

### PRODUCT DESCRIPTION

**QuartzLock™ 2 Grout** is a PRE-MIXED, READY-TO-USE URETHANE and colored quartz-based grout for ceramic, porcelain, glass and natural stone tiles on floors and walls. QuartzLock Grout requires no sealing and is resistant to typical food stains and most household chemical products.

### FEATURES AND BENEFITS

- Pre-mixed, ready to use
- Excellent chemical, stain and mildew resistance
- Semi-flexible, low shrinkage and high crack resistance
- No color fading, streaking or shading – Even when wet!
- Fast and easy clean-up when compared to epoxy and cement grouts
- Excess product can be saved and used later
- UV stable colors (non-yellowing)
- Self-sealing – no sealing required
- Non-sag formula great for vertical surfaces
- Free of BPA (bisphenol-A) found in epoxy grouts
- Dust-free mixing
- Fast, easy installation – installs up to 50% faster than other grouts
- Superior to cement grout
- Contributes to USGBC LEED Credits: MR 2.1 & 2.2 (Construction Waste Management), MR 4.1 & 4.2 (Recycled Content), MR 5.1 & 5.2 (Regional Materials), and EQ, 4.1 (Low-Emitting Materials).

### PRODUCT USES

QuartzLock Grout can be used in grout joint widths from 1/16" to 1/2" on vertical or horizontal surfaces in both interior and exterior installations of ceramic, porcelain, glass and natural stone tiles.

### INSTALLATION

**Read and understand Technical Data Sheet and Material Safety Data Sheet completely before beginning installation. Follow applicable ANSI, TCNA and NTCA installation standards. Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.**

QuartzLock Grout is a READY-TO-USE Urethane Grout and different installation techniques are required for successful product use. Please read the following instructions carefully.

### Preparation for Grouting:

- **DO NOT add any water, liquid, or other material to QuartzLock Grout! This will cause grout failure and void all warranties.**
- A milky, white liquid may be present on the surface of the grout when opened. This is from normal settling during shipment. The use of a margin trowel is recommended to bring grout into suspension. If a drill mixer is used, mix at low speed for no more than 30 seconds. Over-mixing with a drill mixer may introduce excessive air into the product and cause grout sagging on vertical applications and/or other performance issues. Continue to mix with a margin trowel throughout the grouting process.
- Ensure tile is firmly set and mortar is completely dry (always follow manufacturer's instructions) before grouting. Remove all spacers, water, debris and adhesive from tile joints.
- For best results, surface of tile should be at room temperature (70°F to 75°F). Urethane materials are affected by temperature and humidity variations. Cool temperatures and/or high humidity will slow cure time.
- To facilitate cleaning, pre-seal all porous tile and natural stone before grouting.
- For glass tile, polished marble, stone and other soft surfaces, test grout on a small area to ensure compatibility.
- Make sure grout joints are clean, dry, and free from solvents and residue before grouting.

### Application:

- Spread grout using a green, sharp-edged, firm rubber grout float. Work the grout diagonally across the joints, packing them full.
- Remove excess grout from the tile surface, pulling the edge of the float diagonally across the joint to prevent grout removal.

### Grout Cleaning:

**For best results, remove grout haze AS YOU WORK, particularly in warm or dry climates.** If working alone, only grout as far as you can reach (10-12 square foot area) before initial cleaning. If working as a team, one person should grout, with the other(s) cleaning immediately behind the first person.

- Rinse sponge in water and wring out completely. Since urethane grout requires very little water during cleanup, make sure that the sponge is wrung nearly dry. Wipe lightly, leaving sponge flat on the tile surface to prevent grout removal from joints. Excessive water during cleanup

can dilute the urethane binder and cause curing issues that may lead to grout failure.

- Wipe up spilled water immediately. Do not allow water to sit on grout surface or in ungrouted joints.
- Change water mixture after each 100 square feet, for each new bucket of grout, or when dirty.
- Check work as you clean. Repair any low spots with additional grout. Unlike other grouts, DO NOT over wash.
- Allow cleaned areas to dry, and then inspect tile / stone surface. If a second cleaning is necessary, wait 24 hours and spray a film remover (Aqua Mix® Heavy-Duty Tile and Grout Cleaner, Miracle Tile & Stone Cleaner, or DuPont™ StoneTech® Professional KlenzAll™ Cleaner) on a white scrubby Doodlebug™ cleaning pad, rubbing the tile lightly to remove any remaining urethane haze, then using a damp sponge and clean water, wipe the surface to remove the film remover (do not flood surface with cleaner). Finish by drying the tile surface with a clean towel or cloth. Contact StarQuartz if persistent haze exists.

#### Installation Requirements

- For use in joints 1/16" or greater. Ensure that joints are well packed. Smaller joints may require extra effort.
- To speed up installation, or for quarry and other porous tile and/or outdoor applications, pre-wet tile surface using clean water with a damp sponge prior to spreading grout, being careful not to leave standing water in the grout joints.
- Maintain temperature above 40°F (5°C) during installation and curing.

#### CURING

- Protect finished surface from light traffic for at least 24 hours at 70°F (21°C). Heavy foot traffic requires 72 hours at 70°F and 50% relative humidity. See Limitations/Cautions below for further curing requirements.
- If needed, cover ONLY with kraft or breathable paper after initial 24-hour curing period.
- Full cure depends on grout depth. Normal cure of a ¼" grout joint with a 3/8" thick tile is 28 days.

#### SHOWERS / STEAM SHOWERS / WET APPLICATIONS

- Use an approved waterproof sealer for mud bed applications and follow manufacturer's recommendations for sealer installation. For liquid-applied waterproofing materials, apply to within 1" of any drains to prevent weep hole blockage. The use of pre-sloped, waterproof trays (instead of mud beds) is highly recommended.

- Shower, steam shower, pool, fountain and wet area installations must be protected from moisture and allowed to cure for 7 days before use.

#### LIMITATIONS/CAUTIONS

- Do not apply or clean up this product like traditional cement-based or epoxy grouts; QuartzLock Grout is a new technology that requires a simpler and easier application and clean-up process.
- Follow all manufacturers' instructions for all other setting materials, waterproofing, anti-fracture membranes, etc. to be used on the job.
- Minimum recommended grout joint width is 1/16".
- Maximum recommended grout joint width is 1/2".
- Ensure that grout joints are fully packed, especially in tight and irregular joints. Take special care in all wet and outdoor applications.
- Do not use as a setting mortar.
- Not for use in heavy industrial applications (i.e. chemical plants), in areas subjected to harsh or persistent chemicals, or areas exposed to very aggressive cleaning routines such as steam or pressure washing.
- QuartzLock Grout is not a replacement for a waterproofing membrane. When a waterproofing system solution is required, please contact StarQuartz Technical Service.
- Protect grout from staining agents and chemicals during the cure process.
- Grouting when tile surface is above 90°F (32°C) is not recommended. Cool tile surface with damp sponge if tile surface is above 90°F (32°C). Be careful not to add excessive water during the tile cooling process.
- Do not use vinegar or acid solutions for clean-up; this could damage uncured grout.
- Always use protective clothing (gloves and eye protection) when working with grout.
- Prior to regrouting applications, remove 1/8" of old grout and any surface contaminants. Be sure to rinse any residual solvent/cleaner off grout joints, then allow joints to completely dry before re-grouting.
- Do not use for commercial or wet environment regrouting installations, including showers, steam showers, and outdoor applications.
- Seal porous tile surfaces with a water-based sealer, including the sides of the stone, prior to grouting with QuartzLock Grout.
- Outdoor installations must be protected from moisture (rain) for 7 days. If rain is forecast within 7 days, protect by tenting the grouted area (at least 1 foot above surface).
- Not for use in hot tubs.

- Wait 7 days before rigorously cleaning tile and grout surface.
- Wait 7 days prior to exposing grout to full submersion.
- Use care on soft, highly polished surfaces to avoid scratching. Test a small area. Use of a sealer is always recommended on polished marble, stone, slate and other natural, porous tiles.
- Use of enzymatic floor cleaners will void all warranties.
- Do not ingest. Keep out of the reach of children.
- **Do not use StarCure® Urethane Grout Cure Accelerator.**
- Do not use solvent-based adhesives or sealers with QuartzLock Grout.
- Protect grout from freezing. Do not grout outdoors or in unheated areas when temperatures are expected to be below 40°F (5°C) within 3 days. If product freezes, return to room temperature and use as directed.
- For Chemical Emergency, call CHEMTREC 24 hours, (800) 424-9300 in North America, (703) 527-3887 International (collect).
- For more information, consult the MSDS for this product.

## AVAILABILITY AND COST

QuartzLock Grout is available at better distributors throughout the U.S. and Canada. Contact your local distributor or StarQuartz Industries, Inc. at (866) 220-4500 or [info@StarQuartz.com](mailto:info@StarQuartz.com).

## MAINTENANCE

QuartzLock Grout requires occasional cleaning with water and common grout cleaners. For best stain resistance, always clean up spills immediately.

## SHELF LIFE

QuartzLock Grout is guaranteed to remain suitable for use up to a period of two (2) years if stored unopened at temperatures between 32°F (0°C) and 100°F (38°C). After opening, QuartzLock can be saved for reuse if properly resealed in original container (always wipe the pail lip clean prior to resealing to ensure proper seal is achieved with the Vapor-Lock lid). If product freezes, return to room temperature, mix well, and use as directed.

## PACKAGING

Available in 9 lb. and 18 lb. units

## WARRANTY

Visit to [www.StarQuartz.com](http://www.StarQuartz.com) to see our complete warranty.

## APPLICABLE STANDARD

QuartzLock Grout is a revolutionary new technology which employs state-of-the-art urethane chemistry. As yet, there is no current ANSI or ASTM standard for this technology (ANSI 118.3 pertains only to epoxy grout products); however, for comparative purposes, physical and chemical properties are listed in the table below. Epoxy grouts are hard, brittle and lack flexibility. QuartzLock Grout is designed to have the perfect balance of physical properties in order to provide flexibility, strength and adhesion to a variety of materials, making it the best choice for a wide variety of applications. Specifications are subject to change without notice.

Working Properties	
Description	Time Required*
Working Time	3 hrs
Tack-Free Time	8 hrs
Ready for light foot traffic	24 hrs
Ready for heavy foot traffic	72 hrs
Stain resistant (food, cleaners, etc.)	3 days
Showers, Outdoors, Pools, Fountains and Wet Area Installations	7 days

\* Results are typical, but reflect testing procedures employed. Actual results may vary due to particular environmental conditions and other factors (e.g. type of setting material used).

Typical Properties	
Description	Typical Results
Water Cleanability	Pass
Initial Set	>2 hrs.
Service Strength	Pass
Vertical joint sag	Pass
ASTM C267 Chemical	Pass
Compressive strength	>3,500 psi
Linear Shrinkage	0.06%
Water absorption	<1%
Open Time	180 minutes
Color	40 available

Results shown are typical and reflect test procedures used by the Tile Council of North America (TCNA) for ANSI 118.3 and 118.3 modified. Actual field performance will depend on installation methods, site conditions and other environmental factors.

COVERAGE CHART (SQ. FT)

**18-lb. Unit**

Tile Size (inches)	Joint Width					
	1/16"	1/8"	3/16"	1/4"	3/8"	1/2"
1" x 1" x 1/4"	63	32	-	-	-	-
2" x 2" x 1/4"	126	63	-	-	-	-
4 1/4" x 4 1/4" x 5/16"	214	107	71	54	36	27
4" x 8" x 1/2"	168	84	56	42	28	21
6" x 6" x 1/2"	189	95	63	47	32	24
8" x 8" x 3/8"	337	168	112	84	56	42
12" x 12" x 3/8"	505	253	168	126	84	63
13" x 13" x 3/8"	547	274	182	137	91	68
16" x 16" x 3/8"	673	337	224	168	112	84
18" x 18" x 3/8"	758	379	253	189	126	95
24" x 24" x 3/8"	1010	505	337	253	168	126

**9-lb. Unit**

Tile Size (inches)	Joint Width					
	1/16"	1/8"	3/16"	1/4"	3/8"	1/2"
1" x 1" x 1/4"	32	16	-	-	-	-
2" x 2" x 1/4"	63	32	-	-	-	-
4 1/4" x 4 1/4" x 5/16"	107	54	36	27	18	13
4" x 8" x 1/2"	84	42	28	21	14	11
6" x 6" x 1/2"	95	47	32	24	16	12
8" x 8" x 3/8"	168	84	56	42	28	21
12" x 12" x 3/8"	253	126	84	63	42	32
13" x 13" x 3/8"	274	137	91	68	46	34
16" x 16" x 3/8"	337	168	112	84	56	42
18" x 18" x 3/8"	379	189	126	95	63	47
24" x 24" x 3/8"	505	253	168	126	84	63

### Revolutionary Urethane Grout Technology

Grout has always been the Achilles' heel of the tile industry. The architectural community has long been looking for a product that solves the three leading problems associated with grout: staining, cracking and discoloration. QuartzLock™ 2 Grout solves these problems by providing unmatched stain, chemical and crack resistance, while being guaranteed not to fade or discolor.

For years, architects have specified epoxy grout because it offers improved stain / chemical resistance and durability as compared to cement grouts. QuartzLock 2 Grout is a Urethane Grout and, by its nature, is more chemical / stain resistant than epoxy grout, with the added benefit of dramatically improved crack resistance (due to its inherent flexibility!), making it a perfect product for the high-performance applications that architects favor. Additionally, it is most green grout product available today. The following is a summary of the QuartzLock 2 Grout features and benefits that architects consider when specifying grout:

Features	Benefits
Commercially Rated	Approved for most commercial applications.
Self-sealing	Exceptional stain / chemical resistance. No sealing required – EVER!
Semi-flexible	Urethane flexibility and extremely low shrinkage provides the highest level of crack resistance.
No pigments (colored quartz provides color)	Guaranteed not to fade or discolor.
40 colors (solid and speckled)	Tremendous design possibilities; by not having pigments, two or more grout colors can be used adjacently on same installation.
UV-Stable	Perfect for outdoor applications – won't yellow or fade in the sun.
Comes ready-to-use / Easy clean-up	Cost-effective vs. epoxy and sealed cement grouts.
Non-sagging	Great for vertical applications.
Environmentally Friendly	Low VOC, BPA-free, no waste

### Limited Warranty

StarQuartz warrants that QuartzLock 2 Grout will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period of two (2) years when installed in accordance with StarQuartz's written specifications and industry standard guidelines in commercial applications. See full warranty for further detail.

