

Installation of quartz stone tiles

Recommendation

1) It is important to follow the correct installation methods suitable for the specific applications. PANTHEONSTONE tiles and slabs should NOT be laid using customary sand and cement. There are no established standard for adhesive fixing of engineered quartz stone slabs / tiles. Some of the installers may fix the engineered quartz stone slabs / tiles similar to fixing ceramic tiles using adhesives meant for ceramic tiles. Such practices lead to failure in installation.

2) Do not alter factory finish or polish. No re-polishing or refinishing should be done on the PANTHEONSTONE Natural Quartz Surface.

3) Method adopted for laying of engineered quartz stone slabs / tiles may vary from location to location and may be installed in numerous ways. It is of prime importance that the installer takes into account the features viz. differential movement, structural deflections, foundation movements, thermal movements, moisture movements, dimensional stability of the materials that make up the different layers of the engineered quartz stone slabs / tiles and understand how they interact with each other if the complete system has to perform successfully.

4) It is the responsibility of the installer/ buyer to design the tiling system based on the advice obtained from the adhesive manufactures.

5) PANTHEON tiles are generally supplied calibrated, squared, polished and chamfered and are absolutely ready to be laid. We recommend usage of specially designed Polymer modified rapid setting cement adhesive conforming to ANS118.4 – 1999 having below mentioned performance.

Properties for bonding of engineered quartz stone slabs / tiles:

Test	ANSI 118.4
Initial Set	>6 hr
Final Set	9 - 15 hr
28 day shear bond	200 psi
28 day compressive	2500

6) For high demanding areas such as heavy traffic areas & critical installations we recommend usage of specially designed epoxy based adhesive having below mentioned performance properties for bonding of engineered quartz stone slabs / tiles :

Test	ANSI 118.3
Setting time	> 2 hr
28 day shear bond	150 psi
28 day compressive	2500 psi ANSI 118.3 F-6.1 modified

Manual operation

We recommend that the following procedure may be followed for laying PANTHEON tiles:

1) Tiles must be laid on concrete floor which is dry and moisture free, flat, stable, solid, free of cracks, smooth, clean of any dust, debris, oils or any similar substances that may cause tiles to break free.

2) During the laying process, the environmental temperature must be between +5°C and +30°C.

3) Sand and cement screeded floors must be allowed to dry for such no. of days that the surface is completely cured and free of moisture. Laying the tiles on wet sand and cement mixture is to be utterly avoided. The humidity of the concrete at the most be less than 5% before the installation.

4) Polymer modified rapid setting cement adhesive used should be such that adhesive and waterproofing membrane are compatible. If this is not possible, epoxy based adhesive should be used.

5) Polymer modified rapid setting cement adhesive shall be prepared as instructed by the adhesive manufacturer.

6) Remember to check tackiness of the mixture spread on the foundation. The tackiness of the mixture spread on the foundation should be tested by hand. If the adhesive smudge onto fingers, installation of tiles can be continued; if not the foundation must be thoroughly cleansed off and a new adhesive must be re-spread on the foundation.

7) Using flat side of the trowel to make a thin layer of polymer modified rapid setting cement adhesive (bed thickness as recommended by supplier) on the foundation.

8) Spread the appropriate amount of polymer modified rapid setting cement adhesive at one time to ensure that the tiles are laid within the setting time of the adhesive.

9) For good adhesion, the polymer modified rapid setting cement adhesive must be spread as a thin layer (back buttering) on the back of the tile.

10) The tile should then be layed on the polymer modified rapid setting cement adhesive covered foundation and should be tapped with a rubber mallet to ensure even laying.

11) Tiles must be always layed with joints. Joints must have a minimum width of 2 mm for 300 mm x 300 mm and 600 mm x 600 mm tiles.

12) Grouting of the joints should be done at least 24 hours after laying of the tile. The joints should be thoroughly cleaned before grouting.

13) Grout should be cleaned from the surface within 15 mins.

14) Always remember to seal joints with a flexible cement based grout having below the mentioned performance properties:

Test	ANSI 118.6
Linear shrinkage 7 days	< 0.10%
Flexural strength 7 days	400 psi
Tensile strength 28 days	350 psi
Compressive strength 28 days	3000 psi

15) For high demanding areas such as heavy traffic areas & critical installations we recommend usage of specially designed epoxy based stainfree & water cleanable grout having below mentioned performance properties:

Test	ANSI 118.3
Water cleanability	> 80min (E-5.1)
Initial setting time	> 2 hr (E-5.2)
Linear Shrinkage	<0.25% (E-5.3)
Sag	No change (E-5.4)
Shear bond strength	>1000 psi (E-55)
Compressive strength	3500 psi (E-66)
Tensile strength	1000 psi (E-5.7)
Thermal shock	> 500 psi (E-5.8)

16) Grouting should be done only with rubber float so that the joints are fully filled and compacted.

17) In a wide area of installation, the foundation must be divided into areas of 4 X 4 m and 6 X 6 m. Expansion joints of 4 – 6 mm among these areas must be sealed with polyurethane/ non-staining silicone sealants.

18) In case floor is exposed to direct sunlight and or temperature exceeding 300C ensure that the surface must be covered with damp cloths for minimum 24 hours.

19) Open the surface to pedestrian traffic only after 24 hours of grouting.

20) PANTHEONSTONE will not assume responsibility or liability for any problems due to improper application.

21) It is always advised to consult the adhesive manufacturers for designing the tiling system. Assistance of architectural drawing for tile laying can also be obtained.

22) In case of installation of PANTHEONSTONE tiles around fireplaces, stoves, on strongly insulated areas (eg: shop windows), it is necessary to take into account the quality of the substrate concrete and also take into consideration the thermal expansion of the product. Specialized installation technique should be used for laying PANTHEONSTONE Natural Quartz surface on such floors. Please consult the adhesive manufacturers for designing the tiling system for such an application.

23) In case of installation of PANTHEONSTONE tiles as a stair component, it is important to take into account the mechanico-physical characteristics of PANTHEONSTONE tiles. The wall junction must enable longitudinal changes of the stair component, i.e. the space on the interface between the wall and the component must be filled with an elastic material, which enables dilatation.

24) After Installation see that there is no warpage, defects, deflections etc and check that the:

25) Visible corners have correct radius and are smooth.

26) Holes are filled with suitable color.

27) Joints especially those with front edges are leveled, tight and smooth.

28) Edges are smooth polished and the color is matched .