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## FREQUENTLY ASKED QUESTIONS

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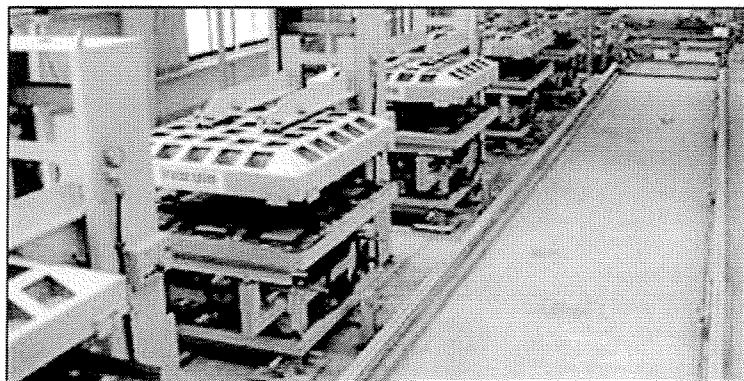
### 1. What is Santa Regina tile?

Santa Regina tile is an all-natural/green engineered stone comprised of aggregate such as marble, granite or quartz, together with white cement, and colored pigment. The look and feel is similar to that of terrazzo. Due to the company's state of the art patented manufacturing technology, an infinite array of styles and colors are available with customized design for areas as small as 10,000 sq. ft. suitable for any application.

### 2. Santa Regina similar to Terrazzo?

The manufacture of Santa Regina tile is based on original terrazzo technology; however, that's where the comparison stops. Santa Regina International utilizes state of the art patented equipment to manufacture a tile in a controlled factory setting that is superior in performance and style.

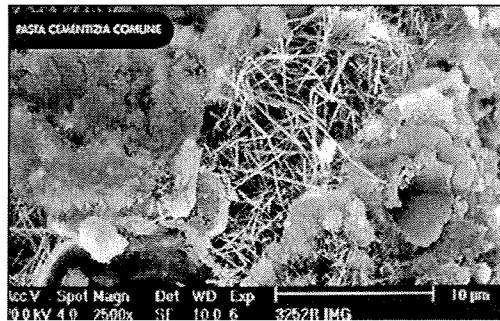
Santa Regina tile is 97 - 99% non-porous due to its patented vibration vacuum manufacturing process. This compares with a water absorption rating of approximately 14% for poured in place terrazzo. Santa Regina International tile is made from a very dry white cement/aggregate mix which improves the tile's strength. The mixture is placed into a mold and then is positioned into our patented vibration vacuum machine.



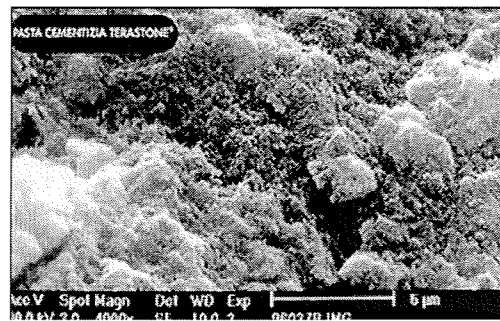
Patented Vibration Vacuum Machine

This machine vibrates the cement/aggregate mixture to settle it into the mold and then vacuums out approximately 50% of the atmosphere. These two processes significantly eliminate the microscopic cracks and air pockets found in poured in place terrazzo. The result is a floor that is much less water absorbent than a poured in place terrazzo which

generally has a porosity of 14%. The electron microscope pictures below compare poured in place terrazzo to Santa Regina tile. The magnification of the Santa Regina tile is twice that of the poured in place tile and still no visible evidence of air pockets or cracks.



Poured in place Terrazzo



Santa Regina Int'l Tile (2x's magnification)

Santa Regina tile is manufactured, cured and finished in our controlled factory setting and is ready for foot traffic 24 hours after being laid, a quick turnaround, unlike terrazzo that takes 3 to 4 weeks until it has finish curing. Many times the terrazzo installer will demand that the other trades leave the building site. When considering the cost of large projects, a one month interest carry can add between 20% to 30% more to the cost of the terrazzo.

Santa Regina tile is an economical alternative at more than half the cost of terrazzo with superior performance characteristics.