### QuartzLock 2 meets or exceeds ANSI 118.3 Standard

*Test Results Provided by the Tile Council of North America Laboratory*

Description	Typical Results
Water Cleanability	Pass
Initial Set	<2 hrs.
Service Strength	Pass
Vertical joint sag	Pass
Linear Shrinkage <sup>1</sup>	0.06%
Stain Resistance <sup>2</sup>	Pass
Compressive strength <sup>3</sup>	>3,500 psi
Chemical Resistance	Pass
Water absorption	<1%

<sup>1</sup> Heat-cured sample to compensate for air-dry vs. catalytic product.

<sup>2</sup> TCNA results compared to Laticrete's published data show that QuartzLock 2 exceeds SpectraLock PRO™ for stain resistance.

<sup>3</sup> Test results were performed in an actual grout joint.

### Other Important Facts:

- Dry Time: 24 hours light foot traffic, 72 hours heavy foot traffic, 7 days for wet areas, like showers
- Joint Width: 1/16" or greater
- Cost: Similar to epoxy grout
- Availability: QuartzLock 2 Grout is available at better distributors throughout the U.S. and Canada

### Why are we greener?

1. Most specified grouts require mixing, which causes the release of airborne particulate that many states are beginning to regulate because of the potential health risk. QuartzLock 2 Grout is pre-mixed and ready to use, eliminating this health risk.
2. Epoxy grouts contains bisphenol-A (BPA) that can produce severe allergies. Jobs can be slowed or not taken by good tile installers because epoxy is specified. QuartzLock2 Grout contains no BPA.
3. Most epoxy grouts produce VOC's that many states regulate. QuartzLock 2 Grout utilizes a water-based Urethane that produces nearly zero VOC's.
4. QuartzLock 2 Grout wash water is more environmentally friendly because it does not contain epoxy, cement, or pigments.
5. Urethane Technology's crack resistance and durability can lead to longer installation life cycles.
6. Because QuartzLock 2 Grout is re-usable it produces no waste.
7. QuartzLock 2 Grout buckets are made of recyclable Class 2 HPDE.

## Environmental Responsibility / LEED™

### Environmental Responsibility

The environmental impact of any construction project is coming under more and more scrutiny every day. The “Green Movement” is becoming ever more popular and the architectural community is being asked to design and construct longer-lasting, more environmentally sustainable structures. As such, it is the responsibility of the materials suppliers of these projects to do all they can to assist in this effort.

Urethane Grout is one of the most environmentally friendly grouts available in the industry today. It is a revolutionary, Urethane-based grout that contains no epoxy, cement, or pigments and comes pre-mixed and ready to use. The following are some important environmental facts about QuartzLock 2 Grout and StarGlass Grout:

1. Most specified grouts require mixing, which causes the release of airborne particulate that many states are beginning to regulate because of the potential health risk. Urethane Grout is pre-mixed and ready to use, eliminating this risk.
2. Most epoxy grouts produce VOC's (Volatile Organic Compounds) that many states regulate. Urethane Grout utilizes a water-based Urethane, so it produces nearly zero VOC's.
3. Epoxy grouts contain BPA that can produce severe allergies. Jobs can be slowed or not taken by good tile installers because epoxy is specified. Urethane Grout contains no BPA.
4. Urethane Grout wash water is more environmentally friendly because it does not contain epoxy, cement, or pigments.
5. Urethane Grout Technology's crack resistance and durability can lead to longer installation life cycles.
6. Urethane Grout is re-usable; therefore, it produces no waste.
7. Urethane Grout buckets are made of 100% recyclable Class 2 HPDE.
8. Urethane Grout contains 75% natural Quartz Silica.
9. Our manufacturing process produces no waste. All materials that do not end up in the product itself during this process are recycled.
10. Urethane Grout contains up to 80% post consumer recycled content.

### LEED™

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ (developed by the U.S. Green Building Council), according to its website, “is the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.”

LEED offers project, not product, certification; however, Urethane Grout has many attributes that can help architects and designers attain the points needed to achieve the various levels of LEED certification:

1. **Materials & Resources: MR Credits 2.1 and 2.2: Construction Waste Management: Divert 50% and 75% From Disposal.** Unlike most other grouts, Urethane is re-usable and produces no waste at the job site, allowing you to redirect reusable materials to the appropriate site. Urethane Grout buckets is also made of 100% recyclable Class 2 HDPE plastic.
2. **Materials and Resources: MR Credits 4.1 and 4.2: Recycled Content: 10 and 20%.** Urethane Grout also contributes to the Materials & Resources recycled content credits in the LEED system. It contains post-industrial / pre-consumer recycled content. Specific percentages are available by request, as they may differ by color or body type.
3. **Materials & Resources: MR Credits 5.1 and 5.2: 10 and 20% Extracted, Processed & Manufactured Regionally.** Our Baltimore, MD (Zip Code - 21230) manufacturing facility is located within 500 miles of many major markets for LEED projects. In addition, the facility has been built near the major extraction sources for Urethane Grout's raw materials, which are also within a 500-mile distance of major LEED building markets.
4. **Indoor Environmental Quality: EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants.** Urethane Grout produces nearly zero VOC's (far less than the 65 g/L limit for ceramic tile adhesives) and is pre-mixed, eliminating the release of airborne particulate.



**1. Product Name**

QuartzLock™ 2 Grout

**2. Manufacturer**

StarQuartz Industries, Inc.  
 1300 Russell Street  
 Baltimore, MD 21230  
 Phone: (410) 783-0100  
 Fax: (410) 783-2604  
 E-mail: info@starquartz.com  
[www.StarQuartz.com](http://www.StarQuartz.com)

**3. Product Description**

StarQuartz Industries, Inc., manufactures QuartzLock 2 Grout, a patented, semi-flexible, low shrinkage and highly crack resistant grout for the tile and stone industry. Premixed and ready to use, QuartzLock 2 utilizes environmentally friendly Urethane Grout Technology to create a product that is durable, self-sealing and UV stable, with chemical and stain resistance that meets or exceeds ANSI 118.3 standards for epoxy. Its color, derived from quartz aggregate rather than pigment, is guaranteed not to discolor or fade.

**BASIC USE**

QuartzLock 2 Grout is suited for interior and exterior commercial and residential applications, including:

- Ceramic, porcelain, mosaic, stone, marble, granite, slate, glass, quarry and travertine tile applications
- Horizontal and vertical surfaces, including floors, walls and countertops
- New grouting and regrouting
- High moisture areas
- Wet or dry areas

**COMPOSITION & MATERIALS**

QuartzLock 2 Grout is a UV resistant, air-cured, water-based urethane grout with a quartz aggregate and an additive for mold and mildew resistance.

**SIZES**

QuartzLock 2 Grout is offered in 9 lb (4 kg) and 18 lb (8 kg) buckets.

**COLOR**

A variety of solid and speckled colors are available:

- 120 - High White
- 145 - Bone
- 165 - Antique White
- 175 - Silk
- 210 - Cream
- 224 - Mushroom
- 230 - Almond
- 235 - Champagne
- 240 - Linen
- 245 - Wheat
- 250 - Caramel
- 255 - Solid Buff
- 260 - Haystack
- 265 - Birch
- 267 - Sandstone
- 270 - Milk Chocolate
- 272 - Dark Mocha
- 283 - Hemp
- 285 - Espresso
- 290 - Chestnut
- 320 - Silver Gray
- 340 - Solid Gray
- 370 - Raincloud Gray
- 375 - Natural
- 380 - Charcoal Gray
- 410 - Beach Sand
- 420 - Speckled Cement
- 430 - Camouflage
- 440 - Rust
- 460 - Speckled Brick
- 470 - Pepper
- 475 - Chocolate Black
- 480 - Ash
- 485 - Night Star
- 499 - Jet Black
- 530 - Clay
- 540 - Wasabi
- 550 - Olive
- 560 - Sea Blue
- 570 - Quarry Red

**BENEFITS**

- A unique property of urethane is its flexibility. This flexibility, along with its low shrinkage and excellent adhesion, allows QuartzLock 2 Grout to accommodate minor substrate movement and other environmental changes and leads to unmatched crack resistance.
- The urethane binder creates a self-sealing barrier that provides outstanding stain, mildew and chemical resistance.



- QuartzLock 2 Grout is premixed and ready to use, saving time and ensuring color consistency by eliminating field mixing.
- The combination of urethane and quartz provides rich grout color that is naturally resistant to UV and light exposure, eliminating fading and discoloration.
- Leftover grout can be resealed in the original container for later use, reducing waste and cost.
- QuartzLock 2 does not contain allergy-causing Bisphenol-A (BPA) found in epoxy grouts.

**SHELF LIFE**

QuartzLock 2 Grout is guaranteed to remain usable for a period of 2 years if stored unopened at temperatures higher than 40 degrees F (0 degrees C).

**LIMITATIONS**

- The minimum recommended grout joint width is 1/16" (1.6 mm)
- The standard maximum recommended grout joint width is 1/2" (12.7 mm); QuartzLock 2 Grout can, however, be used for larger joints caused by irregular tile and stone
- Do not use in areas subject to harsh or persistent chemical exposure or areas with very aggressive cleaning routines
- Do not use as a setting mortar
- Do not use as a replacement for a waterproof membrane
- Although QuartzLock 2 Grout resists stains from most household products, automotive chemicals and cleaners, persistent exposure to some materials can cause permanent staining or damage.

**4. Technical Data**

**APPLICABLE STANDARDS**

American National Standards Institute (ANSI) - ANSI A108/A118/A136 American National Standards for the Installation of Ceramic Tile

**APPROVALS**

QuartzLock 2 Grout meets or exceeds ANSI 118.3 and A118.6 standards for epoxy and cement grouts.

**PHYSICAL/TECHNICAL PROPERTIES**

See Table 1.

**ENVIRONMENTAL CONSIDERATIONS**

QuartzLock 2 Grout can contribute points toward LEED™ certification in the following key areas:

- Materials and Resources, MR credits 2.1 and 2.2. - Divert 50% and 75% from disposal
- Materials and Resources, MR credits 4.1 and 4.2 - Recycled content: 10 - 20%
- Materials and Resources, MR credits 5.1 and 5.2 - Extracted, Processed and Manufactured Regionally
- Indoor Environmental Quality, EQ credit 4.1 - Low-emitting Materials: Adhesives and sealants

**5. Installation**

**PREPERATORY WORK**

Deliver products in the manufacturer’s original, unopened, undamaged containers with identification labels intact. Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Read and understand Technical Data Sheet and Material Safety Data Sheet completely before beginning installation. Follow applicable ANSI, TCNA and NTCA installation standards. Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.

QuartzLock 2 Grout is a READY-TO-USE Urethane Grout and different installation techniques are required for successful product use. Please read the following instructions carefully.

**TABLE 1 PHYSICAL/TECHNICAL PROPERTIES**

Description	Typical Results
Water Solubility	100%
Boiling Point	212 degrees F (100 degrees C)
Water Cleanability	Pass
Initial Set	>2 hrs.
Service Strength	Pass
Vertical joint sag	Pass
ASTM C267 Chemical Resistance	Pass
Compressive Strength	>3,500 psi (>24 MPa)
Linear Shrinkage	0.06%
Water Absorption	<1%
Open Time	180 minutes
Colors	40 available

Chemical	Exposure
Acetic acid, 3%	Pass
Acetic acid, 10%	Pass
Ammonium chloride	Pass
Citric acid solution, 30 g/L	Pass
Citric acid solution, 100 g/L	Pass
Lactic Acid	Pass
Phosphoric acid, 3%	Pass
Phosphoric acid, 10%	Pass
Sulfamic acid, 3%	Pass
Sulfamic acid, 10%	Pass
Bleach	Pass
Hydrochloric acid, 3%	Pass
Hydrochloric acid, 10%	Pass
Potassium hydroxide, 30 g/L	Pass
Potassium hydroxide, 10 g/L	Pass

- DO NOT add any water, liquid, or other material to QuartzLock 2 Grout. This will cause grout failure and void all warranties.
- A milky, white liquid may be present on the surface of the grout when opened. This is from normal settling during shipment. The use of a margin trowel is recommended to bring grout into suspension. If a drill mixer is used, mix at low speed for no more than 30 seconds. Over-mixing with a drill mixer may introduce excessive air into the product and cause grout sagging on vertical applications and/or other performance issues. Continue to mix with a margin trowel throughout the grouting process.
- Ensure tile is firmly set and mortar is completely dry (always follow manufacturer’s instructions) before grouting.

- Remove all spacers, water, debris and adhesive from tile joints.
- For best results, surface of tile should be at room temperature (70°F to 75°F). Urethane materials are affected by temperature and humidity variations. Cool temperatures and/or high humidity will slow cure time.
- To facilitate cleaning, pre-seal all porous tile and natural stone before grouting.
- For glass tile, polished marble, stone and other soft surfaces, test grout on a small area to ensure compatibility.
- Make sure grout joints are clean, dry, and free from solvents and residue before grouting.

**METHODS**

**Grouting**

- Spread grout using a green, sharp-edged, firm rubber grout float. Work the grout diagonally across the joints, packing them full.
- Remove excess grout from the tile surface, pulling the edge of the float diagonally across the joint to prevent grout removal.

