



technical notes, care & maintenance, installation guide



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1) Introduction:

Geoquartz brand quartz surfacing is comprised of 93% quartz, blended with 7% unsaturated polyester resins, additives, and inorganic non-fading pigments using the world patented vacuum-vibroprocess process of Breton S.p.A of Italy. Geoquartz slabs and tiles are ideally suited for a wide range of horizontal and vertical surfacing applications including counters, vanities, interior wall cladding and residential as well as even the largest scale commercial floors. The current color palette of over 40-styles as well as the capability to produce essentially any color or desired appearance limits designers and architects only by their imagination. It suggests a feeling of enhanced luxury and sophistication while at the same time it is one of the most varied minerals. It offers a variety of types, colors and forms, each with its own individual appearance.

Quartz is extremely hard, with unique strength, unusual depth, clarity and radiance. Quartz crystals give Geoquartz its exceptional hardness, clarity and consistency in color. Geoquartz has characteristics of superior strength and durability. It is extremely resistant to cracks, chips, scratches, dulling, and abrasion. It is graded as a Class 1 material and has a PEI V rating. It has a MOHS hardness rating of 7.

Geoquartz is dense, non-porous, non-staining and requires virtually no maintenance. Geoquartz can be cut and installed to the exact specifications needed by the customer. There is no sealing required for Geoquartz. It is virtually unaffected by heat, freeze-thaw, and acid.

Comparison of Properties:

Property	Granite*	Marble*	Geoquartz
Gravity	2.650	2.700	2.382
Flexural strength, psi:(Mpa)	2,030 (14.000)	1,596(11.000)	7,158(49.35)
Compressive strength, psi:(Mpa)	21,758 (150.000)	17,406 (120.000)	27,234(187.75)
Water absorption (%)	0.35	0.30	0.13

*Typical

It is important to keep in mind that quartz is a naturally mined material and as such some subtle variations in color and shade can occur and are inherent in this product, enhancing its unique appearance.



Geoquartz is safety certified by the NSF to NSF/ANSI STANDARD 51 for Food Equipment Materials.

2) Technical Data:

Specific gravity:	2.382	ASTM C 97
Water Absorption:	0.13%	ASTM C 97
Density:	148.64 lb/f3 (2,380.65 kg/m ³)	ASTM C 97
Modulus of Rupture:	3,534 psi (24.36 MPa)	ASTM C 99
Compressive Strength:	27,234 psi (187.75 MPa)	ASTM C 170
Flexural Strength:	7,158 psi (49.35 MPa)	ASTM C 880
Abrasion Resistance:	57.91	ASTM C 241
Thermal Expansion:	11.99 x 10 ⁶ in/in F° (21.58 x 10 ⁶ cm/cm C°)	ASTM C 531
Acid Resistance:	Excellent	ASTM C 217
Scaling Resistance:	Excellent	ASTM C 672-98
Thermal Shock Resistance:	Excellent	ASTM C 484-99
Freeze-Thaw Cycling:	Unaffected	ASTM C 1026
Slip Resistance*: (Coefficient of Friction)	> 0.85 Wet (Honed) >.0.60 Wet (Polished)	ASTM C 1028
Hardness:	7	MOHS Hardness Scale
PEI Rating:	V	EN154, ISO TC/189
Flame Spread: Smoke Developed:	15 270	ASTM E 84-97a (Meets Class A)
Nominal Thickness:	12, 15, 20, 30mm (0.47, 0.59, 0.79, 1.18")	
Nominal Weight:	6.02 lbs/ft ² (29.4 kg/m ²) 12mm 7.54 lbs/ft ² (36.8 kg/m ²) 15mm 10.04 lbs/ft ² (49.0 kg/m ²) 20mm 15.05 lbs/ft ² (73.5 kg/m ²) 30mm	

*Contact Peer for further information on complete slip resistance testing. Enhanced slip resistance treatment is available.

