

## TERRAZZO NS Application Method

### Preparation

#### 1. Surface preparation

The concrete base or other floor bases must be clean, free of dust and grease.

The base must be consistent, without loose particles and disaggregation. Damp the surface with potable water and apply the Primer C to the damp surface. If steel is exposed, do not damp the reinforcement steel. The foundation should have a minimum tensile strength of 1.5 MPa.

The base must be visually dry. Cracks in the base should be repaired. Weak bases must be removed or restored. The foundation should be ground or blasted and then aspirated.

When the subsequent material is placed/casted after drying of the primer, the surface should be vacuumed to remove loose sand particles if any.

Levels: It is extremely important that the base is well levelled and within strict tolerances. This is important as level variations in base can easily lead to failures in topping materials. Further a well levelled floor will help to save costs in material consumption of subsequent layers.

Use of FF Dry Screed or FF SLU (Self-levelling Underlayments) can help to this end.

#### 2. Recommended primers

FreeForm Primer C or other suitable FreeForm Primer, depending on the condition of the substrate on which the material is applied.

#### 3. Installation tools

- Concrete Mixers- Pan or Drum Type - Horizontal or Vertical- Mixer must be clean and not cause contamination of the mixture.
- Screed bars to take level from the floor and screed material/ Laser Screed
- Hand Trowel
- Spike Shoes Metallic Spike roller with 10 mm fine spikes
- Wheelbarrow or dumper to transport material
- Spray new tools with a hydro repellent for easier cleaning and better performance

### Work area preparation/Setting up

#### 1. Mixing

- Add the liquid to the mixer and then the powder if the mixer allows.
- Make a test mix to adjust the mixing rate, and also for "buttering of the mixer". Mixing water - try to work as per recommendations from VYARA/ FREEFORM. Final water rate will need to be adjusted to temperature and work conditions.

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- Once mixing rate is established make sure it is always the same.
- In case of manual mixing, mix for minimum 2 to 3 minutes. Mix till homogeneous, without lumps and all pigments are well integrated in the mix.
- When small mixers are used try to use two mixers to secure an even material flow.

### 2. Recommended application thickness

We recommend to screed the floor in 12-20 mm thickness, depending on the size of the aggregate used. The thickness of the layer should be approximately 2 to 2.5x of the largest sizes of the aggregates used. A good base is essential since the thickness of the screed is taken from the floor base. Use laser screed for large sites and best results.

Pumping- depending on the size and percentage of aggregates the FreeForm Pebblewash can be pumped, but it has to be so specified in advance and the applicator should test that option before using it on site.

### 3. Laying/Pouring/Installation

The material must be poured evenly on the floor, and no major segregation or bleeding should be visible. The material is screeded out between bars by hand or laser screeded, and brought to required level by a straight edge and steel floats in such a manner that the maximum amount of marble chips come up and are spread uniform over the surface and no part of the surface is left without chips. If required, "seeding" of additional stone chips is possible.

If thickness is taken from bars on the floor the bars should be 2 mm under the actual thickness you want on the floor. When the bars are pulled out a hand trowel should be used to fill the gap

Another person with spike shoes follow right after with a spike roller to even out marks and smoothen the floor. This process takes air out of the floor levelling compound and evens the floor. This should be done with 10 mm spike roller and only superficially not to move the stones around. When aggregates are small, a gauge rake can be used.

### 4. Curing

In normal conditions, the Terrazzo NS cures in 24 hours. If temperature is lower curing will take longer. The material cures without being covered and the material should not be touched during the curing. Touching the material with a trowel after that it has started to settle may cause separation and cracking in the material.

Protect the floor from staining, damage, etc. as a result of other agencies working on site. Wet wood shaving, oil and varnish stains cannot be removed. After initial curing, cover adequately if there is a time gap till the sealing operation. After initial curing of 3-5 days, cover adequately if

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there is a time gap till the grinding/polishing operation. To avoid scratches, all furniture, ladders etc. should be lifted, or dragged on a thick cloth.

### 5. Precautions

It is ideal to finish the floor once you have started to work on it. Before the floor has been fully finished it is sensitive to water and other liquids that can penetrate and make marks in the floor. The floor needs to breathe also after the curing process if finished, why the floors should only be covered with breathable materials.

If the floor is covered completely with non-breathable materials marks can occur also after curing.

Expansion joints are necessary to allow for movement. It is recommended that in internal applications expansion joints are located in no bays larger than 6 to 6 metres.

It is also recommended to leave joints all around columns and along the entire perimeter of the laid terrazzo floor and filled with an elastomeric jointing material to provide for movement.

### 6. Grinding/Grouting/Polishing/Densification

Polishing is by far the most crucial area of workmanship for the proper shining, finishing and maintenance of the floor and customers are advised to seek the best professional help for the same.

For selecting agency it is advisable that:

- They should have previous experience of having done some high quality cement tile or terrazzo polishing works.
- A sample mock up of about one small room should be completely polished by the agency before entrusting entire work to the agency.

Work to be completed before commencement of polishing

1. All civil and masonry work.
2. All plumbing and pipeline work.
3. Laying of bathroom floor and fixing of all wall tiles.
4. Platform slabs and wall tiles of the kitchen storeroom etc to be fixed.
5. All electrical wiring, whether concealed or open
6. Fixing of window frames and window grills and fixing of door frames.
7. Polishing or colour of windows/window frames/ grills etc and of doors/ door frames etc.  
Final painting of all ceilings
8. Two coats of wall paints on all the walls [ only the final coat is to be done after the final polishing]
9. Final fitting of all electrical equipment and connection of power supply.

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- The terrazzo floor tiles should be ground and polished with a high quality polishing machine (machine without undue vibration), at least 3-4 days after laying of the floor.
- The first round of grinding is the most important one. It is the cutting / levelling coat and should be done using No.0/1 polishing stones (Suri Porex Synthetic stone or equivalent). Avoid using No. 0 stone unless the aggregates tiles are over 8 mm in size or very hard. very hard.
- Do the grinding with a constant slow speed always overlapping 50 % the previous grinding line
- You should always be checking that parts of the machine or big particles are not dragged around and cause scratching in the floors.
- Carry out enough grinding to make sure that the exposure of the terrazzo (chips) should be even. While polishing, in the unlikely event that the floor does not seem to get the desired result, the customers are requested to immediately stop the polishing work and consult the vendors.
- After the 1st round of grinding tiny pinholes may occur or in case of tiles with glass aggregates, some bigger holes or pitting will appear. These should be first completely cleaned and thoroughly grouted using custom made FREEFORM terrazzo grout-mix to match the colour on the floor.
- Grouting is to be left for a minimum of 2-3 days and cured with water before the tiles are subjected to the second coat of polishing using No.2 stone.
- The above is followed by subsequent grades of polishing effort going progressively to finer grains. Ensure the floor is washed with water between each polishing. In case of floors with very fine aggregates, please be careful to not over grind.

**If in doubt, please ask.**

### 7. Protection/Sealing

Clean the floor well with a scrubber dryer with a cleaning pad. Make sure that the scrubber dryer is in good conditions. Any existing dust or dirt or efflorescence may get trapped under the sealer and also enhanced. So the cleaning before the application of the sealer is very necessary.

When the floor is fully dry it is ready to receive sealer.

Mix the approved sealer and apply on the sealer. Use a low pressure sprayer to apply the sealer evenly. Check with trials in a small patch before applying on the entire floor.

### 8. Cleaning and maintenance

Clean with PH neutral cleaning agent. Never use acids or very strong cleaners.