### 3. How does Santa Regina tile compare with natural stone?

Because Santa Regina tile is manufactured in a controlled setting using its patented vibration vacuum process as described in question 2., Santa Regina tile does not have any cracks or fissures that are commonly found in natural stone. In fact, the mud base that is typically used in the installation of natural stone is not required when installing Santa Regina tile. Instead our tile which is installed using standard thin-set with a ½ inch notched trowel on a level concrete slab.

The color and look of Santa Regina tile is consistent, again due to the controlled manufacturing process. Natural stone differs in color and style as the natural stone is excavated further and further into the quarry. It is not necessary to mix Santa Regina tile when installing as is recommended with natural stone and some ceramics.

**4. What colors, sizes, thicknesses and finishes are available?**

Santa Regina offers an infinite array of styles and colors which sets us apart from our competitors. The color and mix of different aggregates together with the variation of pigment colors provide an unlimited combination of styles. This manufacturing process provides our clients with a large palette of potential custom designs. Finally, because the product is manufactured in a controlled environment, the tiles are uniform and consistent in size and color from tile to tile.

**Dimensions:** Santa Regina tile is manufactured according to metric dimensions. Below are the dimensions in metric and imperial.

Santa Regina Tile	
Metric	Imperial
30 x 30 x 1.2 cm.	11.811 x 11.811 x 0.472 in.
40 x 40 x 1.5 cm.	15.748 x 15.748 x 0.591 in.
60 x 60 x 2.0 cm.	23.622 x 23.622 x 0.787 in.
60 x 40 x 1.8 cm.	23.622 x 15.748 x 0.709 in.
68 x 153 x 3.0 cm.	26.771 x 60.236 x 1.181 in.

Santa Regina Tile with PMC	
Metric	Imperial
30 x 30 x 0.9 cm.	11.811 x 11.811 x 0.374 in.
40 x 40 x 0.9 cm.	15.748 x 15.748 x 0.374 in.
60 x 60 x 1.5 cm.	23.622 x 23.622 x 0.590 in.
60 x 40 x 1.3 cm.	23.622 x 15.748 x 0.512 in.
68 x 153 x 3.0 cm.	26.771 x 60.236 x 1.181 in.

**Slabs:** Slabs are available in dimensions of 26 ¾ in. x 60 ¼ in. with thicknesses up to 1 1/8 in.

**Finishes:** Four finishes are available.

Polished – The stone is polished to achieve a high gloss to enhance the natural beauty of the stone.

Honed – The finish is smooth with a slight gloss. Emphasis is made on the stone’s natural state.

Antique – This finish produces a three dimensional textured look of stone.

Sandblasted – This finish is ideal for exterior or wet application and areas where slip resistance is a factor.

**Weight and Pallet Size:**

Santa Regina Tile			
Size	Weight per Tile	Weight per Pallet	Square Feet per Pallet
16" x 16" x 5/8"	13.2 lbs.	2,692 lbs.	363 sq. ft.
24" x 24" x 7/8"	48.2 lbs.	2,645 lbs.	219 sq. ft.

Santa Regina Tile with PMC			
Size	Weight per Tile	Weight per Pallet	Square Feet per Pallet
16" x 16" x 3/8"	8.6 lbs.	2,645 lbs.	533 sq. ft.
24" x 24" x 3/5"	43 lbs.	2,532 lbs.	236 sq. ft.

**5. Are custom colors available?**

Yes, custom colors and designs are available for orders as small as 10,000 sq. ft. Santa Regina maintains a research and development laboratory (R&D lab) in which to experiment with new materials, colors and styles.

**6. Where is Santa Regina made?**

Santa Regina is an U.S. based company located in Palmer, Texas a suburb of Dallas. Our location enables the company to serve North America from a bi-coastal distribution point. Orders have a turn around no more than seven business days.

**7. Where is Santa Regina used?**

Santa Regina tile can be used for almost any surface application. It is especially conducive for commercial applications where large surface areas demand uniform and consistent color. Santa Regina tile is not cured in a kiln; consequently, there are no die lot issues.

Healthcare, foodservice and education applications are perfect for Santa Regina tile when combined with Microban's antimicrobial compound which retards the growth of bacteria and mold for the life of the floor tile.