3) Standard Product Sizes:

Dimensions (L x W)	300mm (11.81")	400mm (15.75")	500mm (19.69")	600mm (23.62")	1500mm (59.05")	3000mm (118.11")
300mm (11.81")	T			T		
400mm (15.75")		T		T		
500mm (19.69")						
600mm (23.62")				T		
1,200mm (47.24")					T/S	S
1,321mm (52.00")					S	S

T-Tiles, S-Slabs

Thickness: 12, 15, 20, 30mm (0.47", 0.59", 0.79", 1.18"). Tiles feature a micro-beveled edge.
Standard tolerances: Thickness: +/- 0.7mm, Size +/- 0.5mm, Flatness +/- 1mm/1m, Seam cutting angle +/- 1%

4) **Warranty:**

Geoquartz is covered by the Geoquartz Limited Warranty, copies of which are available from Peer.

5) **Maintenance and Care:**

Geoquartz tiles and slabs are extremely resistant to scratches, chemicals, dulling, and abrasion. Polished, gloss, and semi-gloss finishes are also very resistant to staining. It is not necessary to seal or polish Geoquartz. Honed or matte finishes require more scrubbing and detergents for regular cleaning especially in darker colors. Avoid using bleaches, very strong chemicals and solvents, including paint removers and furniture strippers. Never use any product containing Methylene Chloride or trichlorethane.

Additionally avoid products that contain Pine oil. Pine oil leaves a residue that attracts and holds dirt on the surface, diminishing its cleanliness and even its appearance. Likewise do not use abrasive scrubs and/or cleaners with either soft or hard abrasive particles. Although the abrasives will not damage the Geoquartz material--these products leave a powder residue if not thoroughly rinsed. This residue will be noticeable especially with darker Geoquartz colors.

Most commercial and off the shelf stone care products for cleaning, and spot removal may be used with Geoquartz. If unsure of suitability test the product in an inconspicuous area prior to use. Exercise care when using a product containing a sealer. A sealer may change the appearance of honed surfaces, and if the underlying floor or countertop is not perfectly clean--a sealer may trap dirt and other marks. Although not permanent, a stripper will be required to restore the Geoquartz material to its original appearance. Contact Peer for a list of approved stone care cleaning and spot removal products.

Follow the manufacturer's instructions and exercise care in the handling and storing of all cleaning products.

Although not harmful to the Geoquartz surface, residues from some cleaning agents may be harmful when in contact with skin and food stuffs. Therefore always follow the manufacturer's instructions for all cleaning products especially when used on food preparation surfaces. Many manufacturers recommend a water rinse after use of their products in such applications.

Regular Cleaning (floors):

- a) Sweep, dry-mop, vacuum as appropriate to remove debris, dust, and dirt and/or
- b) Spot clean with water, detergent, spot removers as necessary and hand scrub where required.

Regular Cleaning (counters, vanities, and furniture tops):

- a) Use a damp cloth or paper towel, and if necessary, a small amount of non-bleach, nonabrasive cleaner. Although Geoquartz is quite stain resistant all food and liquid spills should be cleaned up as soon as possible.
- b) For stubborn stains use a non abrasive cleaning pad along with glass/surface cleaner.

Periodic Washing (floors):

- a) Wet-mop and/or
- b) Use an automatic floor washer/scrubber/vacuum equipped with a 2” soft bristle, nylon brush. Use detergent appropriate for the equipment and type of soil to be removed and/or.
- c) Use 175rpm (or less) buffer with 2” soft nylon brush. Scrub with cleaning solution. Wet vacuum. Clean water rinse and remove water with wet vacuum.

Heavy Duty Cleaning (floors):

- a) Periodically, it may be necessary to perform a more aggressive cleaning with a stripper or heavy-duty cleaning solution. Increase the soaking time for the solution before scrubbing and removal. Deep cleaning is also very beneficial for the appearance of the grout.

Spot and/or Stain Removal:

- a) For materials that have adhered to the Geoquartz surface, such as gum, paint, nail-polish, etc...remove by gently scraping the surface with a plastic putty knife. A steel putty knife and/or razor may be also used with the appropriate handling precautions. The Geoquartz surface is much harder than the steel blade itself. Thus with excessive scraping of surface by a steel putty knife or razor the blade may degrade itself and leave a mark on the surface. This kind of mark can usually be removed with a light scrubbing pad. After removing the material from the spot it may be helpful to treat the area with a cleaner or solvent. Soaking a cloth with the cleaning agent and letting the damp cloth sit on the stain for 5-minutes may be helpful prior to final scrubbing and/or rinsing of the stain.
- b) For more difficult stains apply selected cleaners/solvents and let them soak on stain for up to 15-minutes using paper towels or a cloth. Wipe surface clean with another towel or cloth and then rinse thoroughly to remove any residues.

