

PRECAST INORGANIC TERRAZZO PRODUCTS  
PAVEMENT AND MAINTENANCE TECHNICAL SCHEME

## Contents

1. Engineering installation precautions and recommendations	1
2. Precast terrazzo floor construction plan	3
3. Precast terrazzo floor sealing curing and protection treatment plan	11
1. Sealed curing	11
2. Protection treatment	13
4. Paving quality acceptance criteria	14
5. Terrazzo late maintenance program	17
1. Terrazzo sealed curing cycle	17
2. Regular protective treatment	17
3. Daily cleaning plan	17
Attachment 1. Analysis of common problems in terrazzo floor	18
Attachment 2. White terrazzo technical parameters / Adhesive matching test report	20

**1. Engineering installation precautions and recommendations:**

Properties of the stone plate : The inorganic terrazzo is completely made of natural ingredients, which is made of natural stone particles, cement and water, it contains no ingredients from any resin glue. It adopts square material production process, and the stone particles (powder), cement and water are formulated according to a certain ratio, and the square material is produced by a fully automatic production line. After 28 days of curing, the square material is completely solidified, and the square material is cut into large plates with 20mm, 30, 40mm in width . According to the customer's requirements, different surface treatments such as polishing, matte and lychee can be processed.

Unlike traditional tile paving, the project requires special attention to the following items:

The terrazzo should be prevented from colliding during the handling process, and it should be handled gently. When stacking, there should be a wooden strip at the ground and it should be placed vertically. It is absolutely impossible to stack the stones in a flat stack. If there are high pressure, the stone will be deformed.

1) Thin bottom method

2) Preferred Mabe Tile Fast Adhesive 113 Adhesive, or “Meitei” brand or “Weibo Brand”, which belongs to C2FS1 grade, developed according to European standards, with 3 hours fast drying ability, it is flexible, its lateral deformation size can be up to 4mm and it is available in white and gray.

The cost-effective adhesive is Mabe Tile Fast Adhesive 113AP, which belongs to C2FT grade. Its cost is much lower than that of Shell Tile Fast Adhesive 113. However, this formula is currently only available in gray.

**2.The precast terrazzo floor construction plan**

1 Scope

This process standard is applicable to precast terrazzo ground engineering for industrial and civil buildings.

2 Construction preparation

2.1 Materials and main equipment:

2.1.1 Cement: Ordinary Portland cement or slag Portland cement above 425, with factory certificate. White cement: Portland cement above 425.

2.1.2 Sand: coarse sand or medium sand, the mud content should be no more than 3%.

2.1.3 Using a special adhesive thin-film method to install the system, in order to ensure that the pre-made terrazzo does not appear phenomenon including shoulder and falling off, and the size of the face material (600mm \* 1000mm) is large, it is recommended to choose the ordinary type quick-drying adhesive, the grade is C2F or the above graded adhesive (according to JC/T 547-2005 ceramic wall tile adhesive standard), Mabe is available:

Table 1 C2F Adhesive Standard Requirements

Test items	Standard requirement
Tensile adhesive strength	≥ 1.0MPa
Tensile adhesive strength after immersion	≥ 1.0MPa
Tensile adhesive strength after freeze-thaw cycle	≥ 1.0MPa
Tensile adhesive strength after standing for 20 minutes	≥ 1.0MPa
Slip	≤ 1.0mm

2.1.4 Prefabricated terrazzo should have a ex-factory certificate. Each terrazzo should have a qualified mark. It should be inspected and accepted according to the specifications, size and color required by the processing order, and placed separately on the slab. In order to prevent the deformation of the terrazzo, it should be stored in the warehouse to avoid strong sunlight exposure.

The material requirements for the terrazzo plate are shown in Table 7-7.

	Allowable deviation (mm)			
	Length and width	Thickness	Flatness maximum deviation	
Terrazzo plate			Length	The surface of the slate should be uniform, the color should be consistent, and there should be no swirls or stomata.
			≥ 400 1.0	
			≥ 800 2.0	

2.1.5 Perform terrazzo sealed curing agent and protective agent.

2.1.6 Main equipment: According to the construction conditions, appropriate equipment and auxiliary equipment should be selected reasonably to meet the design requirements, while taking into account the progress requirements and economic requirements. Commonly equipment include mixing bucket, small ash shovel, serrated trowel, straight wood, pallet, level ruler, ink fountain, nylon thread, 2m ruler, wire brush, long hair brush, rubber hoe, brick cutting machine, 90 degree steel square, small wire boring, heavy multi-disc grinding machine, light grinding machine, water absorbing machine, hard brush, soft brush, water pipe, wiper, mop, watering can, and sprayer.

2.2.1 The top of the indoor wall is plastered and the door frame is installed.

2.2 Working conditions:

2.2.2 A +50cm horizontal line has been added to the wall.

2.2.3 The pipe hole that passes through the floor has been blocked and plugged.

2.2.4 The wires and tubes buried in the ground have been laid, and the concealed acceptance procedures have been completed. The ground cushion has been laid out and its strength reaches 1.2MPa.