**Initial Cleaning**

For best results, remove grout haze AS YOU WORK, particularly in warm or dry climates. If working alone, only grout as far as you can reach (10-12 square foot area) before initial cleaning. If working as a team, one person should grout, with the other(s) cleaning immediately behind the first person.

- Rinse sponge in water and wring out completely. Since urethane grout requires very little water during cleanup, make sure that the sponge is wrung nearly dry. Wipe lightly, leaving sponge flat on the tile surface to prevent grout removal from joints. Excessive water during cleanup can dilute the urethane binder and cause curing issues that may lead to grout failure.
- Wipe up spilled water immediately. Do not allow water to sit on grout surface or in ungrouted joints.
- Change water mixture after each 100 square feet, for each new bucket of grout, or when dirty.
- Check work as you clean. Repair any low spots with additional grout. Unlike other grouts, DO NOT over wash.

**Final Cleaning**

- Allow cleaned areas to dry, and then inspect tile / stone surface. If a second cleaning is

necessary, wait 24 hours and spray a film remover (Aqua Mix® Heavy-Duty Tile and Grout Cleaner, Miracle Tile & Stone Cleaner, or DuPont™ StoneTech® Professional KlenzAll™ Cleaner) on a white scrubby Doodlebug™ cleaning pad, rubbing the tile lightly to remove any remaining urethane haze, then using a damp sponge and clean water, wipe the surface to remove the film remover (do not flood surface with cleaner). Finish by drying the tile surface with a clean towel or cloth. Contact StarQuartz if persistent haze exists.

**Installation Requirements**

- For use in joints 1/16" or greater. Ensure that joints are well packed. Smaller joints may require extra effort.
- To speed up installation, or for quarry and other porous tile and/or outdoor applications, pre-wet tile surface using clean water with a damp sponge prior to spreading grout, being careful not to leave standing water in the grout joints.
- Maintain temperature above 40°F (5°C) during installation and curing.

**Curing**

- Protect finished surface from light traffic for at least 24 hours at 70°F (21°C). Heavy foot traffic requires 72 hours at 70°F and 50% relative humidity.
- See Table 2 and Precautions below for further curing requirements.
- If needed, cover ONLY with kraft or breathable paper after initial 24-hour curing period.
- Full cure depends on grout depth. Normal cure of a ¼" grout joint with a 3/8" thick tile is 28 days.

**Showers / Steam Showers / Wet Applications**

- Use an approved waterproof sealer for mud bed applications and follow manufacturer's recommendations for sealer installation. For liquid-applied waterproofing materials, apply to within 1" of any drains to prevent weep hole blockage. The use of pre-sloped, waterproof trays (instead of mud beds) is highly recommended.

**PRECAUTIONS**

- Do not apply or clean up this product like traditional cement-based or epoxy grouts;

**TABLE 2 INSTALLATION – CURING TIMES**

Property	Time Required*
Working Time	3 hrs
Tack-Free Time	8 hrs
Ready for light foot traffic	24 hrs
Ready for heavy foot traffic	72 hrs
Stain resistant (food, cleaners, etc.)	3 days
Showers, Outdoors, Pools, Fountains and Wet Area Installations	7 days

\*Results are typical, but reflect testing procedures employed. Actual results may vary due to particular environmental conditions and other factors (e.g. type of setting material used).

QuartzLock Grout is a new technology that requires a simpler and easier application and clean-up process.

- Follow all manufacturers' instructions for all other setting materials, waterproofing, anti-fracture membranes, etc. to be used on the job.
- Minimum recommended grout joint width is 1/16".
- Maximum recommended grout joint width is 1/2".
- Ensure that grout joints are fully packed, especially in tight and irregular joints. Take special care in all wet and outdoor applications.
- Do not use as a setting mortar.
- Not for use in heavy industrial applications (i.e. chemical plants), in areas subjected to harsh or persistent chemicals, or areas exposed to very aggressive cleaning routines such as steam or pressure washing.
- QuartzLock Grout is not a replacement for a waterproofing membrane. When a waterproofing system solution is required, please contact StarQuartz Technical Service.
- Protect grout from staining agents and chemicals during the cure process.
- Grouting when tile surface is above 90°F (32°C) is not recommended. Cool tile surface with damp sponge if tile surface is above 90°F (32°C). Be careful not to add excessive water during the tile cooling process.
- Do not use vinegar or acid solutions for clean-up; this could damage uncured grout.
- Always use protective clothing (gloves and eye protection) when working with grout.

- Prior to regrouting applications, remove 1/8" of old grout and any surface contaminants. Be sure to rinse any residual solvent/cleaner off grout joints, then allow joints to completely dry before re-grouting.
- Do not use for commercial or wet environment re-grouting installations, including showers, steam showers, and outdoor applications.
- Seal porous tile surfaces with a water-based sealer, including the sides of the stone, prior to grouting with QuartzLock Grout.
- Outdoor installations must be protected from moisture (rain) for 7 days. If rain is forecast within 7 days, protect by tenting the grouted area (at least 1 foot above surface).
- Not for use in hot tubs.
- Wait 7 days before rigorously cleaning tile and grout surface.
- Wait 7 days prior to exposing grout to full submersion.
- Use care on soft, highly polished surfaces to avoid scratching. Test a small area. Use of a sealer is always recommended on polished marble, stone, slate and other natural, porous tiles.
- Use of enzymatic floor cleaners will void all warranties.
- Do not use StarCure® Urethane Grout Cure Accelerator.
- Do not use solvent-based adhesives or sealers with QuartzLock Grout.
- Protect grout from freezing. Do not grout outdoors or in unheated areas when temperatures are expected to be below 40°F (5°C) within 3 days. If product freezes, return to room temperature and use as directed.
- Do not ingest.
- Keep out of the reach of children.
- Use protective skin coverings and eye wear
- Flush with water in case of contact
- See the container label for precautionary measures, handling and storage information.
- For Chemical Emergency, call CHEMTREC 24 hours, (800) 424-9300 in North America, (703) 527-3887 International (collect).
- For more information, consult the MSDS for this product.

TABLE 3 INSTALLATION - COVERAGE

Tile Size (inches) (cm)	Joint Width					
	1/16"	1/8"	3/16"	1/4"	3/8"	1/2"
1" x 1" x 1/4" (2.54 x 2.54 x .63)	63 (5.9)	32 (2.9)	NR NR	NR NR	NR NR	NR NR
2" x 2" x 1/4" (5.08 x 5.08 x .63)	126 (11.7)	63 (5.9)	NR NR	NR NR	NR NR	NR NR
4 1/4" x 4 1/4" x 5/16" (10.79 x 10.79 x .79)	214 (19.9)	107 (10.0)	71 (6.6)	54 (5.0)	36 (3.3)	27 (2.5)
4" x 8" x 1/2" (10.15 x 20.30 x 1.27)	168 (15.6)	84 (7.8)	56 (5.2)	42 (3.9)	28 (2.6)	21 (2.0)
6" x 6" x 1/2" (15.23 x 15.23 x 1.27)	189 (17.6)	95 (8.8)	63 (5.9)	47 (4.4)	32 (2.9)	24 (2.2)
8" x 8" x 3/8" (20.30 x 20.30 x .95)	337 (31.3)	168 (15.6)	112 (10.4)	84 (7.8)	56 (5.2)	42 (3.9)
12" x 12" x 3/8" (30.45 x 30.45 x .95)	505 (46.5)	253 (23.5)	168 (15.6)	126 (11.7)	84 (7.8)	63 (5.9)
13" x 13" x 3/8" (32.99 x 32.99 x .95)	547 (50.9)	274 (25.4)	182 (17.0)	137 (12.7)	91 (8.5)	68 (6.4)
16" x 16" x 3/8" (40.61 x 40.61 x .95)	673 (62.6)	337 (31.3)	224 (20.9)	168 (15.6)	112 (10.4)	84 (7.8)
18" x 18" x 3/8" (45.69 x 45.69 x .95)	758 (70.4)	379 (35.2)	253 (23.5)	189 (17.6)	126 (11.7)	95 (8.8)
24" x 24" x 3/8" (60.96 x 60.96 x .95)	1010 (93.9)	505 (46.9)	337 (31.3)	253 (23.5)	168 (15.6)	126 (11.7)

Approximate coverage in square feet per 18 lb unit or in square meters per 8.16 kg unit and may vary due to installation conditions



**BUILDING CODES**

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

**6. Availability & Cost**

QuartzLock 2 Grout is available from professional distributors throughout the United States and Canada.

**7. Warranty**

StarQuartz Industries, Inc., ("StarQuartz") warrants that QuartzLock 2 Grout will be free from manufacturing defects and will not break down or deteriorate under normal usage for a

period of 2 years when installed in accordance with the written specifications of StarQuartz and

industry standard guidelines for commercial applications. For full warranty and warranty details, visit the [www.StarQuartz.com](http://www.StarQuartz.com) website.

**8. Maintenance**

QuartzLock 2 Grout requires occasional cleaning with water and common grout cleaners. For best stain resistance, always clean spills immediately.

**9. Technical Services**

Contact StarQuartz Industries, Inc., or visit the [www.StarQuartz.com](http://www.StarQuartz.com) website for technical assistance, including more detailed product information, literature, test results and assistance with project specifications.

StarQuartz also offers an AIA-approved Continuing Education Systems presentation / program (reference # VTGA1D4BE488).

**10. Filing Systems**

- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.



StarQuartz Industries, Inc.  
 1300 Russell Street  
 Baltimore, MD 21230  
 Phone: (410) 783-0100  
 Fax: (410) 783-2604  
 E-mail: [Info@starquartz.com](mailto:Info@starquartz.com)  
[www.starquartz.com](http://www.starquartz.com)

This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies a urethane-based, semi-flexible, low-shrinkage, crack-resistant grout for use with tile and stone. This product is manufactured by StarQuartz Industries, Inc. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat*™ for other section numbers and titles.

**SECTION 09 30 00**  
**TILING**

**PART 1 GENERAL**

Specifier Note: Article below may be omitted when specifying manufacturer’s proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.01 SUMMARY

- A. Section Includes: Urethane-based, semi-flexible, low-shrinkage, crack-resistant grout for use with tile and stone.

1.02 REFERENCES

- A. American National Standards Institute (ANSI):
  1. A108 Standard Specifications for the Installation of Ceramic Tile.
  2. A118.3 Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive.
  3. A118.6 Standard Specifications for Ceramic Tile Grouts.
  4. A118.7 Standard Specifications for Polymer Modified Cement Grouts.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor, either before, during or after construction. Coordinate this article with Architect’s and Contractor’s duties and responsibilities in Conditions of the Contract and Section [01 33 00 - Submittal Procedures].

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [\_\_\_\_\_].

Specifier Note: Retain standard color samples below only if colors are to be selected after award of contract.

- B. Product Data: Submit product data, including manufacturer's SPEC-DATA® sheet, installation instructions and range of standard colors, for specified products.

Specifier Note: Retain below only if color(s) is specified in Part 2.

- C. Samples: Submit 3 inch (76 mm) long samples of specified grout in selected color(s).
- D. Warranty: Manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria which establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

#### 1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate work of this Section with work of other trades for proper time and sequence to avoid construction delays. Comply with Section [01 31 00 – Project Management and Coordination].

Specifier Note: Add additional text to specify unusual or detailed coordination requirements affecting the work results of this Section.

- B. Preinstallation Meetings: Conduct preinstallation meeting [3 weeks] prior to commencing the work to verify project requirements, substrate conditions and coordination with other building subtrades, and to review manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Section [01 31 19 – Project Meetings].
  1. Representatives of owner, architect, general contractor, tile subcontractor, and any other parties who are involved in the scope of this installation must attend the meeting.

#### 1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: In accordance with Section [01 41 00 - Regulatory Requirements] [\_\_\_\_\_].

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 01 Product Requirements Section.

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements Section.
- B. Delivery: Deliver products in the manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

#### 1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract and Section [01 78 36 - Warranties] [\_\_\_\_\_] for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
  1. Warranty Period: 2 years commencing on the Date of Substantial Completion.

### PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

#### 2.01 GROUT

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: StarQuartz Industries, Inc.
1. Contact: 1300 Russell Street, Baltimore, MD 21230; Telephone: (410) 783-0100; Fax: (410) 783-2604; E-mail: [Info@starquartz.com](mailto:Info@starquartz.com); website: [www.StarQuartz.com](http://www.StarQuartz.com).
- B. QuartzLock Grout, QuartzLock 2 Grout and StarGlass Grout:
1. Physical Properties:
- a. Water Cleanability (ASTM A118.3): Pass
  - b. Initial Set (ASTM A118.3): > 2 hours
  - c. Service Strength (ASTM A118.3): Pass
  - d. Vertical Joint Sag (ASTM A118.3): Pass
  - e. Linear Shrinkage (ASTM A118.3, ASTM A118.7): 0.06%
  - f. Stain Resistance (ASTM A118.3): Pass
  - g. Compressive Strength (ASTM A118.3, A118.7): >3,500 psi (>24 MPa)
  - h. Chemical Resistance (ASTM A118.3): Pass
  - i. Water Absorption (ASTM A118.6, A118.7): < 1%

Specifier Note: Retain color(s) below to conform to project requirements. If more than one is retained, create designators and coordinate with the drawings. If color is not selected, retain option to select after award on contract.

