

## **Flexible Stone Veneer™ Technical Information Sheet**

**Flexible Stone Veneer™** can be applied over nearly any solid substrate including concrete, ceramic, wood, metal, plywood, fiberglass, backer board, tile, dry wall, painted surfaces, MDF, Masonite®, door skins and cabinetry. **Flexible Stone Veneer™** has been tested and developed as a beautifying stone covering veneer for use in many different environments, indoors or outdoors. **Flexible Stone Veneer™** has proven to be a superb material when a real stone finish and texture is desired, but heavy solid stone may not be practical. **Flexible Stone Veneer™** is not recommended for commercial flooring or countertop applications.

### **Composition**

**Flexible Stone Veneer™** is natural stone veneer laminated to a fiberglass/polyester resin substrate.

### **Installation**

Installation of **Flexible Stone Veneer™** is quick, simple and easy. Simply apply the proper adhesive to the back of the **Flexible Stone Veneer™** sheet with the recommended 3/16" V-notched trowel and mount the sheet into place. Starting in the center of the sheet, using a roller or hand pressure, work any trapped air out towards the edge of the sheet. After adhesive has cured, you may finish the edges with any grout or trim pieces to match or accent the given decor.

### **Flexibility**

**Flexible Stone Veneer™** can be used in many of the same applications as other thin laminate products are used. It will bend to a minimum 8" radius depending on the stone color or type. With the assistance of heat, smaller radii can be achieved. Testing should always be done prior to any installation. **Flexible Stone Veneer™** can be bent inward or outward to meet a given look or architecture. Fiberglass strand is used in the makeup of **Flexible Stone Veneer™**, which gives it superior strength and flexibility.

### **Sealers**

It is best to pre-seal **Flexible Stone Veneer™** stone veneer sheets prior to installation. This protects and seals the face from adhesives and grout during installation and handling. **Flexible Stone Veneer™** can be sealed with the same sealers used for slate, stone tiles, and wood. Sealers can be found at almost any home store. There are many sealers on the market with various recommended applications. Please test any sealer for the desired luster and penetration prior to installation.

### **Preparation**

Before application it may be necessary to clean, brush, or degrease any surface of dust or oils. In some installations, depending on the adhesive used, it may be necessary to prep the back of the **Flexible Stone Veneer™** by sanding or scuffing. Some adhesives may require the use of solvents or recommended primer by the adhesive manufacturer.

### **Layout & Patterns**

Preparation of the area to be covered and the layout of the **Flexible Stone Veneer™** sheets is the same as for natural stone or tile. Time spent preparing the work area will pay off immensely. A preliminary dry fit of **Flexible Stone Veneer™** allows for arrangements and orientation of individual sheets, patterns, textures, and colors before final placement. It is recommended that each sheet be dry fit exactly where it will be placed on horizontal or vertical surfaces. Numbering the sheets to track relocation before cutting and trimming is recommended and will save time.

### **Cutting**

Cutting straight lines and curves is best done using long nosed tin snips. **Flexible Stone Veneer™** can also be cut with a metal shear, wet saw, or table saw with carbide blade.

### **Adhesives**

It is important to know your adhesives; by understanding the specifics of the adhesive, a great deal of time and cost can be saved. All adhesives should be tested prior to any installation including consideration of moisture and temperature in the planned environment. If the application is outdoors, consideration to thermal expansion needs to be taken into account. Since **Flexible Stone Veneer™** is a veneer it must expand and contract with the substrate or delamination may occur. Where adhesive primers are recommended the bond should be tested by the installer before final installation.

### **Recommended Adhesives**

- Titebond® "GREEN Choice" heavy duty construction adhesive.
- Titebond® "FAST GRAB" SOLVENT FREE FRP adhesive
- Premixed grout and tile adhesive.
- Acrylic copolymer based tile adhesive.
- Polyurethane wood glues and PU construction grade adhesives.