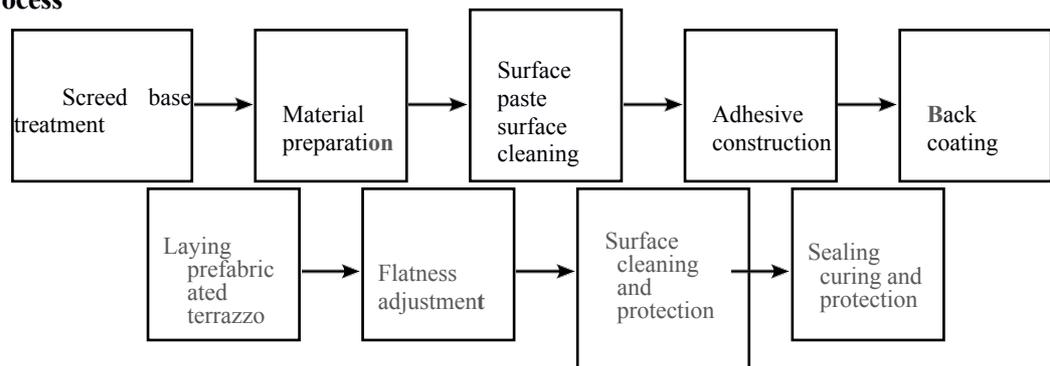
2.2.5 Before laying, check whether the color, specification and size of the prefabricated terrazzo plate meet the design requirements, select and remove the pieces with defects such as cracks, corners, corners and warpage.

2.2.6 The temperature of the foundation to be applied and the construction environment should be 5~32 °C.

**Process flow:**

**3 Operating process**

**3.1 Process flow:**



After confirming the acceptance of the waterproof membrane construction, the surface of the waterproof membrane should not be contaminated, and the construction base surface and ambient temperature should be 5~32 °C.

3.1.1 Base surface inspection: Check the existing surface condition, shovel the hollowed, broken and loose parts, and repair with mortar. After the repaired base surface has a certain strength, the subsequent construction can be carried out. Check the flatness, strength and stiffness of the base to meet the requirements above.

a) Base surface flatness requirement: Check the flatness of the base surface with a 2m ruler and wedge feeler gauge, and the allowable deviation should be 3mm.

b) Base strength requirements: tensile strength should be more than 0.5MPa, shear strength should be more than 1.0MPa.

c) Base stiffness requirements: The maximum deflection of the base surface should be no more than 1/480 span under all loads.

d) The base layer should be solid, free of cracks, hollow kit, sanding, pockmarks and oil stains, dirt and other defects. When the base layer is sputum, it should be cured for more than 28 days.

e) Base water content requirement: When the base layer is enamel or mortar, the water content should be less than 5%; when the ground floor of the first floor may be affected by the continuous moisture of the substrate, the waterproof moisture-proof layer should be performed, and then the terrazzo should be laid.

f) The thickness of the leveling layer should be 3-5cm, no less than 2cm

3.1.2 Cleaning the base surface: The base surface should be cleaned, and the surface should be free of dust, oil, release agent and other substances that affect the adhesion of the adhesive to the base surface. The construction temperature should be 5~32 °C.

### **3.1.3 Bullet line: The dividing line is popped according to the design drawing.**

3.1.4 Trial and trial row: Determine the paving sequence and standard block position according to the standard line. Try the terrazzo on the ground according to the pattern, color and texture. After the trial, they should be numbered in two directions, and then placed neatly by number. In two vertical directions, two dry sands are laid according to the standard line, and the width should be greater than the width of the terrazzo. Arrange the terrazzo according to the design requirements to check the gap between the terrazzo and check the relative position of the terrazzo to the wall, column, and pipeline opening. According to the results of the test, the control lines perpendicular to each other are projected on the main part and led to the wall to check and control the position of the terrazzo.

### **3.1.5 Adhesive construction steps**

Adhesive preparation: Two-component adhesives comprise an emulsion component and a powder component. Weigh the emulsion component first (the amount of emulsion is about 23% of the dry powder), pour it into a clean mixing tank. Then, a predetermined proportion of the powder component is added, and the mixture is stirred until it is creamy with a low-speed electric agitator, left to stand for 5 minutes, and then stir it for use. The adhesive has an operable time of 2.5 hours at room temperature. (Operable time refers to the time from preparation to use)

Cleaning the back of the terrazzo: Use a paint brush to remove the floating ash on the back of the terrazzo, use a small blade to remove the sharp protrusions and hard attachments on the back, and then use a sponge block to clean the back of the stone.