2. QuartzLock 2 Color:
- a. [120 - High White]
  - b. [145 - Bone]
  - c. [165 - Antique White]
  - d. [175 - Silk]
  - e. [210 - Cream]
  - f. [224 - Mushroom]
  - g. [230 - Almond]
  - h. [234 - Linen]
  - i. [235 - Champagne]
  - j. [245 - Wheat]
  - k. [250 - Caramel]
  - l. [255 - Solid Buff]
  - m. [260 - Haystack]
  - n. [265 - Birch]
  - o. [267 - Sandstone]
  - p. [270 - Milk Chocolate]
  - q. [272 - Dark Mocha]
  - r. [283 - Hemp]
  - s. [285 - Espresso]
  - t. [290 - Chestnut]
  - u. [320 - Silver Gray]
  - v. [340 - Solid Gray]
  - w. [370 - Raincloud Gray]

- x. [375 – Natural]
- y. [380 - Solid Gray]
- z. [410 - Beach Sand]
- aa. [420 - Speckled Cement]
- bb. [430 - Camouflage]
- cc. [440 - Rust]
- dd. [460 - Speckled Brick]
- ee. [470 - Pepper]
- ff. [475 - Chocolate Black]
- gg. [480 - Ash]
- hh. [485 - Night Star]
- ii. [499 - Jet Black]
- jj. [530 - Clay]
- kk. [540 - Wasabi]
- ll. [550 - Olive]
- mm. [560 - Sea Blue]
- nn. [570 - Quarry Red]
- oo. [As selected from manufacturer's standard colors].

3. StarGlass Grout

- a. [600 – Diamond]
- b. [610 – Opal]
- c. [620 – Topaz]
- d. [621 – Amber]
- e. [622 - Aventurine]
- f. [630 – Palm wood]
- g. [640 – Citrine]
- h. [650 – Jade]
- i. [660 – Aquamarine]
- j. [670 – Moonstone]
- k. [671 – Hematite]
- l. [680 – Onyx]
- m. [700 – Silver]
- n. [710 – Bronze]
- o. [720 – Copper]
- p. [As selected from manufacturer's standard colors].

Specifier Note: A similar product with Urethane Grout Technology (UGT) can be substituted for QuartzLock 2 Grout or StarGlass Grout.

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## 2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: Substitutions in accordance with [Section 01 25 13 - Product Substitution Procedures] [No substitutions permitted] [\_\_\_\_\_].

## PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

### 3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product package instructions for installation.

### 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

### 3.03 INSTALLATION

- A. Comply with ANSI A108.

**END OF SECTION**

## Exterior Applications

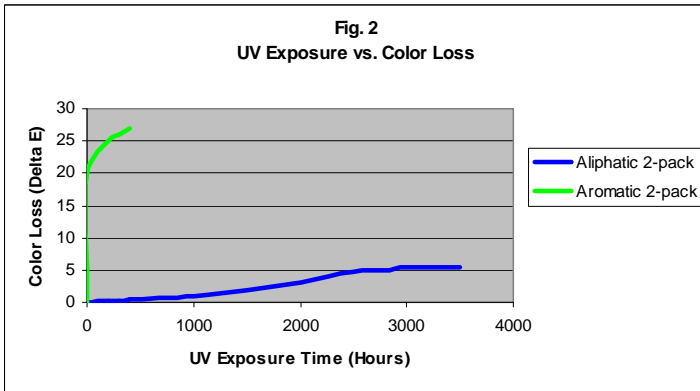
### Grout and UV Stability

It is well known that most grouts are not designed or intended for outdoor / exterior applications. This is due to the fact that most traditional grouts (cementitious and epoxy-based) contain binders which break down under prolonged exposure to UV light. When this occurs, these grouts will begin to yellow, fade and physically deteriorate. When this occurs, epoxy, latex, and acrylic binders become brittle, leading to cracking, chalking and eventual failure.

QuartzLock<sup>2</sup>™ and StarGlass™ Urethane Grouts, on the other hand, are ideally suited for exterior applications because the type of urethane binder we use in our product exhibits exceptional UV stability.

### Urethane Binders

There are basically two types of urethane binders - Aromatic and Aliphatic. Aromatics are not UV stable and will discolor and yellow when exposed to UV-containing outdoor sunlight. Aliphatic binders, however, are UV stable and are used in applications where color retention is needed. Fig. 2 below compares the color retention of an aromatic binder with that of an aliphatic binder when each is exposed to UV light from 1-3,000 hours.



The aromatic binder, when exposed to UV, loses its ability to retain color and a dramatic shift in color loss (Delta E) occurs. This color loss, observed as yellowing to the human eye, causes the binder to change the appearance of the colored particle (grout). Figure 2 shows that the use of an aliphatic binder (used in QuartzLock<sup>2</sup> / StarGlass) results in more than a 400% increase in color retention at low exposure times. Figure 2 also shows that the minimal color loss associated with aliphatics actually levels off beyond 3,000 hours of exposure.

### Improved Durability

In addition to reducing yellowing and, consequently, color loss, aliphatic binders such as the one used in QuartzLock<sup>2</sup> / StarGlass improve adhesion in outdoor applications such as patios, walkways, pools, decks and fountains. This improved adhesion, due to hydrogen bonding with water and hydroxyl groups on the substrate surface, leads to vastly improved durability compared to aromatics and other binders, whose bonds will degrade under prolonged UV exposure.

The use of aliphatic binders also provides exceptional chemical resistance and good weathering properties. Urethane's inherent semi-elasticity also leads to QuartzLock<sup>2</sup> / StarGlass Grout's improved flexibility, making it more able to withstand the constant movement under the tile surface, especially in outdoor applications where freeze-thaw conditions may exist.

Another unique feature of Urethane Grout is its one-way breathability, which keeps moisture from penetrating the product from the outside (due to its exceptionally low absorption), yet allows water vapor to "breathe" out. The low porosity of Urethane Grout also helps to prevent any water-soluble salts from migrating with moisture to the grout surface, thus reducing the likelihood of efflorescence occurring.

### The Best Grout for Exterior Applications

Many of the unique features of Urethane Grout, including:

- UV stability
- Exceptional durability
- Semi-elasticity / flexibility
- One-way breathability

make it the ideal choice for exterior use. Contact us for further information regarding the innovative properties of this next generation Urethane Grout.

## Exterior Applications

### What is Efflorescence?

Efflorescence is a white crystalline material (composed of salts, lime and/or other minerals) that deposits on the surface of cement-based grout. It is caused by soluble salts and other water dispersible materials traveling, with moisture as their carrier, to the grout surface, where exposure to air evaporates the moisture, leaving behind the dried salts and minerals. Any material containing Portland cement, which all sanded and unsanded cementitious grouts do, can experience efflorescence due to the lime present in the cement.

Two conditions must be present to create efflorescence:

1. A source of water soluble salts.
2. Water moving through the material to carry the salts to the surface.

Certain types of grouts are more prone to experience efflorescence because:

1. They are more permeable / porous and promote water travel.
2. They tend to have higher water soluble salt content.

Water can enter cured, porous grout in two ways:

1. At the surface (e.g. from rain or sprinklers), where it can penetrate a fraction of an inch, and then return to the surface carrying the salts.
2. From behind (leaks) or underneath (vapor emissions from the earth migrating up and traveling through).

### Efflorescence Removal

Generally efflorescence is removed with an acid; however, many grout manufacturers do not advocate the use of acids because they attack the cement in the grout and/or strip the color out of it. Used judiciously, though, this can be a highly effective way of removing efflorescence. There are several products on the market for this - with different acids and strengths. In all cases, extreme care should be used to protect the person applying the acid and surrounding fixtures. Always test some of the acid solution on an inconspicuous area first to ensure it will not discolor the surface material. The acid dilution should then be neutralized with mild diluted detergent and well rinsed with water. Generally, it is best to employ an experienced professional for this type of work.

### Efflorescence Prevention

It is possible to protect cement-based grout against efflorescence by treated the material with an impregnating, hydrophobic sealer. This is a sealer which repels water and will penetrate deeply enough into the material to keep water and dissolved salts well away from the surface.

### Urethane Grout Advantage

Urethane Grout contains no Portland cement or any salt derivatives, thereby eliminating all potential sources of efflorescence in the product itself. In addition, Urethane Grout has a patented urethane sealer incorporated into it that prevents moisture from penetrating into the cured product.

### Revolutionary Urethane Grout Technology

A unique feature of Urethane Grout is its one-way breathability, which keeps moisture from penetrating the product from the outside (due to its exceptionally low absorption), yet allows water vapor to "breathe" out. The low porosity of Urethane Grout also helps to prevent any water soluble salts from migrating with moisture to the grout surface, thus reducing the likelihood of efflorescence occurring.

Excessive hydrostatic pressure is about the only thing that could allow enough water migration through Urethane Grout to cause efflorescence, although this is extremely unlikely since most tiles and setting materials are much more porous than our grout and would be more likely escape routes for any water. In the unlikely event that enough pressure was present to cause efflorescence; an acid-based cleaner could be used to remove it without any harmful effect to Urethane Grout.

Clear hydrophobic sealers may also be used in conjunction with Urethane Grout as an extra precaution without affecting the grout's appearance or performance.



## **QUARTZLOCK 2™ GROUT LIMITED WARRANTY**

Subject to the conditions and limitations stated below, STARQUARTZ™ INDUSTRIES, INC. ("STARQUARTZ") warrants that QUARTZLOCK 2 GROUT will be free from manufacturing defects and will not break down or deteriorate under normal usage for **TEN (10) YEARS** when installed in accordance with STARQUARTZ's written specifications and industry standard guidelines in residential applications. STARQUARTZ further warrants that QUARTZLOCK 2 GROUT will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period of **TWO (2) YEARS** when installed and maintained in accordance with STARQUARTZ's written specifications and industry standard guidelines in commercial applications.

### **DISCLAIMER**

**This Limited Warranty is given in lieu of any other warranty, expressed or implied. There are no warranties, expressed or implied, including warranties based on samples or oral statements, which extend beyond the description on the face of this document. Implied warranties of merchantability and of fitness for a particular purpose are excluded.**

### **EXCLUSIVE REMEDY**

The sole and exclusive remedy for a breach of this Limited Warranty is replacement product of only the specific portion of product that is proven to be defective. STARQUARTZ will provide for replacement of its own products; however, STARQUARTZ will not provide more, calculated on a square-foot basis, for the replacement of grout material than the original purchase price of the portion being replaced. STARQUARTZ will not provide product for replacement of any portion of the installation that is not proven to be defective. In the event that the sole and exclusive remedy described above fails of its essential purpose, STARQUARTZ's liability is limited to the dollar value of the original purchase price of the portion being replaced, evaluated on a square-foot basis.

### **EXCLUSIONS**

The following are specifically excluded from coverage under this Limited Warranty: structural failure, inadequate subflooring, or improper subfloor preparation; damages caused by Acts of God, including, but not limited to hurricane, flooding, earthquake or other types of natural disaster; acts of war, or as a result of unforeseen circumstances; acts of negligence, or product misuse or abuse; failure to comply with STARQUARTZ's product installation and maintenance instructions, applicable building codes and regulations, or standard industry practices; damages that the user was capable of preventing, or losses due to delays or any other consequential damages; variations of color, shade or texture from those shown on samples, product packaging or any other marketing materials; changes in color due to exposure to sunlight and age; subfloor moisture or water damage; normal wear and tear resulting from usage; and cracking due to structural movement, excessive deflection or other failure of the substrate. This Limited Warranty does not cover failures due to the use of improper or incompatible grout maintenance products or techniques and is limited solely to product uses specified in STARQUARTZ's QUARTZLOCK 2 Grout Technical Bulletin only. Notwithstanding the previous paragraphs, exterior facades with ceramic tile or stone installed over substrates with steel or wood framing do not qualify for this Limited Warranty.

### **CONDITIONS OF COVERAGE:**

- (1) QUARTZLOCK 2 Grout must be used within the shelf life specified on STARQUARTZ's Technical Bulletin.
- (2) It is the sole responsibility of the installer, general contractor, architect of record or owner to test (or have tested) the suitability of our products or any system for their intended use, and these parties assume all risk and liability.

### **NO ASSIGNMENT**

This Limited Warranty is not transferable or assignable.

### **HOW TO MAKE A CLAIM**

To make a claim under this Limited Warranty, you must notify STARQUARTZ in writing within thirty (30) days of the discovery of the alleged manufacturing defect. The claim must be submitted and evaluated by STARQUARTZ before any repair work is performed. STARQUARTZ reserves the right to physically inspect any project with a claim pending prior to determining validity of the claim. STARQUARTZ, at its sole discretion, may require you to provide proof of product purchase and use as a condition of this Limited Warranty. For any claim that is not valid, STARQUARTZ will be paid reasonable charges, including travel and labor, associated with investigation of such claim. Address your claim to: STARQUARTZ Industries, Inc., 1300 Russell Street, Baltimore, MD 21230, Attn: Technical Service Department.

## Material Safety Data Sheet

### Section 1 – Product Identification

Trade Names: **Quartz-Lock 2™** Grout, Product #120120B  
Common Names/Synonyms: Urethane Polymer, Quartz based grout  
Product Use: Grout for Tile and Stone  
Manufacturer's Name & Address: StarQuartz Industries, Inc., 1300 Russell Street, Baltimore, MD 21230  
Manufacturer's Telephone: 1-866-220-4500 Manufacturer's Fax: 1-866-220-4700  
Emergency Number: 1-866-220-4500

### Section 2 – Composition and Information on Ingredients

This product may contain varying concentrations of the following:

Component	CAS No.	% by Wt	OSHA PEL (mg/m <sup>3</sup> )	ACGIH TLV (mg/m <sup>3</sup> )
Quartz, Sand, Crystalline Silica*	14808-60-7	72	$\frac{10 \text{ mg/m}^3}{\% \text{ SiO}_2+2}$	0.025
Polyurethane/ Aqueous polymer dispersion	Proprietary	9	Not established	Not established
Glass, Soda Lime	65997-17-3	7	15 total dust/ 5 respirable	10 inhalable/ 3 respirable

\* Exposure Limits for silica refer to the respirable fraction.

**Quartz-Lock 2™ grout is composed primarily of ground quartz that is bound in a polyurethane polymer matrix, resulting in a semi-pliable, non-hardening, encapsulated product. Under conditions of its intended use and handling, the use of this product will not result in the occupational exposure of employees to airborne dust in excess of applicable regulatory standards. The crystalline silica contained in Quartz-Lock 2™ grout, as delivered, cannot be inhaled. Crystalline silica can only cause lung damage if inhaled.**

### Section 3 – Hazards Identification

Quartz-Lock 2™ grout, unlike traditional grout, uses an aqueous polyurethane-based polymer to bind the quartz component into a pliable, non-hardening matrix resulting in a product with low/no dust-producing potential. Even when cured, Quartz-Lock 2™ grout will not crumble, crack, or produce dry dust when sanded or abraded. The use of abrasives against the cured product will result in the creation of a gummy residue without the dust-producing potential of conventional grouts.