24 River Road,  
Bogota, NJ 07603

4720 West Van Buren St,  
Phoenix, AZ 85043

[www.outwater.com](http://www.outwater.com)

- Wood, parquet, and outdoor carpet adhesives.
- Highly modified thin-set. Use only after testing. Not recommended where high adhesion is required.
- Epoxy.
- Construction grade multi-purpose adhesive, Liquid Nails® type.
- Polyester resin with filler.
- Double-sided foam adhesive (peel & stick).
- Adhesive tile mat systems (peel &stick).

The back of **Flexible Stone Veneer™** veneers may require a filler type adhesive for some applications. For wet environments, epoxies, polyester resin and water proof adhesives are the best candidate. Contact adhesives are not recommended due to the uneven backing of Flexible Stone Veneer™. Do not use non-catalyzing (water vapor type) cure adhesives where the substrate is a moisture barrier. Adhesive may not adhere properly if applied between non-porous materials.

### Trowels

A 3/16" V-notched trowel is recommended for best results. Use a straight trowel for back-filling of voids. Any bumps in the back surface should be sanded flat prior to back-filling. The back of **Flexible Stone Veneer™** may require a filler type adhesive to back-fill or level out voids of the natural stone. It is always best to back-fill or back-butter voids or depressions in the material before application to substrate.

### Hand Rollers

A hand roller is recommended to remove air between the **Flexible Stone Veneer™** stone veneer and substrate. To properly roll out trapped air, start in the middle of a sheet while firmly rolling to the edge. Do not press too hard while rolling as this may cause back-filled areas to push adhesive out and leave an air void. Proper back-filling and good rolling techniques will result in a solid, hard surface.

### Tiling, Grouting & Joining

**Flexible Stone Veneer™** can be used to create a tiled effect by leaving a grout joint between cut pieces. Sheets may also be butt-jointed for the look of a smaller seam. Due to the thin nature of **Flexible Stone Veneer™** a 1/8" to 1/4" grout joint will produce better results. Tests show the use of water based epoxy and acrylic premixed grout work well to fill between the sheets. These grouts are available in several colors to match the existing decor. If desired, a deeper grout joint can be achieved by removing material just under the grout joint area with a grinding or scraping tool. Modified grout and caulking grout can also be used.

### Substrate

In some indoor and most outdoor applications expansion and contraction must be equal to prevent delamination. A flexible adhesive may be considered in this case. Concrete and masonry substrates must be at least 28 days old. Hydrostatic pressure conditions and vapor transmission cannot exceed 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m<sup>2</sup>) per 24 hours using a calcium chloride test (reference ASTM F1869), and retained moisture should be less than 2.5%.

### Variations

Since **Flexible Stone Veneer™** is a natural stone veneer, color and texture variances are not defects within the material, but are inherent to it and part of the natural beauty of quarried materials. **Flexible Stone Veneer™** cannot be guaranteed to match dye-lot to dye-lot, so it is recommended that orders take into account future maintenance or re-fit possibilities.

### UV & Temperature

The stone surface of **Flexible Stone Veneer™**, like most stone elements, acts as a UV inhibitor and will resist high sun conditions for years. When adhered to a substrate, **Flexible Stone Veneer™** will handle thermal contraction and or expansion of most standard construction materials.

**Flexible Stone Veneer™** will handle both high temperatures and freezing without cracking.

### Precautions

Precautions must be taken when working with **Flexible Stone Veneer™** due to the fiberglass composition of the backing materials. ALWAYS use the proper gloves, goggles, and dust mask when working with **Flexible Stone Veneer™**. Industry standards recommend a NIOSH/MSHA approved respirator for this type of material. When using a saw ALWAYS be sure to take proper precautions to cover skin and eyes from fiberglass dust. When cutting **Flexible Stone Veneer™** with saws, grinders, or sanders ALWAYS properly filter and exhaust equipment.

### Safety

AVOID BREATHING SILICA DUST. This product when cut, drilled, or abraded produces dust containing Free Silica which may cause cancer or delayed lung injury (Silicosis) if inhaled. Work outdoors, in a well ventilated area, or use mechanical ventilation. Please wear safety glasses and a dust mask. If working in dusty areas or



24 River Road,  
Bogota, NJ 07603

4720 West Van Buren St,  
Phoenix, AZ 85043

[www.outwater.com](http://www.outwater.com)

where airborne dust exceeds PEL wear NIOSH/MSHA approved respirators. This product contains one or more chemicals known to the State of California to cause cancer.