Adhesive construction: Construction with a 12X12mm E-gear trowel. Firstly apply the squeegee to apply the adhesive flatly, then use the serrated edge of the trowel to comb the adhesive to the full and uninterrupted zigzag stripes. When combing, the angle between the boring tool and the wall should be about 45°. ~ 60°.

### **3.1.6 Terrazzo back coating:**

For installing terrazzo, it is recommended to apply a layer of adhesive on the adhesive surface before laying. Use a serrated trowel to apply the adhesive on the cleaned terrazzo adhesive surface with a thickness of about 1-2 mm. Then use a trowel to chamfer the edging four-sided adhesive at an angle of less than 45° to avoid sticking. When the excess adhesive is squeezed out of the surface of the contaminated surface material, there will be small surface cleaning work.

### **3.1.7 Terrazzo paving:**

The back-coated terrazzo should be laid on the base surface of the already-adhered adhesive. The thickness of the glue should be about 8mm. When paving, the stone plate coated with the adhesive is placed on the mortar layer smoothly, and the terrazzo is to be smoothly placed at four corners. Then use the appropriate size of the positioner to adjust the position of the terrazzo to ensure that the size of the seam meets the design requirements and that the width of the seam is consistent. (Our factory provide rubber caulking crosses, 1.5-3mm crosses with different widths to ensure the same width), it is recommended to leave a seam width of about 2mm, and adjust the seam width according to the stone specifications.



After adjusting the position of the terrazzo, tap the tapping plate with a rubber hammer and use a rubber hammer to gradually tap the center to the surrounding area to adjust the position of the stone. When the stone is uneven placed, you should not directly hit the surface of the stone with a hard rubber hammer. Be sure to place wooden blocks (if you contact our factory, we can provide 100x200 specifications of wooden blocks for free), it will cause dark cracks on the stone surface. It will cost a lot to replace the stone, so it is not necessary to cause damage to the stone. (It is strictly forbidden to violently tap on the corner of the stone, please use the pad to knock instead of violent tapping). And level it with a level ruler. The adhesive can be adjusted within 30 minutes, it means the stone plate can be adjusted within 30 minutes after the paste.

### **Caulking**

After installing the stone plates, the width of the expansion joint should be 1.0~2mm, and the seam should be cleaned with sponge in time, the vertical expansion and contraction should reserve a 10mm structural expansion joints and to prevent the surface or structure stress cause the stone to kit or crack. After the water in the gap of the stone plate to evaporate, use a microtome to cut and clean the impurities in the width of the stone. After blowing the gap between the stones with a high-pressure air gun, fill the gap, use AB glue or other flexible epoxy resin glue to adjust the color. Note: Marble glue is less elastic than AB rubber. It is not recommended to fill the seam with marble glue. The caulking depth is not less than 10mm. The color of the caulk should be close to the color of the stone, clean up the stains left on the surface.

### **3.1.7.1 Cleaning and protection:**

After laying the slate, the surface of the terrazzo should be cleaned in time, and the excess adhesive should be wiped off with a damp sponge. After the completion of construction, pay attention to protecting the finished product, and it should not be subjected to water pressure washing, impact, and vibration.

The following finished protective materials are recommended, including large core plate, pearl cotton, and carpet. After the stone plate is installed and cleaned, cover the surface with a soft protective material such as pearl cotton or carpet.

After installing a piece of stone plate, repeat the above steps, and leave a 10mm expansion joint for every 7-10 meters. After each piece of stone plate is installed, the protective film on the surface of the terrazzo should be torn off, so that the bottom surface of the stone plate is sufficiently volatilized and the protective film on the surface of the terrazzo can be easily torn off. After installing a piece of area, be sure to use plywood or other hard-clip planks to protect the stone plate, and do not put heavy products on the stone plate within 3 days.

#### **a) Notes**

(1) After the base surface is covered with the adhesive, it should be ensured that the terrazzo is applied to the adhesive before the film surface is formed. Once the surface of the adhesive is formed into a film, the terrazzo is difficult to be effectively adhered by the adhesive, and the bond strength is greatly reduced. You can use your fingers to touch the well-baked adhesive to judge whether the adhesive surface is filmed. If the adhesive covers on the finger indicates that the adhesive surface is not filmed. If there is no adhesive on the finger, it indicates that the adhesive has formed a film. All the adhesives are shoveled off, stirred evenly in the bucket and re-combed.

2) Adjust the mixing ratio according to the application.

3) If a large slate (300mm × 300mm) is laid, a layer of adhesive should be applied to the back of the plate to obtain a perfect bonding effect.

4) Before construction, it should be ensured that the waterproof membrane has passed the acceptance and the surface of the waterproof membrane is not contaminated, which is especially important for large slate facets (over than 300mm x 300mm).

#### **b) Safety matters**

5) During the transportation, stacking and construction process, attention should be paid to avoiding dust, scumming, and dipping, necessary measures such as covering, closing, watering and rinsing should be taken.