#### Emergency Overview

StarQuartz Industries' Quartz-Lock 2™ grout is a water-based polymer, quartz aggregate blend having mortar-like texture and a slight odor. This material may produce respiratory irritation during use due to the evaporation of some glycol ether co-solvents. Eye and skin contact with the uncured product should also be avoided (See section 8 – Exposure Controls/Personal Protection).

#### Potential Health Effects

**Inhalation:** This product may cause dizziness, headache, or nausea if used in a poorly ventilated area due to the evaporation of co-solvents as the product dries/cures.

**Eye Contact:** Eye contact may cause severe irritation.

**Skin Contact:** May cause drying or irritation to the skin.

**Ingestion:** No known health effect.

**Acute Effects:** Eye irritation, drying of the skin, nausea, dizziness, or headaches.

See Section 11, Toxicological Information, for additional details on potential adverse health effects.

### Section 4 – First Aid Procedures

**Inhalation:** Remove the person to fresh air, obtain medical attention, and perform artificial respiration if needed.

**Eye:** Flush the eye with water for at least 15 minutes. If irritation persists, seek medical attention.

**Skin:** Wash exposed skin with mild soap and water. Treat affected area with skin moisturizer.

**Ingestion:** If large amounts are ingested, do not induce vomiting. Have the victim drink two glasses of water. Seek medical attention.

**Section 5 – Fire Fighting Measures**

Flashpoint:	None	Explosive Limits:	Not Combustible
Auto-ignition Temperature:	None	Unusual Fire and Explosion Habits:	None
Hazardous Combustion Products:	None	Special Fire Fighting Procedures:	None unique to this product.
Extinguishing Media:	Appropriate to surrounding fire.		

**Section 6 – Accidental Release Measures**

Wear appropriate personal protective equipment as described in Section 8 of this document. Contain and remove spills using an inert absorbent (e.g., dry sand or earth). Place the product in a covered container appropriate for disposal. Dispose of the product according to federal, state, and local regulations (Also see Section 13 – Disposal Considerations and Section 15 – Regulatory Information).

**Section 7 – Handling and Storage**

Avoid eye and skin contact (See section 8 – Exposure Controls/Personal Protection). Protect product from freezing, use adequate ventilation, and do not store above 110°F. Close container immediately after use to prevent drying of product. Keep out of reach of children.

**Section 8 – Exposure Controls/Personal Protection**

**Quartz-Lock 2™ grout, as delivered, is an encapsulated product in which the quartz component (containing crystalline silica) is bound in a polymer matrix. The crystalline silica contained in this product cannot be inhaled under conditions of intended product use.**

Ventilation:	Use general dilution or local exhaust as required to maintain exposures below the occupational exposure limits; see also ACGIH, <u>Industrial Ventilation – Recommended Practice</u> (latest edition).		
Respiratory Protection:	Avoid breathing vapors produced during the use and handling of this product. Consult with OSHA regulations and NIOSH recommendations to determine the appropriate NIOSH-approved respiratory protection to wear during and following use, including clean-up, of this product.		
Gloves:	PVC gloves are recommended in situations where skin contact may occur.		
Eye:	Use ANSI approved protection as appropriate for the task at hand, including goggles or safety glasses with side shields.		
Other:	Use protective clothing as appropriate for the work environment.		

**Section 9 – Physical and Chemical Properties**

Appearance:	Mortar-like material of varying color	Odor:	Slight
Physical State:	Heavy paste with suspended aggregate	pH:	8.3-8.8
Vapor Pressure:	< 17 mm-Hg	Vapor Density:	Not Applicable
Boiling Point:	212 °F	Melting Point:	32 °F (keep from freezing)
Solubility In Water:	100%	Density:	14.8 lbs/gal

**Section 10 – Stability and Reactivity**

Stability:	Stable
Materials to Avoid:	Strong Oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride.
Hazardous Decomposition Products:	Silica dissolves in hydrofluoric acid to produce a corrosive gas; silicon tetrafluoride.
Hazardous Polymerization:	Will not occur

**Section 11 – Toxicological Information**For Polyurethane Copolymer:

LD<sub>50</sub> oral, rat: >2,000 mg/kg – Estimate, based on analogy to similar products. This ingredient is not listed by NTP, IARC, or OSHA as a carcinogen.

For Respirable Crystalline Silica:

Chronic (prolonged) inhalation of this free crystalline silica may cause delayed lung injury, including silicosis. IARC has classified crystalline silica as a known human carcinogen (Group I), and the NTP has characterized crystalline silica as a “reasonably anticipated human carcinogen.” **Quartz-Lock 2™ grout, as delivered, is an encapsulated product in which the quartz component (containing silica) is bound in a polymer matrix. The silica contained in this product cannot be inhaled under conditions of intended product use.**

For Soda Lime Glass:

There are no known reports of carcinogenicity of non-fibrous glass. Non-fibrous glass is not listed by IARC, NTP or OSHA as a carcinogen.

**Section 12 – Ecological Information**

For Polyurethane Copolymer: Fish Toxicity; LC<sub>50</sub> >500 mg/l – Estimate, based on analogy to similar products. Avoid contamination of groundwater or waterways.

For Soda Lime Glass: There are no known reports of ecotoxicity of non-fibrous glass.

For Crystalline Silica: Crystalline silica is not known to be ecotoxic, i.e., there are no data that suggests that crystalline silica is toxic to birds, fish, invertebrates, microorganisms, or plants.

**Section 13 – Disposal Considerations**

General: Unused product should be disposed of in accordance with Federal, State, or local regulations. The finished, cured product may be land filled.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

The above information applies to StarQuartz Industries' Quartz Lock 2™ grout only as sold. The product could be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal method in this situation.

**Section 14 – Transport Information**

StarQuartz Industries' Quartz Lock 2™ grout is not a hazardous material for purposes of transportation under the U. S. Department of Transportation Table of Hazardous Materials, 49 CFR §172.101.

**Section 15 – Regulatory Information**

UNITED STATES (FEDERAL AND STATE)

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS Number 14808-60-7

RCRA: This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: This product is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act: This product is not an extremely hazardous substances under Section 302 and are not toxic chemicals subject to the requirements of Section 313.

Clean Air Act: This product was not processed with or does not contain any Class I or Class II ozone depleting substances.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica (quartz) is classified as a probable carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

CANADA

WHMIS Classification: D-2

OTHER

EINECS No.: 231-545-4 (for silica)

EEC Label (Risk/Safety Phrases): R 48/20, R 40/20, S22, S38 (for silica)

IARC: Crystalline silica (quartz) is classified in IARC Group 1.

National, state, provincial or local emergency planning, community right to know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

**Section 16 – Other Information**

**Quartz-Lock 2™ grout, as delivered, is an encapsulated product in which the quartz component (containing crystalline silica) is bound in a polymer matrix. The crystalline silica contained in this product cannot be inhaled under conditions of intended product use.**

More information on the effects of crystalline silica exposure may be obtained from the Occupational Safety and Health Administration (OSHA) (phone number: 1-800-321-OSHA; website: <http://www.osha.gov>) or from the National Institute for Occupational Safety and Health (NIOSH) (phone number: 1-800-35-NIOSH; website: <http://www.cdc.gov/niosh>).

## TECHNICAL DATA SHEET

### PRODUCT DESCRIPTION: Translucent Grout for Glass Tile

Glass tile manufacturers have always desired a translucent grout that compliments their products. Cement and epoxy grouts can detract from a glass tile installation's overall appearance by creating a harsh line that clashes with the tile's natural beauty. StarGlass™ Grout, however, provides limitless design possibilities and actually enhances the look of glass tile by offering never-before-seen color and visual possibilities.

StarGlass Grout is a PRE-MIXED, urethane-based grout especially designed for glass tile. Other grouts contain cement, sand and other light-absorbing materials. StarGlass Grout, on the other hand, contains tiny glass beads and a translucent urethane binder that actually allow light to pass through the grout itself, creating a unique, three-dimensional effect and a stunning reflective appearance. StarGlass also offers the traditional benefits of Urethane grout, including:

### FEATURES AND BENEFITS

- Pre-mixed, ready to use
- Excellent chemical, stain and mildew resistance
- Semi-flexible, low shrinkage and high crack resistance
- No color fading, streaking or shading – Even when wet!
- Fast, easy clean-up when compared to epoxy and cement grouts
- Innovative, proprietary coloring system
- Excess product can be saved and used later
- UV stable colors (non-yellowing)
- Self-sealing – no sealing required
- Non-sag formula for vertical surfaces
- Free of BPA (bisphenol-A) found in epoxy grouts
- Dust-free mixing
- Fast, easy installation - installs up to 50% faster than other grouts
- Superior to cement grout
- Contributes to USGBC LEED Credits: MR 4.1 & 4.2 (Recycled Content), MR 5.1 & 5.2 (Regional Materials), and EQ, 4.1 (Low-Emitting Materials).
- Contains over 80% post-consumer recycled content.

### PRODUCT USES

StarGlass Grout can be used on vertical or horizontal surfaces in a variety of interior and exterior installations of ceramic, porcelain, glass and natural stone tiles in a range of grout joint widths.

### INSTALLATION

**Read and understand Technical Data Sheet and Material Safety Data Sheet completely before beginning installation. Follow applicable ANSI, TCNA and NTCA installation standards. Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.**

StarGlass Grout requires different installation techniques for successful product use. Please read the following instructions carefully.

### Preparation for Grouting:

- **DO NOT add any water, liquid, or other material to StarGlass Grout! This will cause grout failure and void all warranties.**
- A milky, white liquid may be present on the surface of the grout when opened. This is from normal settling during shipment. Only use a margin trowel to bring grout into suspension. Use of a drill mixer is not recommended as it will introduce excessive air into the product and cause grout sagging on vertical applications, a reduction of color uniformity, and/or other performance issues. Continue to mix with margin trowel throughout the grouting process.
- Ensure tile is firmly set and mortar is completely dry (always follow manufacturer's instructions) before grouting. Remove all spacers, water, debris and adhesive from tile joints.
- For best results, surface of tile should be at room temperature (70°F to 75°F). Urethane materials are affected by temperature and humidity variations. Cool temperatures and/or high humidity will slow cure time.
- To facilitate cleaning, pre-seal all porous tile and natural stone before grouting.
- For glass tile, polished marble, stone and other soft surfaces, test grout on a small area to ensure compatibility.
- Make sure grout joints are clean, dry, and free from solvents and residue before grouting.

### Application:

- Spread grout using a green, sharp-edged, firm rubber grout float. Work the grout diagonally across the joints, packing them full.
- Remove excess grout from the tile surface, pulling the edge of the float diagonally across the joint to prevent grout removal.

### Grout Cleaning:

**For best results, remove grout haze AS YOU WORK, particularly in warm or dry climates.** If working alone, only grout as far as you can reach (10-12 square foot area) before initial cleaning. If working as a team, one person should grout, with the other(s) cleaning immediately behind the first person.

## StarGlass Technical Data Sheet

- Rinse sponge in water and wring out completely. Since urethane grout requires very little water during cleanup, make sure that the sponge is wrung nearly dry. Wipe lightly, leaving sponge flat on the tile surface to prevent grout removal from joints. Excessive water used during cleanup can dilute the urethane binder and cause curing issues that may lead to grout failure.
- Wipe up spilled water immediately. Do not allow water to sit on grout surface or in ungrouted joints.
- Change water mixture after each 100 square feet, for each new bucket of grout, or when dirty.
- Check work as you clean. Repair any low spots with additional grout. Unlike other grouts, DO NOT over wash.
- Allow cleaned areas to dry, and then inspect tile / stone surface. If a second cleaning is necessary, wait 24 hours and spray a film remover (Aqua Mix® Heavy-Duty Tile and Grout Cleaner, Miracle Tile & Stone Cleaner, or DuPont™ StoneTech® Professional KlenzAll™ Cleaner) on a white scrubby Doodlebug™ cleaning pad, rubbing the tile lightly to remove any remaining urethane haze, then using a damp sponge and clean water, wipe the surface to remove the film remover (do not flood surface with cleaner). Finish by drying the tile surface with a clean towel or cloth. Contact StarQuartz if persistent haze exists.

### Installation Requirements:

- Ensure that joints are well packed. Smaller joints may require extra effort. Failure to fully pack joints may lead to slight discoloration or mottling and delay full color consistency for up to two weeks.
- To speed up installation, or for quarry and other porous tile and/or outdoor applications, pre-wet tile surface using clean water with a damp sponge prior to spreading grout, being careful not to leave standing water in the grout joints.
- Maintain temperature above 40°F (5°C) during installation and curing.

### CURING

- Protect finished surface from light traffic for at least 24 hours at 70°F (21°C). Heavy foot traffic requires 72 hours at 70°F and 50% relative humidity. See Limitations/Cautions below for further curing requirements.
- If needed, cover ONLY with kraft or breathable paper after initial 24-hour curing period.
- Full cure depends on grout depth. Normal cure of a ¼" grout joint with a 3/8" thick tile is 28 days.

### SHOWERS / STEAM SHOWERS / WET APPLICATIONS

- Use an approved waterproof sealer for mud bed applications and follow manufacturer's recommendations for sealer installation. For liquid-applied waterproofing materials, apply to within 1" of any drains to prevent weep hole blockage. The use of pre-sloped, waterproof trays (instead of mud beds) is highly recommended.
- Shower, steam shower, pool, fountain and wet area installations must be protected from moisture and allowed to cure for 7 days before use.

