

## Axolotl Stone

### SPECIFICATION DATA SHEET

For the information of Specifiers and Trades

#### Product Description

Axolotl now offer a range of ultra-thin natural stone veneers, Axolotl Stone and Axolotl Flex Stone.

- Axolotl Stone is a lightweight, super-thin, flexible natural stone veneer laminated to a fiberglass/polyester resin backing.
- Axolotl Flex Stone is an ultra-thin stone veneer, laminated to a flexible fabric backing.

Axolotl Stone can be applied over nearly any solid substrate including concrete, ceramic, wood, metal, plywood, fibreglass, tile, dry wall, painted surfaces, MDF, Masonite®, door skins and cabinetry. Axolotl Flex Stone has the added ability to be wrapped around tight curves such as columns due to its ultra flexible fabric backing.

Axolotl Stone has been tested and developed as a beautifying stone covering veneer for use in many different environments both internal and external. Axolotl Stone has proven to be an ideal material when a real stone finish and texture is desired, but heavy solid stone may not be practical. Please note however that Axolotl Stone is not recommended for commercial flooring.

Axolotl Stone's are quarried from many locations worldwide. Ultra-thin sheets of stone are expertly hand split from natural slate and quartzite reserves.

#### Colours

Axolotl Stone is offered in a range of 21 different colours. The colour and natural lustre of the stone is dependant on location and composition of the rock (levels of quartzite present) resulting in a range of vibrant colours and sheen levels to select from.

#### Variations

Since Axolotl Stone is a natural product, colour and texture variances are not defects within the material, but are inherent to it and part of the natural beauty of quarried materials. Axolotl Stone cannot be guaranteed to match from batch to batch, so it is recommended that orders take into account future maintenance or re-fit possibilities.

#### Sizes

Axolotl Stone is approximately 2mm thick and is available in 2440mm x 1220mm sheets in all our stone range except for Amada, Pagoda and Tulum which is available in 1200mm x 600mm sheets.

Axolotl Flex Stone is approximately 1mm thick, and is only available in 1200mm x 600mm sheets.

Please contact us to confirm sheet sizes and availability.

#### Flexibility

Axolotl Stone can be used in many of the same applications as other thin laminate products are used. It will bend to a minimum 20cm radius depending on the stone colour or type. With the assistance of heat, smaller radii can be achieved. Testing should always be done prior to any installation. Stone-Veneer can be bent inward or outward to meet a given look or architecture. Fiberglass strands are used in the makeup of Axolotl Stone, which gives it superior strength and flexibility.

#### Visual Inspection

Due to the nature of unsealed stone materials, scratches and other blemishes may be more visible in certain colourways. For new panels no defects should be visible from a distance of three metres or over once sealed. Please note scratches can be more visible in unsealed stone sheets and clients will need to determine if the sheets stocked are suitable for their application unsealed. Axolotl Stone must be inspected prior to being installed and Axolotl to be advised immediately of any defects, prior to final installation being performed.

#### Care & Handling

Axolotl Stone is a real and natural slate product and is as porous as natural slate. Unless sealed the slate may absorb the oils found on your hands and fingers. Follow the cleaning instructions to remove any marks. Wearing gloves when handling these materials will minimise the amount of cleaning required.

#### Cleaning

Any impurities splashed or spilled on the slate should be removed as soon as possible - using a warm water and lightly moistened lint free cloth. If the impurity or stain is not easily removed we recommend cleaning the surface with a soft lint free cloth moistened with a mild dishwashing liquid and warm water. The natural minerals present in your water can accumulate in the stones pores, this is most noticeable in bathroom and shower/bath areas.

There are a variety of stone sealers on the market and when applied according to the manufacturers instructions will seal the pores of the slate.

### **Touch Up**

Real slate will scratch when dragged across another piece of slate or a hard surface. Many times what you see is the residual stone dust from the scratch. Cleaning as stated above will remove the stone remnants. If it is a much deeper scratch wiping a small trace of vegetable oil with your finger tip into the scratch will help prior to a light cleaning as above.

Axolotl Stone is real stone. There are natural inconsistencies, fractures, colour and surface variations and imperfections visible on the surface. These are quite normal and do not constitute faults or defects.

### **Axolotl Stone - A Green Initiative**

By using Axolotl Stone in place of natural stone, we save more than 80% of natural resources in the form of stone, sand and cement and create a smaller environmental footprint.

Axolotl Stone panels weigh up to 20 times less than that of a solid stone object of the same size.

This means the panels are easier to freight and can reduce the carbon emissions released in transport when compared to solid stone. The lightweight nature of Axolotl Stone also allows towered civil construction for residential or commercial projects to be constructed from lighter materials which can in turn reduce the structural material requirements of the project.

Working with Axolotl Stone will also require less heavy machinery, and resources when compared to solid stone. Axolotl Stone panels are between 1-3mm thick and can be cut with hand tools and light power tools.

### **Installation**

Axolotl Stone can be applied over nearly any solid substrate including concrete, ceramic, wood, metal, plywood, fibreglass, tile, dry wall, painted surfaces, MDF, Masonite®, door skins and cabinetry. Axolotl Stone has been tested and developed as a beautifying stone covering veneer for use in many different environments, internal and external. Axolotl Stone has proven to be an ideal material when a real stone finish and texture is desired, but heavy solid stone may not be practical. Please note however that Axolotl Stone is not recommended for commercial flooring.