Santa Regina tile may be used inside and outside. A sandblasted finish is available for outdoor applications. This non-slip surface is perfect for situations where the designer wishes to maintain the same colors and styles for both indoor and outdoor applications.

Wall facades are also applications for Santa Regina tile. The thinner and lightweight Santa Regina tile with PMC (Polymer Modified Concrete) is recommended because it is light weight and low water absorption.

#### **8. How durable is Santa Regina?**

Santa Regina tile is extremely durable due to the vibration vacuum manufacturing process. The compression strength of Santa Regina tile is 20,000 psi to 39,000 psi as compared with terrazzo's compression strength of 7,500 psi.

There are many historical buildings still in existence today built in the late 19<sup>th</sup> century and early 20<sup>th</sup> century which still utilizes their original terrazzo floors. Assuming Santa Regina is laid correctly and the substrate is sound, Santa Regina tile should last the estimated life of the building in which it is installed.

#### **9. Is Santa Regina tile warranted for commercial use?**

Yes, Santa Regina International guaranties its floor tile for material and workmanship for the estimated life of the building in which the tile is installed. Please see Limited Warranty for specifics and exclusions.

#### **10. Is Santa Regina tile slip resistant?**

Santa Regina tile meets the following coefficient of friction tests – ASTM C1028:

Finish	Marble	Granite
Antique dry	0.70	NAV
Antique wet	0.63	NAV
Polished dry	0.74	0.75
Polished wet	0.61	0.60
Honed dry	0.69	0.73
Honed wet	0.68	0.68
Sandblasted dry	0.77	0.70
Sandblasted wet	0.75	0.65

#### **11. How is Santa Regina tile maintained?**

Santa Regina tiles require a minimal level of maintenance. Unlike many other hard-surface flooring products, Santa Regina tiles do not require regular polishing or buffing to retain their finishes. See Maintenance Guidelines.

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**12. Is Santa Regina tile easier to maintain than other natural stone surfaces and terrazzo?**

Yes, because Santa Regina tile is manufactured in a controlled setting using patented technology, Santa Regina tile is much denser than natural stone or terrazzo. Consequently, no sealers are required as compared to terrazzo or natural stone where sealers are recommended.

**13. How is Santa Regina tile installed?**

Santa Regina tile is installed using a thin-set mortar with a ½ inch notch trowel on a level foundation. Because the tile is rectified, grout joints of 1/16-in. are achievable. The product is ready for foot traffic 24 hours after installation. See Installation Guidelines for details.

**14. How do you cut Santa Regina tile?**

Santa Regina tile may be cut just like natural marble or granite using diamond tipped saw blades. Circular cuts and hole cuts are made using the same methods as used when working with natural stone.

**15. Can Santa Regina tile be used outdoors?**

Yes, Santa Regina tile may be used outdoors. The Sandblast finish together with a wider grout line is recommended. In fact, an outdoor application with a sandblast finish combined with an interior application with a polished, honed or antiqued finish provides continuity of color or style of the complete building project.

**16. Can Santa Regina tile be used on interior and /or exterior walls?**

Yes, it may be used on interior and exterior walls. For installation, use dual-component adhesives products designed for these installations. A double application of adhesives is necessary for large formats in order to reinforce adhesion between surface and tile. The thinner, lighter weight PMC Santa Regina tile is recommended.

**17. Is Santa Regina tile stable?**

Yes, after Santa Regina tile is manufactured it continues to cure and harden reaching compression strengths between 20,000 psi to 39,000 psi.

**18. Is Santa Regina tile environmentally friendly?**

Santa Regina is an all natural/green product and environmentally friendly. Santa Regina tile is manufactured with all natural raw materials and is cured by the tiles own exothermic reaction of the cement. There are no kilns or autoclaves in the manufacturing process.

As the tile is manufactured with white cement, aggregate and water, there are no harmful off gassing. Santa Regina also uses recyclable products such as glass and metals.

**19. How porous is Santa Regina?**

Santa Regina tile is up to 97% to 99% non-porous.

**20. Does Santa Regina tile need to be grouted?**

Yes, we recommend a grout joint of 1/16 in. All Santa Regina tile is rectified with tolerances of less than 1/10<sup>th</sup> of a millimeter.