6) Do not take it internally. Silica sand may affect health, workers should avoid inhaling dust, and dust masks should be worn in dusty areas.

7) Staff should follow the relevant safety procedures. New workers should go through technical training and safety education before they can be employed.

8) Construction machinery noise should comply with environmental protection requirements; construction temporary electricity should comply with safety management regulations.

### **9) Safety protection work should be performed during construction. WE ONLY DO THE MOST PROFESSIONAL**

When paving a prefabricated terrazzo in a room, if using non-whole edging, it should be symmetrical to each



other (when the crosshair is drawn in the room with a fixed reference line, the width of the edging is calculated according to the size of the terrazzo). Where there is a floor drain, attention should be paid to the slope of the paved slab, and the terrazzo block paved around the floor drain should be matched with the floor drain.

Before installing the skirting plate, it should be selected by a special staff, the thickness should be the same, and the skirting plate should be dampened with water to dry. If the design requires a cut angle at the intersection of the male corners, the end of the skirting plate should be cut at a 45° angle before installation. The operator can choose from the following two methods of placement:

**Pasting method:** Determine the thickness of the bottom ash of the skirting plate according to the structural form of the main wall.

If the main wall is concrete or brickwork, the vertical sling line on the ash-coated wall determines the thickness of the bottom ash of the skirting plate (at the same time, the distance between the skirting plate and the wall surface is generally 8 to 10 mm). Use 1 : 2 cement mortar to sift the bottom ash (when the base layer is concrete, brush a layer of plain cement paste, the water-cement ratio is 0.4 ~ 0.5), and smooth the scratch. After the ash is dry and hard, apply 2~3mm thick grout or polymer cement slurry (mixed with 10% of 107 glue) on the back of the wet skirting plate, and use a wooden hammer to knock the solid, draw the line to level, and use the white cement slurry to wipe the seams the next day.

If the main wall is a lightweight partition wall of gypsum plate, do not use the bottom ash, directly paste the skirting plate with cement mortar, the operation method is the same as above.

**Grouting method:** When the main wall is the base of concrete or brick wall, and the wall has been plastered, the lower baseplate can be smeared without ash, set the skirting plate first, and then grout the mortar.

Determine the distance of the footplate beyond the wall (about 8 ~ 10mm), use the wooden ruler (or pendant) to measure the position of the skirting plate at both ends of the wall, and then pull the horizontal line. Clean the wall and water it, then start the installation on both sides from the positive angle, check whether the wall is flat, whether the joint is tight, and whether there is no falling angle. If it does not meet the requirements, it should be adjusted and then officially installed. The lower part is straightened by the ruler plate, and the lower part of the plate is temporarily fixed with plaster. After the gypsum is solidified, check its flatness, the joint height difference, the upper straightness, and the thickness of the wall. If the above indicators meet the standard, inject 1: 2 cement mortar (consistency is generally 8 ~ 12cm), and the excess mortar on the skirting plate should be cleaned up.

Grouting for 24h, sprinkling water for 3d, after checking there are no empty kit phenomenon, remove the temporary plaster and clean it, and use the cement mortar with the color of the skirting plate to wipe the seam. When the skirting plate is attached, the vertical seam of the skirting plate should be aligned with the ground terrazzo.

### 3. Prefabricated terrazzo floor sealing curing and protection treatment plan

#### 1. Sealing curing:

Sealing and curing treatment: Prefabricated terrazzo plate is polished and waxed in the factory. However, due to the improper protection for the cement slurry filling surface and the finished product during the installation process, the surface layer should be sealed and solidified before the completion of the unit project. .

Concrete seal curing agent is an active colorless, odorless, non-toxic, non-combustible transparent water-soluble green environmental hardener. It is composed of inorganic substances, chemically active substances and complexes. It is uniquely formulated and easy to use. The concrete floor is sealed, dust-proof, hard-wearing and resistant to penetration, preventing the penetration of contaminants, oil, grease and moisture. Its working principle is to form a network structure in three-dimensional space through effective penetration, chemical reaction with chemical components such as calcium carbonate in concrete (continuous reaction time is about 60-90 days), and solidify various components in concrete into solid body, resulting in a dust-free, dense whole, avoiding the deposition of concrete dust from the surface voids.

It has high permeability. According to the porosity of the formation, it can penetrate 5~8mm of cement surface and can penetrate up to 15mm. Sealing curing agents should meet the following international certification standards including BS EN 13892-4 2002, AASHTO T259-02, ASTM C642 1997.

#### Sealing and curing treatment construction process:

WE ONLY DO THE MOST PROFESSIONAL

Process I Rough grinding: Use a grinder with a 50-mesh retread or soft-slip to remove scratches and uneven



surface defects on the floor surface and polish to the same textured surface.

(If the assembly height is large, the refurbished film should be used)

Procedure 2 Rough grinding: Remove the scratches and uneven surface defects left by the No. 50 grinding disc with a 150-mesh softening disc with a grinder and polish to the same textured surface.