### LIMITATIONS/CAUTIONS

- Do not apply or clean up this product like traditional cement-based or epoxy grouts; StarGlass Grout is a new technology that requires a simpler and easier application and clean-up process.
- Follow manufacturers' instructions for all other setting materials, waterproofing, anti-fracture membranes, etc., used on the job.
- Minimum recommended grout joint width is 1/16".
- Maximum recommended grout joint width is 1/2" for horizontal and 1/4" for vertical applications.
- Ensure that grout joints are fully packed, especially in tight and irregular joints. Take special care in all wet and outdoor applications.
- Do not use as a setting mortar.
- Not for use in heavy industrial applications (ie: chemical plants), in areas subjected to harsh or persistent chemicals, or areas exposed to very aggressive cleaning routines such as steam cleaning or pressure washing.
- StarGlass Grout is not a replacement for a waterproofing membrane. When a waterproofing system solution is required, please contact StarQuartz Technical Service.
- Protect grout from staining agents and chemicals during the cure process.
- Grouting when tile surface is above 90°F (32°C) is not recommended. Cool tile surface with damp sponge if tile surface is above 90°F (32°C). Be careful not to add excessive water during the tile cooling process.
- Do not use vinegar or acid solutions for clean-up; this could damage uncured grout.
- Always use protective clothing (gloves and eye protection) when working with grout.
- Prior to regrouting applications, remove 1/8" of old grout and remove any surface contaminants. Be sure to rinse any residual solvent off grout joints, then allow joints to completely dry before regrouting.
- Do not use for commercial or wet environment re-grouting installations, including showers, steam showers, and outdoor applications.

# StarGlass Technical Data Sheet

- Seal porous tile surfaces with a water-based sealer, including the sides of the stone, prior to grouting with StarGlass Grout.
- Outdoor installations must be protected from moisture (rain) for 7 days. If rain is forecast within 7 days, protect by tenting the grouted area (at least 1 foot above surface).
- Not for use in hot tubs.
- Wait 7 days before rigorously cleaning tile and grout surface.
- Wait 7 days prior to exposing grout to full submersion.
- Use care on soft, highly polished surfaces to avoid scratching. Test a small area. Use of a sealer is always recommended on polished marble, stone, slate and other natural, porous tiles.
- Use of enzymatic floor cleaners will void all warranties.
- Do not ingest. Keep out of the reach of children.
- **Do not use StarCure® Urethane Grout Cure Accelerator with StarGlass Grout.**
- Do not use solvent-based adhesives or sealers with StarGlass Grout.
- Protect grout from freezing. Do not grout outdoors or in unheated areas when temperatures are expected to be below 40°F (5°C) within 3 days. If product freezes, return to room temperature and use as directed.
- For Chemical Emergency call CHEMTREC, 24 hours, (800) 424-9300 in North America, (703) 527-3887 International (collect).
- For more information, consult the MSDS for this product.

## AVAILABILITY AND COST

StarGlass Grout is available at Dal-Tile and authorized resellers throughout the U.S. and Canada. Contact StarQuartz Industries, Inc. at (866) 220-4500 or [info@StarQuartz.com](mailto:info@StarQuartz.com) for more information.

## MAINTENANCE

StarGlass Grout requires occasional cleaning with water and common grout cleaners. For best stain resistance, always clean up spills immediately.

## SHELF LIFE

StarGlass Grout is guaranteed to remain suitable for use up to a period of two (2) years if stored unopened at temperatures between 32°F (0°C) and 100°F (38°C). After opening, StarGlass Grout can be saved for reuse if properly resealed in original container (always wipe the pail lip clean prior to resealing to ensure proper seal is achieved with the Vapor-Lock lid). If product freezes, return to room temperature and use as directed.

## PACKAGING

Available in 9-lb and 18-lb. units

## WARRANTY

- Visit to [www.StarQuartz.com](http://www.StarQuartz.com) to see our complete warranty.

## APPLICABLE STANDARD

StarGlass Grout is a revolutionary new technology which employs state-of-the-art urethane chemistry. As yet, there is no current ANSI or ASTM standard for this technology (ANSI 118.3 pertains only to epoxy grout products); however, for comparative purposes, physical and chemical properties are listed below. Epoxy grouts are hard, brittle and lack flexibility. StarGlass Grout is designed to have the perfect balance of physical properties in order to provide flexibility, strength and adhesion to a variety of materials, making it the best choice for a wide variety of applications. Specifications are subject to change without notice.

Working Properties	
Description	Time Required*
Working Time	3 hrs
Tack-Free Time	8 hrs
Ready for light foot traffic	24 hrs
Ready for heavy foot traffic	72 hrs
Stain resistant (food, cleaners, etc.)	3 days
Showers, Outdoors, Pools, Fountains and Wet Area Installations	7 days

\* Results are typical, but reflect testing procedures employed. Actual results may vary due to particular environmental conditions and other factors (e.g. type of setting material used).

Typical Properties	
Description	Typical Results
Water Cleanability	Pass
Initial Set	>2 hrs.
Service Strength	Pass
Vertical Joint Sag	Pass
ASTM C267 Chemical	Pass
Compressive Strength	>3,500 psi
Linear Shrinkage	<0.25%
Water Absorption	<1%
Color	15 available

Results shown are typical and reflect test procedures used by the Tile Council of North America (TCNA) for ANSI 118.3 and 118.3 modified. Actual field performance will depend on installation methods, site conditions and other environmental factors.

# StarGlass Technical Data Sheet

## COVERAGE CHART (SQ. FT)

Note: divide coverage below by 2 to determine coverage for our 9 lb. unit

### Square Feet of Coverage, per 18 Lb Bucket

Collection(s)	Tile Size	Joint Width	Coverage
Glass Mosaics	3/8" x 3/8" x 5/32"	1/8"	28
Glass Mosaics	3/8" x 3/8" x 1/4"	1/8"	17
Glass Mosaics	3/4" x 3/4" x 5/32"	1/8"	46
Elemental Glass	3/4" x 3/4" x 5/32"	1/32"	47
Egyptian Glass & Sonterra Glass	1" x 1" x 1/4"	1/8"	33
Maracas Glass & Glass Reflections	1" x 1" x 5/16"	1/8"	26

Collection(s)	Tile Size	Joint Width			
		1/16"	1/8"	3/16"	1/4"
Egyptian Glass & Glass Mosaics	2" x 2" x 1/4"	126	66	46	36
Molten Glass	2" x 2" x 5/16"	106	55	38	30
Glass Reflections	3" x 6" x 5/16"	201	103	70	54
Cristallo Glass	4" x 4" x 5/16"	191	98	67	51
Glass Reflections & Molten Glass	4 1/4" x 4 1/4" x 5/16"	213	109	74	57
Glass Reflections & Maracas Glass	4 1/4" x 8 1/2" x 5/16"	283	144	98	74
Glass Reflections & Maracas Glass	4 1/4" x 12 3/4" x 5/16"	318	162	109	83
Maracas Glass	8 1/2" x 17" x 5/16"	561	283	190	144
Standard	4" x 8" 1/2"	166	85	57	44
	6" x 6" 1/2"	187	95	64	49
	8" x 8" 3/8"	330	167	113	85
	12" x 12" 3/8"	494	249	167	126
	13" x 13" 3/8"	534	269	181	137
	16" x 16" 3/8"	657	330	222	167
	18" x 18" 3/8"	739	371	249	188
	24" x 24" 3/8"	984	494	330	249

## Revolutionary Urethane Grout Technology

Glass tile manufacturers have always desired a translucent grout that compliments their products. Cement and epoxy grouts can detract from a glass tile installation's overall appearance by creating a harsh line that clashes with the tile's natural beauty. StarGlass™ Grout, however, provides limitless design possibilities and actually enhances the look of glass tile by offering never-before-seen color and visual possibilities.

StarGlass Grout is a PRE-MIXED, urethane-based grout especially designed for glass tile. Other grouts contain cement, sand and other light-absorbing materials. StarGlass Grout, on the other hand, contains tiny glass beads and a translucent urethane binder that actually allow light to pass through the grout itself, creating a unique, three-dimensional effect and a stunning reflective appearance. StarGlass also offers the traditional benefits of Urethane grout, including:

For years, architects have specified epoxy grout because it offers improved stain / chemical resistance and durability as compared to cement grouts. StarGlass Grout is a Urethane Grout and, by its nature, is more chemical / stain resistant than epoxy grout, with the added benefit of dramatically improved crack resistance (due to its inherent flexibility!), making it a perfect product for the high-performance applications that architects favor. Additionally, it is most green grout product available today. The following is a summary of the StarGlass Grout features and benefits that architects consider when specifying grout:

Features	Benefits
Commercially Rated	Approved for most commercial applications.
Self-sealing	Exceptional stain / chemical resistance. No sealing required – EVER!
Semi-flexible	Urethane flexibility and extremely low shrinkage provides the highest level of crack resistance.
No pigments (colored quartz provides color)	Guaranteed not to fade or discolor.
15 colors (translucent and metallic)	Tremendous design possibilities; no other grout is made from glass micro beads.
UV-Stable	Perfect for outdoor applications – won't yellow or fade in the sun.
Comes ready-to-use / Easy clean-up	Cost-effective vs. epoxy and sealed cement grouts.
Non-sagging	Great for vertical applications.
Environmentally Friendly	Low VOC, BPA-free, no waste

### Limited Warranty

StarQuartz warrants that StarGlass Grout will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period of two (2) years when installed in accordance with StarQuartz's written specifications and industry standard guidelines in commercial applications. See full warranty for further detail.

## StarGlass meets or exceeds ANSI 118.3 Standard

*Test Results Provided by the Tile Council of North America Laboratory*

Description	Typical Results
Water Cleanability	Pass
Initial Set	<2 hrs.
Service Strength	Pass
Vertical joint sag	Pass
Linear Shrinkage <sup>1</sup>	0.06%
Stain Resistance <sup>2</sup>	Pass
Compressive strength <sup>3</sup>	>3,500 psi
Chemical Resistance	Pass
Water absorption	<1%

<sup>1</sup> Heat-cured sample to compensate for air-dry vs. catalytic product.

<sup>2</sup> TCNA results compared to Laticrete's published data show that StarGlass exceeds SpectraLock PRO™ for stain resistance.

<sup>3</sup> Test results were performed in an actual grout joint.

### Other Important Facts:

- Dry Time: 24 hours light foot traffic, 72 hours heavy foot traffic, 7 days for wet areas, like showers
- Joint Width: 1/16" to 1/2" (horizontal), 1/16" to 1/4" (vertical)
- Cost: Similar to epoxy grout
- Availability: StarGlass Grout is available at better distributors throughout the U.S. and Canada

### Why are we greener?

1. Most specified grouts require mixing, which causes the release of airborne particulate that many states are beginning to regulate because of the potential health risk. StarGlass Grout is pre-mixed and ready to use, eliminating this health risk.
2. Epoxy grouts contains bisphenol-A (BPA) that can produce severe allergies. Jobs can be slowed or not taken by good tile installers because epoxy is specified. QuartzLock2 Grout contains no BPA.
3. Most epoxy grouts produce VOC's that many states regulate. StarGlass Grout utilizes a water-based Urethane that produces nearly zero VOC's.
4. StarGlass Grout wash water is more environmentally friendly because it does not contain epoxy, cement, or pigments.
5. Urethane Technology's crack resistance and durability can lead to longer installation life cycles.
6. Because StarGlass Grout is re-usable it produces no waste.
7. StarGlass Grout buckets are made of recyclable Class 2 HPDE.



**1. Product Name**

StarGlass™ Grout

**2. Manufacturer**

StarQuartz Industries, Inc.  
 1300 Russell Street  
 Baltimore, MD 21230  
 Phone: (410) 783-0100  
 Fax: (410) 783-2604  
 E-mail: [info@starquartz.com](mailto:info@starquartz.com)  
[www.StarQuartz.com](http://www.StarQuartz.com)

**3. Product Description**

StarQuartz Industries, Inc. manufactures StarGlass Grout, a patented, semi-flexible, low shrinkage and highly crack resistant grout for the tile and stone industry. Premixed and ready to use, StarGlass utilizes environmentally friendly Urethane Grout Technology to create a product that is durable, self-sealing and UV stable, with chemical and stain resistance that meets or exceeds ANSI 118.3 standards for epoxy. Its color, derived from quartz aggregate rather than pigment, is guaranteed not to discolor or fade.

**PRIMARY USE**

StarGlass Grout is primarily used for glass and metal tile, for interior and exterior commercial and residential applications.

**BASIC USE**

StarGlass Grout is also these other applications, including:

- Ceramic, porcelain, mosaic, stone, marble, granite, slate, glass, quarry and travertine tile applications
- Horizontal and vertical surfaces, including floors, walls and countertops
- New grouting and regrouting
- High moisture areas
- Wet or dry areas

**COMPOSITION & MATERIALS**

A StarGlass Grout is a UV resistant, air-cured, water-based urethane grout with a glass micro bead aggregate and an additive for mold and mildew resistance.

**SIZES**

StarGlass Grout is offered in 9 lb (4 kg) and 18 lb (8 kg) buckets.

**COLOR**

A variety of translucent and metallic colors are available:

- 600 Diamond
- 610 Opal
- 620 Topaz
- 621 Amber
- 622 Aventurine
- 630 Palm Wood
- 640 Citrine
- 650 Jade
- 660 Aquamarine
- 670 Moonstone
- 671 Hematite
- 680 Onyx
- 700 Silver
- 710 Bronze
- 720 Copper

**BENEFITS**

- Glass tile manufacturers have always desired a translucent grout that compliments their products. Cement and epoxy grouts can detract from a glass tile installation's overall appearance by creating a harsh line that clashes with the tile's natural beauty. StarGlass™ Grout, however, provides limitless design possibilities and actually enhances the look of glass tile by offering never-before-seen color and visual possibilities.
- StarGlass Grout contains tiny glass beads and a translucent urethane binder that actually allow light to pass through the grout itself, creating a unique, three-dimensional effect and a stunning reflective appearance.
- Another unique property of urethane is its flexibility. This flexibility, along with its low shrinkage and excellent adhesion, allows StarGlass Grout to accommodate minor substrate movement and other environmental changes and leads to unmatched crack resistance.
- The urethane binder creates a self-sealing barrier that provides outstanding stain, mildew and chemical resistance.
- StarGlass Grout is premixed and ready to use, saving time and ensuring color consistency by eliminating field mixing.



