing vacuum cleaner to clean the ground slurry. The residence time of water and wastewater shall not exceed 30 minutes. Check whether the cuts are smooth and whether there are any scratches on the surface.
- b. After two rounds of grinding, it is necessary to inspect the seam edges for missing glue and black seams, cut off the black seam glue for repair (workers in this process must wear water shoes), and rough grinding accounts for 55% of the overall grinding time.

4) Fine grinding

- a. Use a large intelligent grinder with diamond resin refurbished abrasives to grind and smooth the 300# wear marks on the ground in sequence using the "#" method.
- b. After 300# grinding, trim the edges completely. Use a hand grinder to smooth the edges and corners that cannot be ground by the renovation machine. Fine grinding accounts for 20% of the overall grinding time.
- c. To prevent slurry or dust from contaminating surrounding finished products, such as elevators, escalators, walls, etc., cover and seal on-site finished products with colored strips or protective films.

5) Filling sealant

- a. The purpose of filling the sealant is to improve the density of the stone surface, facilitate daily maintenance, improve the sensory effect, and reduce the chance of stone disease and corrosion.
- b. After the 300# and 500# polishing is completed, absorb the surface moisture and dry the board. After the surface of the board has dried for more than 2 hours without any clear water, use a dry cloth or a roller brush to evenly apply the sealant. At least 0.5~1 hour curing time. If the temperature is below 20°C, it should be based on the actual situation, and 4 to 6 hours is appropriate.

6) Precision grinding

- a. Water grinding method: Use a large intelligent grinding machine with 2000 # and

3000 # grinding discs and add water for precision grinding. Pay attention to the smooth operation of the machine to avoid scratches.

- b. Dry grinding method: Use a large intelligent grinder with 800# and 1500# special resin dry grinding discs to grind and smooth the grinding marks on the ground in sequence. It is strictly forbidden to miss the grinding process. Pay attention when dry grinding: there should be no water during the dry grinding process; there should be no dust or sand on the ground during the process to prevent scratches; during the dry grinding method, control the machine speed at about 1000 to 1200 rpm to avoid excessive temperature; dry at 500# After dry grinding to crystallization, the ground should be formed once, and the ground should be avoided from being contaminated again during this period.
- c. The integrity, consistency and uniformity of the same construction surface should be ensured until the flatness, gloss, clarity, etc. of the entire decorative surface are consistent with the confirmed sample effect.
- d. The mud and water generated during grinding should be removed promptly. After fine grinding and polishing, the ground should be dried and protected to avoid contamination and scratches.

7) Crystal polishing

- a. The purpose of crystal polishing is to enhance the overall feel of the stone, while increasing the hardness of the surface, giving the stone long-lasting wear resistance and anti-slip effects, and enhancing the floor gloss and anti-fouling properties of the product.
- b. Use a crystal surface machine with a Nano whitening pad and crystallizer (JH115 crystallizer or Diamond Light 102 for quartz stone, 6A crystallizer or Shidex C510 or crystal shield for granite) to crystallize and polish the dry floor until the physical. The chemical reaction of grinding and slurry causes crystallization on the surface of the stone. After crystallization, the brightness of the stone generally ranges from 50 to 70°.
- c. Then polish until the brightness reaches above 75°. Generally, 2~3 times can improve the brightness. Do not use steel wool during the operation.
- d. Untested crystallizers of different brands or models cannot be mixed.

8) Ground care and maintenance

- a. Ground maintenance should comply with the following requirements:
 - 1. Do not use acid or alkaline cleaning agents to clean the surface of the granite; do not use strong alkaline chemicals to clean the surface of the stone;
 - 2. Level 2 or higher dust removal mats should be installed at the entrances and exits of each passage, aluminum alloy dust-proof mats should be placed outside the door, and dust-proof carpets should be placed inside the door;
 - 3. It is not advisable to cover carpets for a long time. Carpets should be replaced and

cleaned frequently, and debris should be removed as soon as possible. When performing cleaning and dust removal work, use a dry dust pusher or vacuum cleaner;