Procedure 3 Rough grinding: Remove the scratches and uneven surface defects left by the No. 150 grinding disc with a 300-mesh soft-grinding disc with a grinder and polish to the same textured surface.

Step 4: Sprinkle the foundation with a dense solidifying agent. (The dosage of the raw liquid is 0.15kg/m<sup>2</sup>. It should be adjusted according to the ground. It should be infiltrated for 3 hours. The original solution is diluted with water 1:2-1:5 and fully stirred.)

Step 5 Fine grinding: After rough grinding for 3 hours, add a small amount of water to wet the surface, and grind the ground with a 300-mesh soft-grinding disc with a light grinder to remove the surface dirt, and dry the surface mud with a water aspirator for 12 hours.

Process 6 Spraying: After the ground is completely dry, spread the hardening bright curing agent (the dosage is 0.2kg per square meter, the penetration time is more than 2 hours)

Step 7 Fine grinding: After 3 hours, add a small amount of water to clean the floor, and grind the ground with a 500-mesh soft-grinding disc to remove the dirt on the surface. At the same time, use a water aspirator to dry the surface mud until the ground is dry.

Process 8 Fine grinding: Rotate the counterweight iron to the foremost position with a heavy-duty grinder and polish it with a 1000-mesh soft-grinding piece.

Process 9 Fine grinding: Rotate the counterweight iron to the foremost position with a heavy-duty grinder and polish the floor with a 2000-mesh soft-grinding piece.

Process 10 Fine grinding: Rotate the counterweight iron to the foremost gear with a heavy-duty grinder with a 3000-mesh softener to polish the floor.

Step 11: After ensuring that the floor is clean, spray the polishing agent evenly over a small area with a sprayer at a dosage of 0.05kg/m<sup>2</sup>. After 3 to 6 minutes, immediately polish it with a heavy-duty grinder with a No. 6000 sponge until the ground is shiny like a mirror .

## 2 Protective treatment:

After the pre-made grindstone surface is cleaned (the surface should be dried), the protective agent should be applied. The protective agent product is made of silicone and organic fluorine materials as raw materials, and its strong penetrating agent can deeply penetrate into the interior of the stone and chemically bond with the stone matrix material. The utility period of the protective agent depends on the protective layer and varies depending on the area of use.

The fluorine type protective agent is a solvent type product, and an appropriate amount of fluororesin is added on the basis of the silicon-based protective agent, which has excellent water repellency and certain oil and stain resistance, and forms a durable, waterproof, oilproof and antifouling integrated. It can protect the layer and maintain the original breathability, color and gloss of the stone plate. It can be used together with the stone bottom protective agent to obtain the best protective effect, and it has good effects on preventing stone lesions and preventing water, oil and other pollutants from eroding the stone. Water repellent is a product used to prevent moisture from penetrating into the surface of a substrate like the stone plate, reducing capillary phenomenon without changing the appearance and physical properties of the substrate. The role of the water repellent is to make the surface of the material hydrophobic, that is, the surface of the stone material is not penetrated by moisture.

The oil repellent is oleophobic to protect the substrate from oil (gasoline, lubricating oil, and cooking oil).

The construction procedure of the protective agent is the same as above, and a blower is required in the construction to make the ground as dry as possible. After complete drying, a full protective agent spray is applied until the ground agent is saturated.

**Surface energy: All materials have a surface energy.**

Substance	Surface energy (dyne/cm)	Substance	Surface energy (dyne/cm)
Stone	500 to 5000	Dirt and grease	20-25
Water	73	Silicon and silicone compounds	20 - 23
Wax, paraffin	30	Fluorine and compounds	15 - 18

**4, Paving quality acceptance criteria**

1. Assurance items: The variety, specification, color and quality of the prefabricated terrazzo used in the surface layer and the skirting plate should meet the design requirements. The combination on the surface layer and the base layer should be firm and without bulging.

**2. Basic items:**

2.1 The surface is clean, the pattern is clear, the color is uniform, the joints are uniform, the periphery is straight, and the plate has no cracks, lack of defects, and corners.

2.2 The slope of the ground leakage meets the design requirements, no flooding, no water accumulation, and the joint with the floor drain (pipe) is tight and firm, no leakage.

2.3 The surface of the skirting plate is clean, the joints are even, the height is consistent, the combination is firm, and the thickness of the wall is suitable.

2.4 The floor materials and dimensions of the floor meet the design requirements and construction specifications, and the corners are neat and smooth.

2.5 Sealing curing and protection: 1) The treated ground can be used. 2) The surface of the floor is shiny and dense after treatment. The ground is permanently dust-free and sand-free.