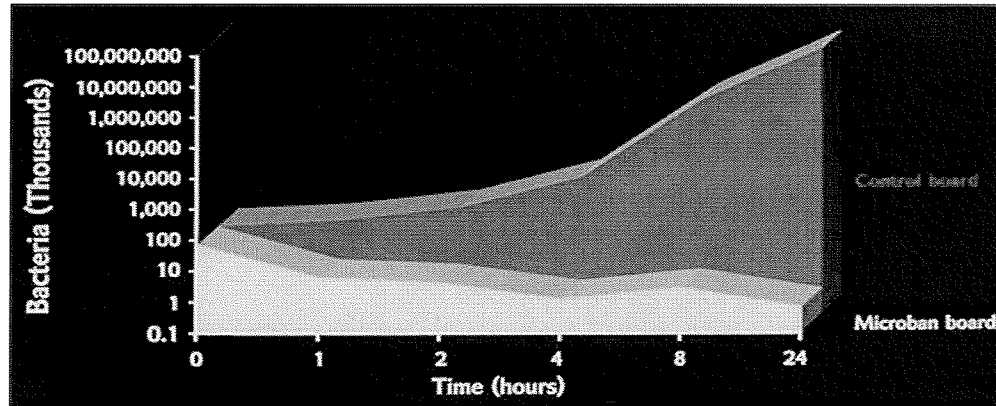
**21. What does antimicrobial mean? What is the difference between antimicrobial and antibacterial?**

Antimicrobial is a condition that prevents or retards the growth of bacteria and fungi for an extended period of time. In the case of Santa Regina tile, this period of time is the lifetime of the product. Antibacterial means that bacteria are killed on contact; however, once the antibacterial dries, the surface is susceptible to growth of new airborne bacteria that land on the surface. There is no continuing killing effect of antibacterial once it dries.

**22. How does the antimicrobial Santa Regina tile work?**

The Microban antibacterial compound in a powdered form is added to the tile during the manufacturing process at the same time the white cement, aggregate and colored pigment is added. The compound is thoroughly mixed throughout the entire tile.

The antimicrobial compound works by emitting a minute chemically produced electrostatic charge that penetrates the cell membrane of a bacterium or fungus. Once penetrated, the insides of the cell disburse and the bacterium or fungus dies. This infinitesimal electrostatic charge is a chemical charge and is not the same kind of electrostatic charge that would affect electronics. Even if the bacterium or fungus does not fall directly on the Microban antimicrobial compound, the infinitesimal electrostatic charge will eventually reach the bacterium or fungus within an hour or two at a distance of 5 millimeters or so.



The chart above illustrates the effect of an antimicrobial compound in a polypropylene surface. Bacteria double in population every twenty minutes. The compounding effect of this growth is seen in the Control board above. The Microban board in yellow continues to retard the growth of the bacteria. Please note that it is impossible to completely eliminate bacteria in a normal setting because airborne bacteria is constantly landing on surface areas; however, Microban antimicrobial compounds will continue to work against these airborne bacteria for the life of the Santa Regina tile as apposed to antibacterial products which stop working after that antibacterial product dries.

**23. Where is Santa Regina tile with Microban antimicrobial compounds used?**

Any application where the existence of bacteria or fungi is an issue is a great application for the antimicrobial floor tile. Applications such as healthcare, food service, schools, government buildings or kitchens are relevant applications.

**24. What happens if the bacteria or fungi are absorbed into the tile?**

The Microban antimicrobial compound is located throughout the entire product. The antimicrobial compound in the inside of the tile will retard the growth.

**25. Is Microban Antimicrobial safe?**

Yes, Microban Antimicrobial compounds are found in a myriad of consumer products such as toothbrushes, clothing, air filters, and water filters among others. In fact, the EPA which regulates antimicrobial compounds has approved antimicrobial contact with food which makes kitchen countertops a wonderful application for Santa Regina tile.

**26. Is Microban antimicrobial found in any other hard surface flooring?**

No, Santa Regina tile is the only tile available with an antimicrobial compound. This is because Santa Regina tile does not use a kiln in the curing process which would break down the antimicrobial compound if installed in other hard surfaces such as ceramic or porcelain.

**27. Are antimicrobial grout and adhesive available?**

Yes, Laticrete manufactures antimicrobial grout and adhesive to give you a complete antimicrobial flooring solution.