4. It is not advisable to get the ground wet;
 5. It is forbidden to wet mop large areas. Dry dusting + cleaning agent must be sprayed on the floor before cleaning. After the dust pusher cover is dirty, it can be washed with alkaline water. It is best to soak it in hot water at about 40°C and then clean it. When liquids such as coffee, tea, juice, etc. appear on the ground, they should be cleaned up in time;
 6. When there are traces that cannot be removed by neutral detergent, etc., they should be polished away and then crystallized;
 7. Dust from shoe prints should be treated with a dry dust pusher and electrostatic fluid. If it cannot be cleaned, it needs to be wiped and cleaned with a scouring pad or a damp and dry rag. Do not drag items on the ground;
 8. When transporting large amounts or heavy objects, protective measures need to be taken on the ground to avoid scratching the artificial stones
- b. Crystal surface treatment should be carried out regularly, and the frequency of crystal surface treatment should comply with the following regulations.
1. The ground at the entrance and exit areas of major crowded passages such as lobby entrances and walkways are conducted 2 to 4 times a month;
 2. Depending on usage, the frequency of surface treatment in normal aisles and other areas with normal human traffic is 1 to 2 times a month.
- c. In case of obvious wear, scratches, loss of gloss, or too many difficult to remove stains on the ground, it is advisable to perform moderate overall grinding and crystal surface treatment.

1.5.5 Quality control and precautions for polishing site

- 1) Rough grinding uses resin emery and diamond abrasives 50#, 150#, and 300# refurbished grinding discs. During heavy-duty rough grinding, a large amount of water must be used on the ground. Pay attention to trailing water absorption, and grinding with missing discs is prohibited.
- 2) There should be no water during the dry grinding process; there should be no dust or sand on the ground during the process to prevent scratches; during the dry grinding process, the machine speed should be controlled at about 1000 to 1200 rpm to avoid excessive temperature.
- 3) The dry polishing base polish should be about 45~60 degrees before crystallization can be done later. From drying at 500# and then dry grinding until the crystallized ground is formed, ground contamination must be avoided during this period.

- 4) From 50 # to 150 # to 300 #, after drying, fill with sealing agent, then use 500 # water mill, and fill with sealing agent. Each process needs to remove residual water slurry and clean it thoroughly.
- 5) When filling the sealant, it should be applied evenly and not missed.
- 6) Before the crystal hardening treatment, the ground must be dry, free of pollution, dust, adhesive, etc. During the crystal hardening treatment, the stone must not have gaps, water stains, water spots or other diseases and various deep pollution. If there is any, it should be Crystal hardening treatment can be done only after the symptoms are cured.

1.6 Maintenance methods

1.6.1 Cleaning before maintenance

- 1) If there is contamination on the local floor, use a crystal surface machine + plain wool rough pad + diluted Campbell's green water to wash it. Pay attention to protecting the surrounding finished products such as elevators, escalators, walls, etc., and then use a white cleaning pad to clean the floor.
- 2) For minor local stains, you can use alcohol + scouring pad to remove the remaining stains, but be careful about fire prevention. Do not use acidic cleaning agents during cleaning. The PH value of the cleaning agent must be between 7-9 and be neutral or weakly alkaline. Strong acidic cleaning agents are prohibited.
- 3) Dry: After cleaning the stone surface, allow it to dry for at least half an hour or on the floor. During this time, do not come into contact with pollutants or wet mop water.
- 4) If there are stubborn stains on the floor, check the pollution status, observe the infiltration of pollution, and choose a cleaning agent according to the source of pollution. Generally, Campbell's Green Water is used, which is safe and environmentally friendly. Difficult stains can be scrubbed away with Jie Er Liang + scouring pad. Apply cleaning agent: Wear protective equipment and use a towel or brush to apply cleaning agent to the contaminated area. If necessary, attach a paper towel to the contaminated area, put the cleaning agent on the paper towel and keep it moist for 15-30 minutes before wiping it off. Very stubborn stains on the surface of the stone should be wiped clean with 400# sandpaper or physically polished (during the process, pay attention to the side view to see whether the traces on the board surface are removed, and erase repeatedly).
- 5) If there are large areas of ordinary stains in daily life, use a crystallization machine +coarse towel or plain wool coarse mat +diluted Campbell's green water to wash once, and it is prohibited to wet mop water to wash; Alternatively, dry dust pushing and alcohol spraying can be used to remove common pollution from the ground.