**3. The allowable deviation items are shown in Table 7-8.**

Prefabricated terrazzo ground tolerances Table 7-8

No.		Allowable deviation (mm)		
		Advanced terrazzo	Ordinary terrazzo	
1	Surface roughness	2	3	2m ruler and wedge
2	Straight grid	3	3	Pull 5m line Check with line and ruler
3	Seam height difference	0.5	1	Ruler and wedge
4	Kicking the foot straight	3	4	Pull 5m line Check with line and ruler
5	Plate gap width	2	2	

#### **4 Finished product protection**

4.1 After the installation of the prefabricated terrazzo floor, the room should be closed and covered on the surface layer (plastic film.).

4.2 Prevent paint and brush from contaminating the finished prefabricated terrazzo plate.

4.3 It is strictly forbidden to mix mortar, stack paint buckets and other sundries on the terrazzo floor.

4.4 Do not hit the door and wall when transporting materials. Protect the plumbing riser, reserve holes, wire boxes and do not damage or block them.

#### **5,Problems need to pay attention to**

5.1 Ground empty kit. The reasons and preventive measures are as follows:

5.1.1 The screed mortar is not firmly combined with the base layer: the base layer is not cleaned, the watering amount is not enough, the cement sizing layer is unevenly coated, and the painting time is too long, resulting in air drying and hardening, resulting in the burrs of the surface layer and the bonding layer. Therefore, the ground base layer should be carefully cleaned, fully wetted, and the cement slurry should be applied evenly.

5.1.2 The bonding layer mortar and the surface layer are not firmly combined: the bonding layer should be made of dry hard mortar. If the water is excessively added or the thickness is too thick, the tapping is not dense, and it is easy to cause the surface layer to produce bulging.

5.1.3 The floating ash on the back of the plate is not cleaned, it is not soaked in water, which affects the bonding effect.

5.2 The joints are not flat, not straight, and the gap is not uniform: no careful grinding stone selection, the uneven thickness and the uneven width of the grinding stone plate cause the seam and the gap to be uneven.

5.3 The height difference between the plates is too large: When the height difference between the plates exceeds the allowable deviation, it should be treated by machine grinding and waxed and polished.

5.4 The thickness of the prefabricated terrazzo skirting plate is inconsistent after installation: the main reason lies that the wall verticality and flatness deviation are too large. When installing the skirting plate, the wall surface should be pretreated to achieve the same thickness.

5.5 The root of the prefabricated terrazzo skirting plate has pores and it is not tight. The main reason is that the horizontal elevation line is not well controlled when the skirting plate is installed. Therefore, before installation, you should find the target high control point on the skirting plate, and then pull the horizontal line for control.

5.6 The terrazzo skirt plate is not clean: the main reason is that when the wall is sprayed or brushed with latex paint, the skirting plate is not protected, and the upper mouth should be cleaned before waxing.

#### **6 Quality records**

This process standard shall have the following quality records:

6.1 Pre-made terrazzo blocks, skirting plate factory certificate, and import cargo certification documents.

6.2 Cement factory certificate.

6.3 Pre-made terrazzo ground sub-item quality assessment form.

#### **5, Terrazzo maintenance program**

### **1, Terrazzo sealing curing cycle**

After the whetstone is hermetically sealed, the surface of the terrazzo becomes harder, denser, dust-proof and easier to clean. These changes will become more and more obvious and the effect will get better. The flattened floor will look like a marble. The surface is stain resistant and most physical and liquid penetration is prevented.

#### **Care instructions:**

- 1) After the construction is completed, try to avoid heavy rolling in one week.
- 2) Do not apply wax or other sealant on the surface:
- 3) If cleaning with detergent, it needs to be cleaned with a detergent with high pH (acid cleaner will damage the appearance of the surface);
- 4) Wash off the ground residue as soon as possible, because it is possible that the residue concentrate will permanently corrode the ground. If it is not removed as soon as possible, it may leave marks on the ground;

The hardness of cement-based and concrete-hardened floor is equivalent to that of the stone, and it is the most environmentally friendly and economical concrete surface treatment solution to date. In general, after initial curing and sealing treatment, the effect of hermetic curing can be maintained for more than 5 years.

### **2, Regular protective treatment**

Since the main raw materials of the protective agent series are silicone and organic fluorine materials, the strong penetrating agent can deeply penetrate into the interior of the stone and produce chemically bond with the stone matrix material. The life of the protective agent depends on the status of the protective layer.

In general, it takes one year to protect. Of course, some areas may increase or decrease the number of protections as appropriate depending on the effectiveness of the protective layer.

### **3, Daily cleaning program**

Wipe the terrazzo regularly to remove dirt and clean. If the surface is stained, use some lighter corrosive agents such as lemon juice or vinegar to clean the stains. Never use materials that are detrimental to the nature of the whetstone such as soap or baking soda. Be careful when using lemon juice, Do not leave the lemon juice for more than 1 minute.

Daily cleaning wipes need to be performed.