Polishing:

- a) Geoquartz is impervious and will keep its radiance without polishing. However, in residential applications occasional polishing can enhance Geoquartz stain resistance and ease of cleaning. Any commercial granite polishing product may be used.

6) Installation:

Generally Geoquartz tiles are installed in manner similar to that of impervious ceramic tile with the appropriate ANSI A108.1-1999 specification and the ANSI specified materials. Additional information on the specification may be obtained from: The Handbook for Ceramic Tile Installation, The Tile Council of America, PO Box 1787, Clemson, SC 29633.

For applications over most traditional, well prepared, non-deflecting substrates such as plywood, cured concrete, masonry, and cement backer units, a single component high performance modified thin set mortar meeting ANSI A118 .4 standards may be used.

Tiles and slabs maybe installed on floors and/or walls. Slabs may also be used on other horizontal surfaces including counter tops, vanities, window sills, and furniture.

Geoquartz should always be installed according to codes, ordinances, trade practices, and climatic conditions

Cutting:

Geoquartz tiles and slabs may be cut with a diamond blade wet saw.

Fabrication and Finishing:

Geoquartz slabs may receive special edge treatments such as eased and bull nose. These can be ground and polished using tools similar to those used for granite. Use a diamond polisher with a very fine synthetic magnetite abrasive for a higher gloss finish. Newer tools and polishing systems designed for quartz surfacing can also be used. Extra care should be exercised to keep the surface wet and cool during all fabrication and finishing procedures to insure the best possible finish. Contact Peer for a list of currently recommended products.

Grouting:

Geoquartz tiles should not be butt joined. Depending on the tile size and application a regular and even spacing of between 1/16" and 1/2" (1.5mm-12.0mm) is required. For floor applications leave a regular and even spacing of at least 1/8" (3mm). For wall applications leave a regular and even spacing of at least 1/16" (1.5mm). Sanded grouts may be used for greater strength provided the spacing is at least 1/8" (3mm) and no more than 5/8" (16mm). Install grout in strict accordance with grout manufacturer's instructions and in accordance with ANSI A108.1-1999 specifications for Latex-Portland cement grouts. If using expansion joints install in strict accordance manufacturer's instructions.

Exterior Applications:

Geoquartz tiles and slabs have been used successfully for outdoor applications consisting of plazas, patios, walls, exterior cladding, and site furniture. While the water absorption, freeze thaw cycle, abrasion, acid resistance, and thermal expansion testing indicate no particular concerns about exterior applications, **it is important to keep in mind that exterior applications are not covered under the Geoquartz Limited Warranty.** Please contact Peer for additional information concerning exterior usage.

Protection:

- a) Protect finished work against weather, freezing and immersion in water for at least 21-days after completion of the work.
- b) Floors: Protect floors from foot traffic for at least 24 hours and general traffic for at least 72-hours after installation. Prohibit heavy traffic on floors for at least 7 days after installation. Special attention must be given to protecting textured material during installation and afterward. The installer should consider using a grout release on textured Geoquartz. It is best to protect the textured surface from vehicular traffic, especially fork trucks with the appropriate cover during the construction period.
- c) Walls: Protect from impact, vibration and hammering on adjacent walls for at least 14-days after installation.

Floors:

Substrate Preparation:

- a) The surface onto which the Geoquartz tiles are to be placed must be stable, structurally sound, level, plumb, dry, and clean of debris such as oil, paint sealers, and curing compounds which may prevent the tile from proper bonding. Cement slabs must be adequately cured before installation. Consult American Concrete Institute standard ACI308.
- b) It is recommended to install tile only over concrete slabs that are free of hydrostatic pressure, and free from rising moisture conditions.
- c) Moisture testing of the concrete should always be performed.
- d) A vapor barrier system may be required beneath a poured concrete floor. Consult Portland Cement Association publication EB119.