1.6.2 Restoration and maintenance

- 1) For maintenance and crystallization, use a crystal face machine with a 3M nano wool white pad (or 3M fiber pad), combined with crystallization agent Shi De Shi 510 or Crystal Green Blue Shield, CR-6A (Agula) to grind the dry ground into crystals with a brightness of $\geq 75^\circ \pm 5^\circ$ (purpose: to enhance the structure) Crystal thickness, ground glossiness, and anti-fouling performance. (Maintenance 1-2 times can yield fruit).

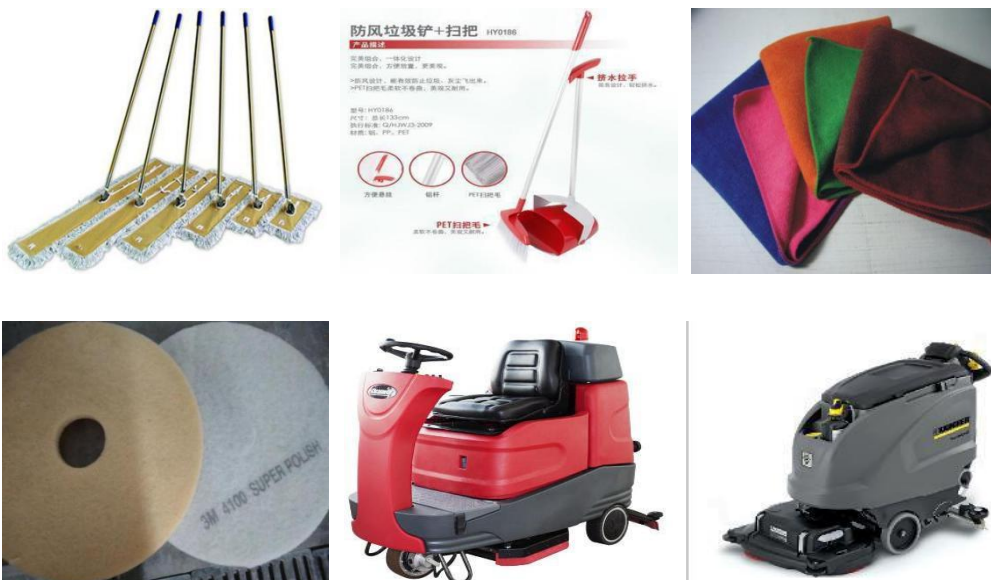


- When polishing, be sure that the wool pad does not form hard lumps, and be careful to quickly clean about 1.5 square meters at a time, otherwise uneven marks will easily appear.
 - Finally, after every 20-30 square meters, use a clean 3M white pad to clean the floor.
- 2) Special note: The brightness cannot be lower than 65 degrees before maintenance, otherwise the durability of the crystal layer will be reduced after maintenance.
 - Within three meters of the ground in the entrance and exit areas of major crowded passages (such as doorways, elevator entrances, toilet entrances, etc.), crystallization maintenance is performed once every seven days.
 - The floors in normal aisles and other areas with high traffic volume should undergo crystal maintenance every 15 days.
 - The ground in areas with sparse traffic needs to be crystallized every 30 days.
 - In other areas, the photometric loss can be checked once every 1-2 months (reference flow of people: 20,000-30,000 people per day).
 - 3) It is not recommended to use steel wool for crystallization maintenance, and you cannot use a wet mop to mop the floor (mop + cleaning agent Campbell's Green Water mixed with water + dry cloth) for cleaning. You can usually use a dry dust mop.

- 4) Do not use other brand-name crystallizers to make a floor at the same time without testing.