#### **Attachment 1. Common problems in terrazzo ground.**

##### **1. Anti-staining property of oily substances;**

Answer: terrazzo is synthetic stone, the main component is natural marble and inorganic cement. This material is porous, and it is generally required to achieve durable stain resistance through surface protection in the later stage.

When shipped from the factory, the surface will be protected, after the paving is completed, and during the later maintenance, regular maintenance is required. In general, the terrazzo after the curing and protection treatment is far superior to the natural marble. For details, please refer to the relevant schemes and detailed descriptions in the attached file, which can also be verified on-site in the model area at the later stage.

##### **2. The strength of the terrazzo is confirmed: the bearing capacity and scratches of the transportation, when transporting the goods in a small cart;**

Answer: As for the hardness of terrazzo, the hardness of terrazzo is about 3-5 Mohs hardness, and the hardness of different aggregates will vary, which is no different from ordinary natural

marble. However, the surface hardness of the terrazzo after the curing treatment can reach 5-7, far exceeding the natural marble.

**3, The repair method after damage, in view of long-term use, if there is a small area of damage, how to repair the stone plate;**

Answer: Terrazzo is actually a stone product. It is derived from nature and is superior to nature. There are two types of repairs after damage:

Repair: If the damage is gentle, you can perform partial repair, remove the damaged part, and then embed new pieces of material, and restore the original condition by means of glue and sanding.

Replacement: If the area is damaged, it cannot be repaired and only partial replacement is possible. The terrazzo produced by our company is a prefabricated terrazzo. It is recommended that the property reserve a part of the spare plate for replacement at any time. Even if the property does not have a spare plate, after a few years, we can still produce the plate with same model and appearance as the original material, its performance is better than natural stone.

**4, Anti-slip property;**

Answer: The dry-slip coefficient of terrazzo is greater than 0.5, and the wet-slip coefficient is greater than 0.6. It is fully safe is 0.5 to 0.79. The anti-slip performance is superior to natural stone. The slip resistance of cement is high.

**5, Waterproof;**

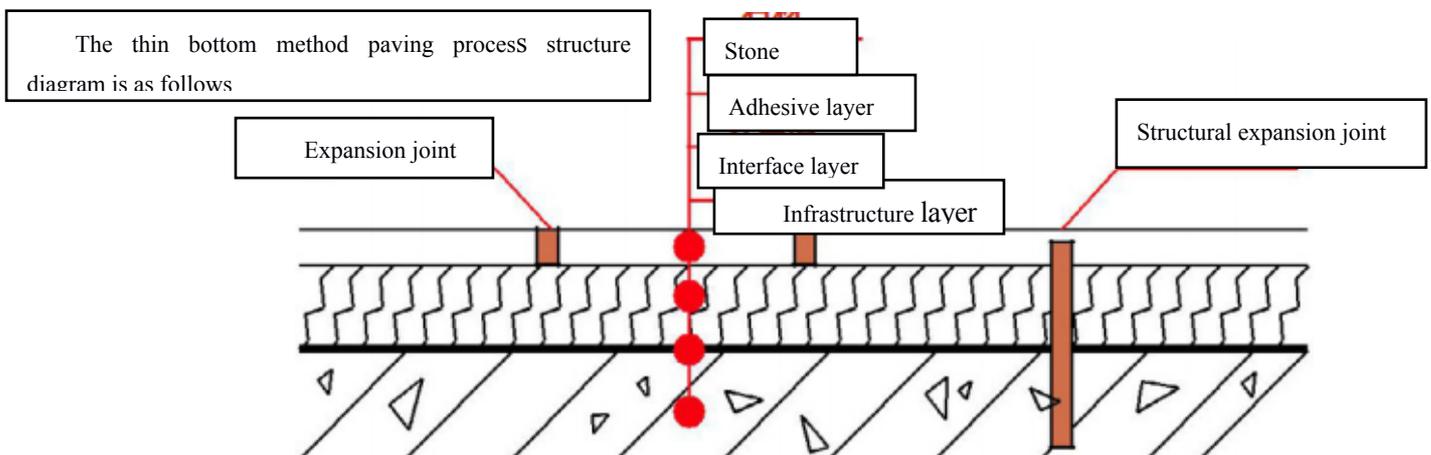
Answer: Since the bonding material of terrazzo is cement, the water absorption rate of terrazzo is high. The national standard requires that its water absorption rate should not exceed 8%. The water absorption rate of the imported terrazzo imported by our company is not higher than 6%. The surface of the terrazzo will be water-like and the surface will not absorb water.

**6, Flexibility and curvature (especially large pieces of stone), as well as terrazzo compressive strength, and impact strength;**

Answer: The flexural strength of terrazzo is generally around 10Mpa. The compressive strength of terrazzo is generally around 70-90 MPa. For terrazzo with a single plate width exceeding 600mm×600mm, the recommended thickness is not less than 25mm.

With the hard bottom method, the general indoor project can be fully qualified.