Installation method:

- a) **Thin set:** It is necessary to use Latex-Portland cement mortar that meets ANSI A118.4 1999 standards. Generally the same materials are used to install Geoquartz as are used to install impervious ceramic tile. Like the impervious porcelain tiles, it is necessary to use Latex Portland cement mortar which meets the ANSI-A118.4-1999 Specifications. Latex-Portland cement mortars are Portland cement thinset mortars which are modified by the addition of a polymer. The polymer is added as a "latex" liquid or incorporated as a powder. The purpose of a polymer modification is to increase the bond/shear strength of the mortar to both the tile and the substrate. It is recommended, but not necessary, for lighter colors, to use a white thinset. Unlike more porous natural stones, regular gray thinset does not bleed through Geoquartz, even with the lighter colors.
- b) **Mudset: Mudset is not recommended!** Because Mudset setting material is generally not latex/polymer modified it therefore lacks the adhesive strength necessary for bonding. Additionally these mortars may contain excess moisture. This can be problematic causing both warpage and discoloration of the grout.

Setting Materials:

There are four basic types of setting materials that may be considered.

- a) Latex Modified Portland Cement thinsets that meet ANSI 118.4-1999 Specifications. These are high performance Latex/polymer modified mortar systems that greatly increases the internal tensile/shear strength of the thinset. Latex/Portland cement thinsets develop a good adhesive strength to tile/slab in 6-12 hours. Water "available" for 6-12 hours.

- b) Rapid Set Liquid Latex/Acrylic Modified Thinsets -that meet ANSI 118.4-1999 Specifications. These contain chemical curing accelerators. They develop good adhesive strength in 3-6 hours. Water "available" for 3-6 hours only.
- c) Epoxy, meeting ANSI 118.3-1999 Specification. These are epoxy resins containing silica sand and hardener but contain no water and generate a very high adhesive strength.
- d) Cement/MUD: **Not Recommended!** Jobsite mixes of sand, cement, and water always contain excess water and do not meet ANSI 118.4 1999 specifications.

Setting material selection:

The setting material chosen is dependent on the following factors:

- a) Job specific conditions:
 - 1) The elevation and true level of slab--This can be adjusted with cement/concrete, thoroughly cured and dried, and then thin set, or adjusted with self leveling underlayments and then thinset (preferred method), or adjusted by thin setting the tiles.
 - 2) The time available before traffic—Standard thinset 12-24 hours, rapid set thinset 3-6 hours.
 - 3) Substrate conditions, type of traffic, and installation temperature.

- b) Type of tile to be installed:
 - 1) Dimensional stability: "Inherent warpage factor" of tile/size and thickness. Dimensional Stability refers to the tiles ability to resist curling or warping when exposed to the water in most setting materials. All materials, even glass, will absorb some water on its surface and as the surface absorbs water it expands. This expansion makes the wet side of the tile larger than the dry side and the tile will attempt to curve or warp in order to relieve the stress. Geoquartz tiles have very low water absorption and excellent dimensional stability; therefore they are very resistant to warping or curling. However, as the size becomes larger, 24"x 24"(600mm x 600mm) or larger, even Geoquartz will curl a little and the setting materials and methods must be selected accordingly.
 - 2) Water Absorption/Desired Bond Strength Low absorption materials such as Geoquartz require the use of Latex-Portland Cement modified thinsets to achieve proper adhesion to the tile.
 - 3) All tiles should be "back buttered" to insure 100% coverage.

Appendix A lists tested and approved setting materials and their type and characteristics. It is important to follow the setting material manufacturer's instructions for the specific product. For large format, unusual, or special projects contact the setting material manufacturer for specific recommendations and installation methods.

Walls:

Geoquartz may be installed with any appropriate ANSI A108.1-1999 Specification, and the ANSI Materials specified, as outlined in the Handbook for Ceramic Tile Installation. Materials should always be installed according to local codes, ordinances, trade practices and climatic conditions. Consult with the setting material manufacturer for each project.

Surface Preparation:

The surface must be free of coatings, oil, wax or anything that would prevent proper bonding.

Installation Methods:

Geoquartz tiles up to 16" x 16" (400mm x 400mm) may be applied over plywood, gypsum board, "floated" walls, or cementitious backer board. Consideration should be given to the following when selecting a backer board or substrate for wall applications.

- a) Moisture conditions and whether the wall will be subjected to water.
- b) The weight of the wall tile. Do not use gypsum board where the height of the tile application will result in weight which is greater than the shear strength of the paper facing of the gypsum board, usually more than 4 feet high. Installation materials include thinset or organic adhesive.