1.6.3 Daily cleaning

- 1) In the daily cleaning stage, a clean environment is the prerequisite for stone maintenance. The true maintenance is to control the environmental pollution around the artificial stone, surface polishing, crystal repair, renovation repair, disease prevention, accident handling and other comprehensive systems. Only in this way can the best effect of stone surface maintenance be reflected.
- 2) Depending on the large flow of people, sufficient cleaning personnel must be deployed during business hours to remove dust and clean stains. It is necessary to promptly clean up coffee, wine, drinks, tea and other liquids spilled by customers on the ground, no more than 1 hour; shoe prints, stains such as chewing gum, etc. should be treated with dry dust. If they cannot be cleaned, they need to be wiped with a scouring pad or a damp-dry rag cleaning; use dry dust pusher and electrostatic liquid to promptly deal with various dust on the ground, etc.



- 3) Dust pushers (also called "dry mops") are easy to operate and labor-saving for removing dust from various high-end floors such as marble. They have strong dust adhesion and can keep the floors bright. They are widely used in daily cleaning in responsible areas.

1. Preparation and inspection work before using the dust pusher:

- Integrate the electrostatic precipitator into the mop before use (spray the electrostatic precipitator evenly on the mop, seal it for 4 hours, and then dry it before use);
- Check whether the dust pusher fibers are clean;
- Check the penetration of electrostatic precipitator;
- Check whether the chuck position and direction of the dust push rod are correct.

2. Dust push operation essentials:

- Push the dust in a straight line, starting from one side first. Do not push the dust off the ground or drag it back and forth. (The interval between dust pushers can be customized based on the flow of people.) When pushing dust, each row of dust push covers should overlap by 1/4 to prevent leakage;
- When the dust pusher is covered with dust, take the dust pusher to the workroom and clean it with a vacuum cleaner before using it until the floor is completely clean;
- The dust pusher loses its ability to stick to dust and needs to be treated with electrostatic precipitator again before it can be used;
- If there is water, stains, or contamination on the ground, clean it with the correct method in time (to avoid pigment contamination and lesions). After the dust cover is dirty, it can be washed with alkaline water, that is, soaked in a washing powder solution, preferably At the same time, soak it in hot water of about 40°C and then clean it. After washing, it is best to use a washing machine to spin the dust push hood. Shake the fibers and then dry them. After drying, spray the electrostatic precipitator again for use.



3. Daily cleaning precautions:

- It is prohibited to wet mop large areas, and dry mops must be used;
- Local pollution: Use a local cleaning kit (mop + cleaning agent Campbell's Green Water + dry cloth) for cleaning;
- Do not use acidic or alkaline cleaning fluids;
- Carpets and debris should not be covered for a long time. Carpets should be replaced and cleaned frequently, and debris should be removed as soon as possible. Otherwise, the stone will become damaged due to excessive moisture and increased water content.

2. On-site quality control and key points

2.1 Key points to note when stacking stones on site

- 1) When installing stone, please pay attention to the box number and the corresponding

drawing number, and the corresponding installation sequence direction.

- 2) Avoid cutting the stone on site. If it needs to be processed, be careful not to drop corners or chip edges.
- 3) If the adhesive strips are reinforced on the back of the stone, they should be straight and the adhesive structure should be tight and securely installed.
- 4) Stack the site according to the plate specifications for protection.
- 5) It is strictly prohibited to mix with corrosive materials and avoid contact with acids and alkalis.
- 6) Be careful not to collide, and use long permeable materials to raise the bottom of the plate to ensure stability.
- 7) The front side should not be in direct contact with the ground or easily discolored wood or steel pipes.

2.2 Key points of stone construction technology

- 1) Check whether the tools and materials required for installation are complete to avoid material waste and work stagnation caused by tools and materials not being in place during the installation and construction process; considering the stress during transportation, the panels should be protected during transportation.
- 2) Check whether the materials to be installed are in place according to the receipt order and construction and installation drawings, etc., and check whether the materials are damaged, broken, uneven in quantity, etc. that will affect the construction.
- 3) Check the status of on-site safety measures. Installation and construction personnel should start work with on-site safety measures in place.
- 4) Check whether the specifications and quantities of each material are correct, whether there is misalignment between layers, whether the stacking is safe and reliable, whether the error and color difference exceed the standard plates, and whether there are damaged plates. Water, electricity, equipment, and reserved holes in the wall have been completed, and vertical transportation tools are ready. Provide technical briefings to construction personnel, emphasizing technical measures, quality requirements and finished product protection.
- 5) Check the type, specification, color and performance of the components and materials entering the site, and they should meet the design requirements. For incoming raw materials, semi-finished products, and finished products, there should be quality certification materials such as product quality certificates, performance test reports, and production licenses.
- 6) Stone engineering construction should be carried out after the main structure engineering and related enclosure masonry engineering have been accepted.