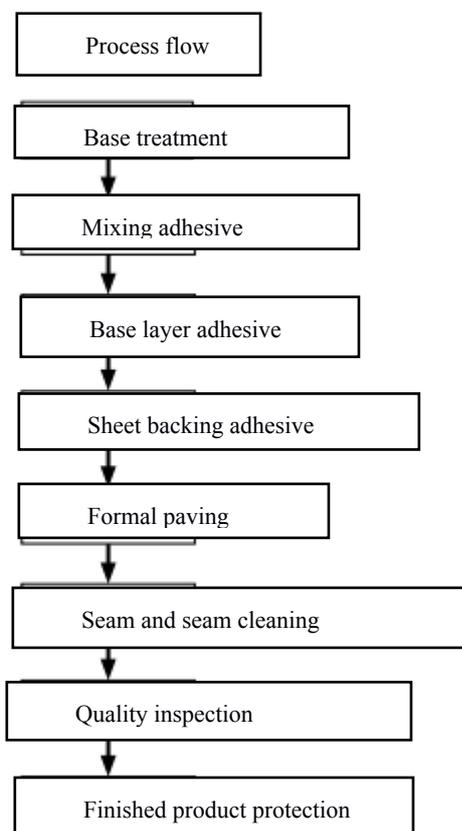
**Paving instructions for simple plate graphics.**



The thin bottom method is similar to the semi-dry method. Since the base of the thin bottom method has been solidified and it has low humidity, most of the quality problems caused by high humidity of the ground water vapor and the leveling layer can be avoided, and the construction is simple and convenient, and it has higher safety.

When using the thin bottom method for paving construction, the base layer should meet the following requirements:

- The base surface should be clean, free of dirt, oil, grease, wax, curing agent, sealant and other debris that affect the adhesive strength of the adhesive;
- The base flatness should meet 2m span, and the deviation should not exceed 4mm;
- The base surface has sufficient structural strength to withstand the expected load; when subjected to the maximum load, the deformation of the intermediate point should not exceed 1/360 of the single-sided span of the stone;
- The concrete and mortar base are water-free, and the water content is not higher than 5%;
- The shear strength of the base surface is not less than 0.5MPa, and the tensile strength is not less than 1.0MPa;
- When the base surface is concrete, the concrete base layer needs to be cured for more than 4 weeks.



1, Check the base layer



Confirm that whether the flatness and structural strength of the base layer meet the requirements, the construction surface should be free from dirt and water. When the base layer is a concrete base, it can adopt the brush cement paste or binder pulp (water: ash=1:1) as an interface agent.

## 2, Matching adhesive



According to the instruction manual of the selected adhesive, it can be used in proportion. (The adhesive should be used up within the specified time. It is forbidden to use it when the surface is agglomerated.)

## 3, The base layer coating adhesive



Use a 10mm\*10mm toothed trowel straight edge to apply a layer of adhesive on the base layer, and then use a serrated edge to comb the adhesive into a full and uninterrupted zigzag stripe with a thickness of about 6~8mm.

## 4. Scratch adhesive on the back of the plate

Use a dry rag or a brush to clean the deposits that affect the bond, such as ash, grease, and rust on the stone surface. Apply a layer of adhesive with a thickness of about 3~4mm on the back of the stone, and add the adhesive on the four sides of the plate to the site. Combine

NAVIGATION PILOT

the stone with the adhesive glue and the base surface (ground), press to adjust the height (the hand touches the seam, until there is no obvious unevenness) and the seam width (we provide the rubber joint cross, 1-2mm different width) The width of the slit is generally recommended to be about 1.5 mm. The slit width is adjusted according to the stone size.

## 5, Paving



The back-coated terrazzo should be laid on the base surface of the already-adhered adhesive. The thickness of the glue should be about 8mm. When paving, the stone plate coated with the adhesive is placed on the mortar layer smoothly, and the terrazzo Then use the appropriate size of the positioner to adjust the position of the terrazzo to ensure that the size of the seam meets the design requirements and that the width of the seam is consistent. (Our factory provide Rubber caulking crosses, 1.5-3mm crosses with different widths to ensure the same width), it is recommended to leave a seam width of about 2mm, and adjust the seam width according to the stone specifications.

After adjusting the position of the terrazzo, tap the tapping plate with a rubber hammer and use a rubber hammer to gradually tap the center to the surrounding area to adjust the position of the stone. When the stone is uneven placed, you should not directly hit The surface of the stone with a hard rubber hammer. Be sure to place wooden blocks (if you contact our factory, we can provide 100x200 specifications of wooden blocks for free), it will cause dark cracks on the stone surface. It will cost a Lot to replace the stone, so it is not necessary to cause damage to the stone. (It is strictly forbidden to violently tap on the corner of the stone, please use the pad to knock instead of violent tapping ). And level it with a Level adhesiver. The adhesive can be adjusted within 30 minutes, it means the stone plate can be adjusted within 30 minutes after the paste.