- The combination of urethane and glass provides unique colors never before found in grout and is naturally resistant to UV and light exposure, eliminating fading and discoloration.
- Leftover grout can be resealed in the original container for later use, reducing waste and cost.
- StarGlass Grout does not contain allergy-causing Bisphenol-A (BPA) found in epoxy grouts.

**SHELF LIFE**

StarGlass Grout is guaranteed to remain usable for a period of 2 years if stored unopened at temperatures higher than 40 degrees F (10 degrees C).

**LIMITATIONS**

- The minimum recommended grout joint width is 1/16" (1.6 mm)
- The standard maximum recommended grout joint width is 1/4" (6.4 mm); StarGlass Grout can, however, be used for larger joints caused by irregular tile and stone
- Do not use in areas subject to harsh or persistent chemical exposure or areas with very aggressive cleaning routines
- Do not use as a setting mortar
- Do not use as a replacement for a waterproof membrane
- Although StarGlass Grout resists stains from most household products, automotive chemicals and cleaners, persistent exposure to some materials can cause permanent staining or damage.

**4. Technical Data**

**APPLICABLE STANDARDS**

American National Standards Institute (ANSI) - ANSI A108/A118/A136 American National Standards for the Installation of Ceramic Tile

**APPROVALS**

StarGlass Grout meets or exceeds ANSI 118.3 and A118.6 standards for epoxy and cement grouts.

**PHYSICAL/TECHNICAL PROPERTIES**

See Table 1.

**TABLE 1 PHYSICAL/TECHNICAL PROPERTIES**

Description	Typical Results
Water Solubility	100%
Boiling Point	212 degrees F (100 degrees C)
Water Cleanability	Pass
Initial Set	>2 hrs.
Service Strength	Pass
Vertical joint sag	Pass
ASTM C267 Chemical Resistance	Pass
Compressive Strength	>3,500 psi (>24 MPa)
Linear Shrinkage	0.06%
Water Absorption	<1%
Open Time	180 minutes
Colors	15 available

Chemical	Exposure
Acetic acid, 3%	Pass
Acetic acid, 10%	Pass
Ammonium chloride	Pass
Citric acid solution, 30 g/L	Pass
Citric acid solution, 100 g/L	Pass
Lactic Acid	Pass
Phosphoric acid, 3%	Pass
Phosphoric acid, 10%	Pass
Sulfamic acid, 3%	Pass
Sulfamic acid, 10%	Pass
Bleach	Pass
Hydrochloric acid, 3%	Pass
Hydrochloric acid, 10%	Pass
Potassium hydroxide, 30 g/L	Pass
Potassium hydroxide, 10 g/L	Pass

**ENVIRONMENTAL CONSIDERATIONS**

StarGlass Grout can contribute points toward LEED™ certification in the following key areas:

- Materials and Resources, MR credits 2.1 and 2.2. Divert 50% and 75% from disposal
- Materials and Resources, MR credits 4.1 and 4.2 Recycled content: 80%
- Materials and Resources, MR credits 5.1 and 5.2 Extracted, Processed and Manufactured Regionally
- Indoor Environmental Quality, EQ credit 4.1 Low-emitting Materials: Adhesives and sealants

**5. Installation**

**PREPERATORY WORK**

Deliver products in the manufacturer’s original, unopened, undamaged containers with identification labels intact. Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Read and understand Technical Data Sheet and Material Safety Data Sheet completely before beginning installation. Follow applicable ANSI, TCNA and NTCA installation standards. Always do a test area to ensure product satisfaction, including adhesion to substrate, and/or to become familiar with proper application techniques prior to use.

StarGlass Grout is a READY-TO-USE Urethane Grout and different installation techniques are required for successful product use. Please read the following instructions carefully.

- DO NOT add any water, liquid, or other material to StarGlass Grout. This will cause grout failure and void all warranties.
- A milky, white liquid may be present on the surface of the grout when opened. This is from normal settling during shipment. Only use a margin trowel to bring grout into suspension. Use of a drill mixer is not recommended as it will introduce excessive air into the product and cause grout sagging on vertical applications, a reduction of color uniformity, and/or other performance issues. Continue to mix with margin trowel throughout the grouting process.
- Ensure tile is firmly set and mortar is completely dry (always follow manufacturer’s instructions) before grouting. Remove all spacers, water, debris and adhesive from tile joints.

- For best results, surface of tile should be at room temperature (70°F to 75°F). Urethane materials are affected by temperature and humidity variations. Cool temperatures and/or high humidity will slow cure time.
- To facilitate cleaning, pre-seal all porous tile and natural stone before grouting.
- For glass tile, polished marble, stone and other soft surfaces, test grout on a small area to ensure compatibility.
- Make sure grout joints are clean, dry, and free from solvents and residue before grouting.

**METHODS**

**Grouting**

- Spread grout using a green, sharp-edged, firm rubber grout float. Work the grout diagonally across the joints, packing them full.
- Remove excess grout from the tile surface, pulling the edge of the float diagonally across the joint to prevent grout removal.

**Initial Cleaning**

- For best results, remove grout haze AS YOU WORK, particularly in warm or dry climates. If working alone, only grout as far as you can reach (10-12 square foot area) before initial cleaning. If working as a team, one person should grout, with the other(s) cleaning immediately behind the first person.
- Rinse sponge in water and wring out completely. Since urethane grout requires very little water during cleanup, make sure that the sponge is wrung nearly dry. Wipe lightly, leaving sponge flat on the tile surface to prevent grout removal from joints. Excessive water used during cleanup can dilute the urethane binder and cause curing issues that may lead to grout failure.
- Wipe up spilled water immediately. Do not allow water to sit on grout surface or in ungrouted joints.
- Change water mixture after each 100 square feet, for each new bucket of grout, or when dirty.
- Check work as you clean. Repair any low spots with additional grout. Unlike other grouts, DO NOT over wash.
- Allow cleaned areas to dry, and then inspect tile / stone surface. If a second cleaning is necessary, wait 24 hours and spray a film remover (Aqua Mix® Heavy-

Duty Tile and Grout Cleaner, Miracle Tile & Stone Cleaner, or DuPont™ StoneTech® Professional KlenzAll™ Cleaner) on a white scrubby Doodlebug™ cleaning pad, rubbing the tile lightly to remove any remaining urethane haze, then using a damp sponge and clean water, wipe the surface to remove the film remover (do not flood surface with cleaner). Finish by drying the tile surface with a clean towel or cloth. Contact StarQuartz if persistent haze exists.

**Installation Requirements**

- Ensure that joints are well packed. Smaller joints may require extra effort. Failure to fully pack joints may lead to slight discoloration or mottling and delay full color consistency for up to two weeks.
- To speed up installation, or for quarry and other porous tile and/or outdoor applications, pre-wet tile surface using clean water with a damp sponge prior to spreading grout, being careful not to leave standing water in the grout joints.
- Maintain temperature above 40°F (5°C) during installation and curing.

**Curing**

- Protect finished surface from light traffic for at least 24 hours at 70°F (21°C). Heavy foot traffic requires 72 hours at 70°F and 50% relative humidity.
- See Table 2 and Precautions below for further curing requirements.
- If needed, cover ONLY with kraft or breathable paper after initial 24-hour curing period.
- Full cure depends on grout depth. Normal cure of a ¼" grout joint with a 3/8" thick tile is 28 days.

**Showers / Steam Showers / Wet Applications**

- Use an approved waterproof sealer for mud bed applications and follow manufacturer's recommendations for sealer installation. For liquid-applied waterproofing materials, apply to within 1" of any drains to prevent weep hole blockage. The use of pre-sloped, waterproof trays (instead of mud beds) is highly recommended.
- Shower, steam shower, pool, fountain and wet area installations must be protected from moisture and allowed to cure for 7 days before use.

**TABLE 2 INSTALLATION – CURING TIMES**

Property	Time Required*
Working Time	3 hrs
Tack-Free Time	8 hrs
Ready for light foot traffic	24 hrs
Ready for heavy foot traffic	72 hrs
Stain resistant (food, cleaners, etc.)	3 days
Showers, Outdoors, Pools, Fountains and Wet Area Installations	7 days

\*Results are typical, but reflect testing procedures employed. Actual results may vary due to particular environmental conditions and other factors (e.g. type of setting material used).

**PRECAUTIONS**

- Do not apply or clean up this product like traditional cement-based or epoxy grouts; StarGlass Grout is a new technology that requires a simpler and easier application and clean-up process.
- Follow manufacturers' instructions for all other setting materials, waterproofing, anti-fracture membranes, etc., used on the job.
- Minimum recommended grout joint width is 1/16".
- Maximum recommended grout joint width is 1/2" for horizontal and 1/4" for vertical applications.
- Ensure that grout joints are fully packed, especially in tight and irregular joints. Take special care in all wet and outdoor applications.
- Do not use as a setting mortar.
- Not for use in heavy industrial applications (ie: chemical plants), in areas subjected to harsh or persistent chemicals, or areas exposed to very aggressive cleaning routines such as steam cleaning or pressure washing.
- StarGlass Grout is not a replacement for a waterproofing membrane. When a waterproofing system solution is required, please contact StarQuartz Technical Service.
- Protect grout from staining agents and chemicals during the cure process.
- Grouting when tile surface is above 90°F (32°C) is not recommended. Cool tile surface with damp sponge if tile surface is above 90°F (32°C). Be careful not to add excessive water during the tile cooling process.

- Do not use vinegar or acid solutions for clean-up; this could damage uncured grout.
- Always use protective clothing (gloves and eye protection) when working with grout.
- Prior to regrouting applications, remove 1/8" of old grout and remove any surface contaminants. Be sure to rinse any residual solvent off grout joints, then allow joints to completely dry before regrouting.
- Do not use for commercial or wet environment re-grouting installations, including showers, steam showers, and outdoor applications.
- Seal porous tile surfaces with a water-based sealer, including the sides of the stone, prior to grouting with StarGlass Grout.
- Outdoor installations must be protected from moisture (rain) for 7 days. If rain is forecast within 7 days, protect by tenting the grouted area (at least 1 foot above surface).
- Not for use in hot tubs.
- Wait 7 days before rigorously cleaning tile and grout surface.
- Wait 7 days prior to exposing grout to full submersion.
- Use care on soft, highly polished surfaces to avoid scratching. Test a small area. Use of a sealer is always recommended on polished marble, stone, slate and other natural, porous tiles.
- Use of enzymatic floor cleaners will void all warranties.
- Do not use StarCure® Urethane Grout Cure Accelerator with StarGlass Grout.
- Do not use solvent-based adhesives or sealers with StarGlass Grout.
- Protect grout from freezing. Do not grout outdoors or in unheated areas when temperatures are expected to be below 40°F (5°C) within 3 days. If product freezes, return to room temperature and use as directed.
- Do not ingest.
- Keep out of the reach of children.
- Use protective skin coverings and eye wear
- Flush with water in case of contact
- See the container label for precautionary measures, handling and storage information.
- For Chemical Emergency, call CHEMTREC 24 hours, (800) 424-9300 in North America, (703) 527-3887 International (collect).

Tile Size	Joint Width	Coverage
3/8" x 3/8" x 5/32"	1/8"	28
3/8" x 3/8" x 1/4"	1/8"	17
3/4" x 3/4" x 5/32"	1/8"	46
3/4" x 3/4" x 5/32"	1/32"	47
1" x 1" x 1/4"	1/8"	33
1" x 1" x 5/16"	1/8"	26

Tile Size	Joint Width			
	1/16"	1/8"	3/16"	1/4"
2" x 2" x 1/4"	126	66	46	36
2" x 2" x 5/16"	106	55	38	30
3" x 6" x 5/16"	201	103	70	54
4" x 4" x 5/16"	191	98	67	51
4 1/4" x 4 1/4" x 5/16"	213	109	74	57
4 1/4" x 8 1/2" x 5/16"	283	144	98	74
4 1/4" x 12 3/4" x 5/16"	318	162	109	83
8 1/2" x 17" x 5/16"	561	283	190	144
4" x 8" 1/2"	166	85	57	44
6" x 6" x 1/2"	187	95	64	49
8" x 8" x 3/8"	330	167	113	85
12" x 12" x 3/8"	494	249	167	126
13" x 13" x 3/8"	534	269	181	137
16" x 16" x 3/8"	657	330	222	167
18" x 18" x 3/8"	739	371	249	188
24" x 24" x 3/8"	984	494	330	249



Approximate coverage in square feet per 18 lb unit or in square meters per 8.16 kg unit and may vary due to installation conditions. 9 lb unit coverage will be half of the 18 lb unit shown above.

- For more information, consult the MSDS for this product.

**BUILDING CODES**

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

**6. Availability & Cost**

StarGlass Grout is available at all Daltile Locations and from approved and select distributors and dealers.

**7. Warranty**

StarQuartz Industries, Inc., ("StarQuartz") warrants that StarGlass Grout will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period

of 2 years when installed in accordance with the written specifications of StarQuartz and

industry standard guidelines for commercial applications. For full warranty and warranty details, visit the [www.StarQuartz.com](http://www.StarQuartz.com) website.

**8. Maintenance**

StarGlass Grout requires occasional cleaning with water and common grout cleaners. For best stain resistance, always clean spills immediately.

**9. Technical Services**

Contact StarQuartz Industries, Inc., or visit the [www.StarQuartz.com](http://www.StarQuartz.com) website for technical assistance, including more detailed product information, literature, test results and assistance with project specifications.