- 7) Stone projects should undergo performance testing in accordance with regulations and before formal construction, project prototypes (sections) should be constructed first. Large-area project construction can only be carried out after the project prototypes are accepted and accepted. During the installation process, effective protection measures should be taken for the storage, transportation, and hoisting of components or components, as well as for the installed semi-finished products and finished products.

2.3 On-site pollution cleanup

- 1) For minor local stains, you can use alcohol + scouring pad to remove the remaining stains, but pay attention to fire prevention. Do not use acidic cleaning agents during cleaning. The PH value of the cleaning agent must be between 7-9 and be neutral or weakly alkaline. Strong acidic cleaning agents are prohibited.
- 2) For large areas of ordinary stains, if there is contamination, use a coarse towel or plain wool pad + diluted Campbell's Green water to wash it. It is prohibited to wet mop large areas with water, or use dry dusting + alcohol spray on the floor to mop away ordinary stains.
- 3) Stubborn stains. Check the contamination status and observe the infiltration situation. Select the cleaning agent according to the pollution source. Generally, it is safe and environmentally friendly to use Campbell's green water and a spray bottle to scrub; difficult-to-remove stains can be scrubbed with Jieerliang + scouring pad. Wear protective equipment when applying cleaning agent, and use a towel or brush to apply the cleaning agent to the contaminated area. If necessary, attach a paper towel to the contaminated area, put the cleaning agent on the paper towel and keep it moist for 15-30 minutes before wiping it off. Very stubborn stains on the surface of the stone should be wiped clean with 400# sandpaper or physically polished (during the process, pay attention to the side view to see whether the traces on the board surface are removed, and erase repeatedly).

2.4 Construction safety assurance measures

- 1) When entering the construction site, it is necessary to wear a safety helmet and fasten the wind buckle.
- 2) Safety belts must be worn when working at heights. Before working on the scaffolding, it must be checked whether the scaffolding is safe and reliable. Only after confirmation is it correct can the scaffolding be carried out.
- 3) Temporary power lines at the construction site must be laid out in accordance with electrical regulations. Indiscriminate connection and pulling are strictly prohibited. Long-distance cables must not be pulled anywhere and must be fixed overhead.
- 4) Small electric tools must be equipped with leakage protection devices and can only be operated after passing the trial operation.

- 5) Electrical equipment should be grounded and connected to zero protection. On-site maintenance electricians should be certified to work. Non-maintenance personnel are not allowed to connect the power supply indiscriminately.
- 6) The power supply and voltage must be consistent with the nameplate voltage of the electric machine. When moving the electric machine, the power must be cut off before moving. The power must be turned off after get off work or after use.
- 7) During construction, it is necessary to follow the safety technical disclosure on the construction site.
- 8) Dust operations are strictly prohibited at the construction site. Water must be sprinkled during cleaning. Pay attention to the protection of finished products. Waste materials and garbage must be cleaned up in time, bagged and transported to designated locations. The place where garbage is piled must be fenced.
- 9) The temporary water used for cutting stone must have complete sewage discharge measures.
- 10) Construction workers are strictly prohibited from drinking alcohol before operating.
- 11) Without the approval of the construction responsible personnel, it is not allowed to dismantle the scaffolding facilities and safety devices arbitrarily.
- 12) The lifting rigging used on site must be safe, reliable, and have flexible braking. During vertical lifting, no one is allowed to stand within 3 meters of the hoisted object.
- 13) Safety officers must frequently inspect the safety conditions of the site, promptly correct and deal with illegal personnel and potential accidents, and have the right to require illegal construction workers to stop work for rectification.