Wall Anchors:

Occasionally ¾" (20mm) slabs will be the selection of choice for a wall installation. Geoquartz ¾" (20mm) large format panels can be "anchored" the wall using any of the approved anchor systems available.

7) Packing:

The packaging method is dependent on the size, quantity, and transportation method.

- a) Standard sized products such as 1' x 1' (300mm x 300mm), 16" x 16" (400mm x 400mm), 24" x 24" (600mm x 600mm) are boxed and packed on a wooden pallet with shrink wrapping and steel banding.
- b) Non standard sized products and slabs are packed directly on a wooden pallet and are shrink wrapped and banded

8) Storage:

- a) Geoquartz should be stored indoors prior to installation and covered with protective material.
- b) The exposed surfaces, edges, and corners should also be protected from impact and scratching.
- c) The exposed surfaces should be protected from direct sunlight and rain while in storage.

9) Transportation:

Transportation conditions and methods are determined according to size and weight.

- a) Consideration should be given to distance to destination, unloading point, road and/or jobsite conditions in determining pallet quantities and packaging.
- b) While loading and unloading material careful attention must be made to prevent impact damage.

10) References:

- a) ANSI A108.1-1999, Installation of Ceramic Tile (www.ansi.org)
- b) ANSI A118.4-1999, Latex Portland Cement Mortar
- c) TCA, Tile Council of America, Handbook for Ceramic Tile Installation, PO Box 1787, Clemson, SC 29633. (www.tileusa.com)

Important Notice to Purchaser:

All information herein is based on tests we believe to be reliable. However, the accuracy or completeness thereof cannot be guaranteed. In lieu of all warranties of merchantability and suitability, sellers and manufacturer's only obligation shall be to replace such quantity of the material proved to be defective as is covered by the Geoquartz Limited Warranty, copies of which are available from Peer. Neither seller or manufacturer shall be liable for any loss or damage arising out of use of the product. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. Product specifications, sizes, and colors are subject to change without notice.

Appendix A: Setting materials for Geoquartz Tiles:

Contact the manufacturers listed below for further information on the products mentioned as well as product limitations and suggested applications. Strictly follow manufacturer's installation instructions. The following products (or equivalents) may be used for 12mm and 15mm tiles:

Mapei Corporation (www.mapei.com), Tel: 800-992-6272, and 800-42-MAPEI

Ultra Flex 2: A high performance polymer modified mortar system to be mixed with water only. Excellent bond capacity-for tiles sizes 12" x 12" and smaller.

Ultra Contact: High performance polymer modified full contact mortar system that can be used for both small and large modular tiles in either a thin or medium bed application. System may be mixed with water or liquid latex.

Kerabond/Keralastic: A premium two component flexible mortar system designed for increased bond strength, improved vibration resistance, and freeze-thaw resistance. Commercial and residential applications.

Grani Rapid/KER318: A self drying rapid setting premium two component mortar system designed for both thin and medium bed applications. Low shrinkage and quick hydration allow the tiles surface to be ready for light traffic after three hours, and is completely cured after only 24-hours. Suited for fast track residential and commercial applications.

KER400/KER410: A water cleanable 100 solid epoxy mortar for installations where high strength and impact resistance are required.

Laticrete Corporation (www.laticrete.com), Tel: 800-243-4788

253Au Gold: Multipurpose thinset polymer modified mortar mixed only with water. For residential application of smaller tile sizes (12" x 12")

220 Marble and Granite Mortar mixed with 3701 Mortar Admix: A fortified dry set mortar for large format tile.

317 Floor and Wall Thin Set Mortar mixed with Laticrete 333 Superflexible additive: Thin set mortar mixed with flexible latex additive for strong super flexible bond to most surfaces. High strength and greater shock resistance.

317 Floor and Wall Thin Set Mortar mixed with Laticrete 101 Rapid Set Latex. Thin set mortar mixed with rapid setting latex admixture. Allows same day setting and grouting.

Latapoxy 300: Chemical resistant epoxy adhesive that will bond most sound, clean surfaces.

Latapoxy SP-100: Stainless grout that can be used in conjunction with Latapoxy 300 epoxy



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