StarQuartz also offers an AIA-approved Continuing Education Systems presentation / program (reference # VTGA1D4BE488).

**10. Filing Systems**

- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.



## **STARGLASS™ GROUT LIMITED WARRANTY**

Subject to the conditions and limitations stated below, STARQUARTZ™ INDUSTRIES, INC. ("STARQUARTZ") warrants that STARGLASS GROUT will be free from manufacturing defects and will not break down or deteriorate under normal usage for **TEN (10) YEARS** when installed in accordance with STARQUARTZ's written specifications and industry standard guidelines in residential applications. STARQUARTZ further warrants that STARGLASS GROUT will be free from manufacturing defects and will not break down or deteriorate under normal usage for a period of **TWO (2) YEARS** when installed and maintained in accordance with STARQUARTZ's written specifications and industry standard guidelines in commercial applications.

### **DISCLAIMER**

**This Limited Warranty is given in lieu of any other warranty, expressed or implied. There are no warranties, expressed or implied, including warranties based on samples or oral statements, which extend beyond the description on the face of this document. Implied warranties of merchantability and of fitness for a particular purpose are excluded.**

### **EXCLUSIVE REMEDY**

The sole and exclusive remedy for a breach of this Limited Warranty is replacement product of only the specific portion of product that is proven to be defective. STARQUARTZ will provide for replacement of its own products; however, STARQUARTZ will not provide more, calculated on a square-foot basis, for the replacement of grout material than the original purchase price of the portion being replaced. STARQUARTZ will not provide product for replacement of any portion of the installation that is not proven to be defective. In the event that the sole and exclusive remedy described above fails of its essential purpose, STARQUARTZ's liability is limited to the dollar value of the original purchase price of the portion being replaced, evaluated on a square-foot basis.

### **EXCLUSIONS**

The following are specifically excluded from coverage under this Limited Warranty: structural failure, inadequate subflooring, or improper subfloor preparation; damages caused by Acts of God, including, but not limited to hurricane, flooding, earthquake or other types of natural disaster; acts of war, or as a result of unforeseen circumstances; acts of negligence, or product misuse or abuse; failure to comply with STARQUARTZ's product installation and maintenance instructions, applicable building codes and regulations, or standard industry practices; damages that the user was capable of preventing, or losses due to delays or any other consequential damages; variations of color, shade or texture from those shown on samples, product packaging or any other marketing materials; changes in color due to exposure to sunlight and age; subfloor moisture or water damage; normal wear and tear resulting from usage; and cracking due to structural movement, excessive deflection or other failure of the substrate. This Limited Warranty does not cover failures due to the use of improper or incompatible grout maintenance products or techniques and is limited solely to product uses specified in STARQUARTZ's STARGLASS Grout Technical Bulletin only. Notwithstanding the previous paragraphs, exterior facades with ceramic tile or stone installed over substrates with steel or wood framing do not qualify for this Limited Warranty.

### **CONDITIONS OF COVERAGE:**

- (1) STARGLASS Grout must be used within the shelf life specified on STARQUARTZ's Technical Bulletin.
- (2) It is the sole responsibility of the installer, general contractor, architect of record or owner to test (or have tested) the suitability of our products or any system for their intended use, and these parties assume all risk and liability.

### **NO ASSIGNMENT**

This Limited Warranty is not transferable or assignable.

### **HOW TO MAKE A CLAIM**

To make a claim under this Limited Warranty, you must notify STARQUARTZ in writing within thirty (30) days of the discovery of the alleged manufacturing defect. The claim must be submitted and evaluated by STARQUARTZ before any repair work is performed. STARQUARTZ reserves the right to physically inspect any project with a claim pending prior to determining validity of the claim. STARQUARTZ, at its sole discretion, may require you to provide proof of product purchase and use as a condition of this Limited Warranty. For any claim that is not valid, STARQUARTZ will be paid reasonable charges, including travel and labor, associated with investigation of such claim. Address your claim to: STARQUARTZ Industries, Inc., 1300 Russell Street, Baltimore, MD 21230, Attn: Technical Service Department.

## Material Safety Data Sheet

### Section 1 – Product Identification

Trade Names: **StarGlass™** Grout  
Common Names/Synonyms: Urethane Glass Grout  
Product Use: Grout for Glass, Ceramic, and Porcelain Tile  
Manufacturer's Name & Address: StarQuartz Industries, Inc., 1300 Russell Street, Baltimore, MD 21230  
Manufacturer's Telephone: 1-866-220-4500 Manufacturer's Fax: 1-866-220-4700  
Emergency Number: 1-866-220-4500

### Section 2 – Composition and Information on Ingredients

This Product may contain varying amounts of the following:

Component	CAS No.	% by Wt	OSHA PEL (mg/m <sup>3</sup> )	ACGIH TLV (mg/m <sup>3</sup> )
Polyurethane/ aqueous polymer dispersion	Proprietary	9	Not established	Not established
Glass, Soda Lime	65997-17-3	80	15 total dust/ 5 respirable	10 inhalable/ 3 respirable

**StarGlass™ grout is composed primarily of a functional glass filler that is bound in a polyurethane copolymer matrix, resulting in a semi-pliable, non-hardening, encapsulated product. Under conditions of its intended use and handling, the use of this product will not result in the occupational exposure of employees to airborne dust in excess of applicable regulatory standards. Soda Lime Glass contained in StarGlass™ grout, as delivered, cannot be inhaled.**

### Section 3 – Hazards Identification

StarGlass™ grout, unlike traditional grout, uses a polyurethane-based polymer to bind an special glass filler component into a semi-pliable matrix resulting in a product with low/no dust-producing potential. Even when cured, StarGlass™ grout will not crumble, crack, or produce dry dust when sanded or abraded. The use of abrasives against the cured product will result in the creation of a gummy residue without the dust-producing potential of conventional grouts.

#### Emergency Overview

StarQuartz Industries' StarGlass™ grout is a water-based polymer, glass filler blend having mortar-like texture and a slight odor. This material may produce respiratory irritation during use due to the evaporation of some glycol ether co-solvents and/or amine stabilizers. Eye and skin contact with the uncured product should also be avoided (See section 8 – Exposure Controls/Personal Protection).

#### Potential Health Effects

Inhalation: This product may cause dizziness, headache, or nausea if used in a poorly ventilated area due to the evaporation of co-solvents or amines as the product dries/cures.

Eye Contact: Eye contact may cause severe irritation.

Skin Contact: May cause drying or irritation to the skin.

Ingestion: No known health effect.

Acute Effects: Eye irritation, drying of the skin, nausea, dizziness, or headaches.

See Section 11, Toxicological Information, for additional details on potential adverse health effects.

### Section 4 – First Aid Procedures

Inhalation: Remove the person to fresh air, obtain medical attention, and perform artificial respiration if needed.

Eye: Flush the eye with water for at least 15 minutes. If irritation persists, seek medical attention.

Skin: Wash exposed skin with mild soap and water. Treat affected area with skin moisturizer.

Ingestion: If large amounts are ingested, do not induce vomiting. Have the victim drink two glasses of water. Seek medical attention.

**Section 5 – Fire Fighting Measures**

Flashpoint:	None	Explosive Limits:	Not Combustible
Auto-ignition Temperature:	None	Unusual Fire and Explosion Habits:	None
Hazardous Combustion Products:	None	Special Fire Fighting Procedures:	None unique to this product.
Extinguishing Media:	Appropriate to surrounding fire.		

**Section 6 – Accidental Release Measures**

Wear appropriate personal protective equipment as described in Section 8 of this document. Contain and remove spills using an inert absorbent (e.g., dry sand or earth). Place the product in a covered container appropriate for disposal. Dispose of the product according to federal, state, and local regulations (Also see Section 13 – Disposal Considerations and Section 15 – Regulatory Information).

**Section 7 – Handling and Storage**

Avoid eye and skin contact (See section 8 – Exposure Controls/Personal Protection). Protect product from freezing, use adequate ventilation, and do not store above 110°F. Close container immediately after use to prevent drying of product. Keep out of reach of children.

**Section 8 – Exposure Controls/Personal Protection**

**StarGlass™ grout, as delivered, is an encapsulated product in which the glass filler component is bound in a polymer matrix. The glass filler contained in this product cannot be inhaled under conditions of intended product use.**

Ventilation:	Use general dilution or local exhaust as required to maintain exposures below the occupational exposure limits; see also ACGIH, <u>Industrial Ventilation – Recommended Practice</u> (latest edition).		
Respiratory Protection:	Avoid breathing vapors produced during the use and handling of this product. Consult with OSHA regulations and NIOSH recommendations to determine the appropriate NIOSH-approved respiratory protection to wear during and following use, including clean-up, of this product.		
Gloves:	PVC gloves are recommended in situations where skin contact may occur.		
Eye:	Use ANSI approved protection as appropriate for the task at hand, including goggles or safety glasses with side shields.		
Other:	Use protective clothing as appropriate for the work environment.		

**Section 9 – Physical and Chemical Properties**

Appearance:	Mortar-like material of various color	Odor:	Slight Amine
Physical State:	Heavy, non-flowing paste	pH:	8.8-9.3
Vapor Pressure:	< 17 mm-Hg	Vapor Density:	Not Applicable
Boiling Point:	212 °F	Melting Point:	32 °F (keep from freezing)
Solubility In Water:	100%	Density:	14.7 lbs/gal

**Section 10 – Stability and Reactivity**

Stability:	Stable		
Materials to Avoid:	Strong Oxidizers such as fluorine, chlorine trifluoride, and oxygen difluoride.		
Hazardous Decomposition Products:	None known		
Hazardous Polymerization:	Will not occur		

**Section 11 – Toxicological Information**For Polyurethane/ Polymer Dispersion:

LD<sub>50</sub> oral, rat: >2,000 mg/kg – Estimate, based on analogy to similar products. This ingredient is not listed by NTP, IARC, or OSHA as a carcinogen.

For Soda Lime Glass:

There are no known reports of carcinogenicity of non-fibrous glass. Non-fibrous glass is not listed by IARC, NTP or OSHA as a carcinogen.

## Section 12 – Ecological Information

### For Polyurethane/ Polymer Dispersion:

Fish Toxicity; LC<sub>50</sub> >500 mg/l – Estimate, by analogy to similar products. Avoid contamination of groundwater or waterways.

For Soda Lime Glass: There are no known reports of ecotoxicity of non-fibrous glass.

## Section 13 – Disposal Considerations

General: Unused product should be disposed of in accordance with Federal, State, or local regulations. The finished, cured product may be land filled.

The above information applies to StarQuartz Industries' StarGlass™ grout only as sold. The product could be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal method in this situation.

## Section 14 – Transport Information

StarQuartz Industries' StarGlass™ grout is not a hazardous material for purposes of transportation under the U. S. Department of Transportation Table of Hazardous Materials, 49 CFR §172.101.

## Section 15 – Regulatory Information

### UNITED STATES (FEDERAL AND STATE)

TSCA No.: Soda-lime glass appears on the EPA TSCA inventory under the CAS Number 65997-17-3

RCRA: This product is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 *et seq.*

CERCLA: This product is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act: This product is not an extremely hazardous substances under Section 302 and are not toxic chemicals subject to the requirements of Section 313.

Clean Air Act: This product was not processed with or does not contain any Class I or Class II ozone depleting substances.

FDA: Glass is regarded by FDA as Generally Recognized As Safe (GRAS) for use in food contact

NTP: Non-fibrous glass is not listed as a carcinogen.

OSHA Carcinogen: Non-fibrous glass is not listed.

IARC: Non-fibrous glass is not listed as a carcinogen.

### CANADA

WHMIS Classification: D-2

National, state, provincial or local emergency planning, community right to know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

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## Urethane Grout Cleaning Recommendations

### During the curing process (first 7 days after installation):

- **DO NOT** use solvent-based cleaners
- **DO NOT** clean with any solution containing vinegar
- **DO NOT** clean with an acid-based cleaner

### After the curing process:

- Clean with household cleaners. Citrus-based cleaners are strongly recommended.
- **DO NOT** clean with enzymatic cleaners (“no rinse” cleaners)
- **DO NOT** clean with acid

Contact StarQuartz Industries with any technical questions: 1-866-220-4500

## Approved Haze Removers for Urethane Grouts

**Quartz-Lock®**

**Quartz-Lock™ 2**

**StarGlass™**

### Miracle

- Tile and Stone Cleaner



### AquaMix

- Professional Heavy-Duty Tile and Grout Cleaner



### DuPont™ StoneTech®

- Professional KlenzAll™ Cleaner



### Krud Kutter

- Original Concentrated Cleaner Degreaser / Stain Remover



## How to remove cured urethane grout from grout joint?

There are several methods that we recommend when removing cured urethane grout from a grout joint.

1. The **physical removal process** requires that one use a grout removal tool to remove the grout. This process will require that one scratch or grind the grout by hand out of the joint. Recommended tools are as follows:

Grout Saw



Grout Getter



Fein Tool



Dremel Tool



2. The **heat process** is also an acceptable method to remove urethane grout. Apply direct heat with a high temperature hand steamer. After applying steam, grout will soften and grout will scratch out easily with and removal device. Please note that it may require prolonged contact with steam for effective removal. Higher temperature and pressure steamers will accelerate the softening process. If working with Stone, Slate, Marble Granite or other soft tile materials test an area to make sure you do not damage the tile.



3. The **chemical process** may also work to remove cured urethane grout. Apply Klean-Strip varnish remover or similar solvent directly to grout joint. Wait 5 minutes, grout will soften and grout should then scratch out easily with and removal device. . If working with Stone, Slate, Marble Granite or other soft tile materials test an area to make sure you do not damage the tile.

On re-grout applications scratch out at least 1/8" of the existing grout. Apply skim coat of urethane grout as per our instructions. Do not use if area is wet. We only recommend urethane grout for dry re-grout applications.

***Note always use personal protective equipment (PPE) when removing grout; long sleeve shirt, goggles, dust mask and gloves are minimum PPE necessary when removing grout.***