### Technical analysis

Test Method: US Code of Federal Regulations Part 1500.44, Title 16

Flammability test on rigid and pliable solids:	Pass
Sample	Burning Rate(inch/sec)
Polyester Resin Based Metalized Panel	0.004

\*A sample is considered to have passed the test if the burning rate is not more than 0.10 inch per second.

Test Method: As specified in AOAC 16th Ed. Section 973.32 & 973.82. Polyester resin-based metalized panel/bowl

Lead & Cadmium content in earthenware quantitation by AAS: PASS

SGS Laboratory No.	Extract, Volume (l)	Lead, ppm (mg/L)	Cadmium, ppm (mg/L)
14324	2.0	<1.0	<0.25
14324	2.0	<1.0	<0.25
14324	2.0	<1.0	<0.25
14324	2.0	<1.0	<0.25
14324	2.0	<1.0	<0.25
14324	2.0	<1.0	<0.25

Limit for FDA (any one of six) 1.0 ppm 0.25

Notes: 1) < = less than

2) mg/L = milligrams per liter

3) ppm = parts per million

4) AAS = Atomis Absorption Spectrophotometer

Conclusion: The client submitted samples described above comply with the leachable lead and cadmium requirements of the American Food and Drug Administration (FDA).

Test Method: Nitric Acid digestion and analyzed by Atomic Absorption Spectrophotometer.

Test Sample: 04249 Stone/Slate on Resin 12 x 12 tile size 6x.

To determine the soluble Heavy Metal contents in accordance with the European Standard EN 71 part 3.1994 + A1:2000 – Migration of certain elements.

Migration of Certain Elements	04249	Limit
Soluble Lead (Pb), mg/kg	12.7	90 mg/kg
Soluble Antimony (Sb), mg/kg <5		60 mg/kg
Soluble Arsenic (As), mg/kg	0.2	25 mg/kg
Soluble Barium (Ba), mg/kg	<0.5	1000 mg/kg
Soluble Cadmium (Cd), mg/kg	<0.5	75 mg/kg
Soluble Chromium (Cr), mg/kg	7.5	60 mg/kg
Soluble Mercury (Hg), mg/kg	<0.5	60 mg/kg
Soluble Selenium (Se), mg/kg	<0.5	500 mg/kg

Methodology: with reference to EN 71 Part 3.1994 +A1:2000 by inductively coupled argon plasma (ICP-OES)

Analysis 04249

Lead (Pb), ppm ND (None detected) detection limit for Pb is 5.0 ppm

### The Flexible Stone Veneer™ Limited Warranty

**Flexible Stone Veneer™** products are warranted to be free from defects in materials and workmanship. Any such defects must be reported to **Architectural Products** within ten (10) days of date of delivery. During this warranty period we will repair, or at our option, replace free of charge, such merchandise as shall prove to be defective. THIS WARRANTY DOES NOT APPLY TO DAMAGE RESULTING FROM ACCIDENT, ALTERATION, MISUSE, TAMPERING, NEGLIGENCE, OR ABUSE. INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE SPECIFICALLY DISCLAIMED. ALL OTHER WARRANTIES (INCLUDING ANY WARRANTY OF MERCHANTABILITY OF FITNESS FOR ANY PARTICULAR PURPOSE) ARE HEREBY EXCLUDED. THE FOREGOING SHALL CONSTITUTE THE SOLE REMEDY OF THE CUSTOMER.

Concrete and masonry substrates must be at least 28 days old. Hydrostatic pressure conditions and vapor transmission cannot exceed 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m<sup>2</sup>) per 24 hours using a calcium chloride test (reference ASTM). NOTICE: Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR SHOULD HAVE BEEN DISCOVERED.



24 River Road,  
Bogota, NJ 07603

4720 West Van Buren St,  
Phoenix, AZ 85043

[www.outwater.com](http://www.outwater.com)