### **Sealers & Impregnators**

Axolotl Stone requires sealing for stain and scratch protection. The various sealers available in the market are polyurethane matt and gloss, waterbased and solvent based sealers.

It is best to pre-seal Axolotl Stone sheets prior to installation. This protects and seals the face from adhesives and grout during installation and handling. Axolotl Stone can be sealed with the same sealers used for slate, stone tiles, and wood. We strongly recommend to seal the Stone with Lithofin sealers, however there are many sealers on the market with various recommended applications. Please test any sealer for the desired lustre and penetration prior to installation.

### **Preparation**

Before application it may be necessary to clean, brush, or degrease the surface that the Axolotl Stone sheet is being applied to of any dust or oils. In some installations, depending on the adhesive used, it may be necessary to prepare the back of the Axolotl Stone sheet by sanding or scuffing. Some adhesives may also 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 Axolotl Stone 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 Axolotl Stone allows for arrangements and orientation of individual sheets, patterns, textures, and colours before final placement. It is recommended that each sheet be dry fitted 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. Axolotl Stone can also be cut with a metal shear, wet saw, or table saws with carbide blades.

### **Adhesives**

Axolotl recommends discussing the application and environment you intend to install the Axolotl Stone in with your installer or an adhesive supplier to determine the best product for use. Please note different glues and preparation will be recommended when bonding onto different substrates or in different environments. All adhesives should be tested prior to any installation including consideration of moisture and temperature in the planned environment. If the application is outdoors or in direct sunlight consideration to thermal expansion needs to be taken into account. Since Axolotl Stone 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.

The backing of Axolotl Stone veneers is the 'layered up' fibreglass face and may require a filler type adhesive for some adhesive 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 Axolotl Stone. 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.

### **Adhesive types include**

- 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.
- 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).
- [www.sika.com](http://www.sika.com)
- [www.soudal.com](http://www.soudal.com)
- [www.laticrete.com](http://www.laticrete.com)
- [www.henkel.com](http://www.henkel.com)
- [www.akemi.com](http://www.akemi.com)
- [www.kleiberit.com](http://www.kleiberit.com)
- [www.mapei.com](http://www.mapei.com)

Above mentioned companies are multinational and the local dealer can be contacted. Websites can be visited for recommended glues for fibreglass polyester resin sheet application. Companies may recommend white emulsion polymer glue or polyurethane foaming glue or polyurethane double component non foaming glue depending on the hot press machine available with the user.

### **Hand Rollers**

A hand roller is recommended to remove air between the Axolotl sheet 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**

Axolotl Stone 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 Axolotl Stone a 2-4mm 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 colours 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.

### **Pressing**

Axolotl Stone has a natural, split rough surface with a tolerance up to 2 mm. A thickness equalizing layer used whilst pressing will protect the surface from being damaged. 7mm thick rubber plates with a shore grade of 50 and a temperature resistance of at least +80° is recommended. It's important that the rubber mat has an insulating effect, so that the press time can therefore be extended. Depending on the adhesive type and press temperature of +80°, the recommended press time is approximately 6 minutes. Depending on the press configuration, the pressure has to be carefully set.

### **Substrate**

Axolotl can be applied to MDF boards, Styro Foam sheets, melamine, brick, concrete blocks and slabs, mortar plastered walls, drywall, plywood, acrylic or other plastic sheets. 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 15kgs. per 93m<sup>2</sup> per 24 hours using a calcium chloride test (reference ASTM F1869), and retained moisture should be less than 2.5%.

### **UV & Temperature**

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

Axolotl Stone will handle both high temperatures and freezing conditions without cracking.

### **Storage**

The storage of unsealed Axolotl Stone sheets must be dry, preferably frost-free and protected against climatic influences such as sun, rain, wind etc.

### **Precautions**

Precautions must be taken when working with Axolotl Stone due to the fibreglass composition of the backing material. ALWAYS use the proper gloves, protective eyewear and dust mask when working with Axolotl Stone. 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 fibreglass dust. When cutting Axolotl Stone 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 where airborne dust exceeds PEL wear NIOSH/MSHA approved respirators. This product contains one or more chemicals known to cause cancer.

## Technical properties (raw material)

### General

front:	real-stone
back(*):	glass fibre fabric in polyester resin matrix
temperature limits:	-50 /+95°C
formaldehyde:	Formaldehyde-free
thermal expansion (90°C):	0.5 - 0.8 mm/m (≈0,08 %)
fire behaviour:	individual assessment

SPECIFIC SURFACE	COLOURFUL SLATE	QUARTZITE SLATE
thickness (mm):	1.0 - 1.5	1.0 - 2.0
weight per square meter (Kgs):	1.0 - 1.5	1.0 - 2.0
water absorption (%) ASTM C-121:	2,5	1,9
average abrasion (mm) IS:	9162-1979 0,7	0,9
maximum abrasion (mm) IS:	9162-1979 0,8	1,0

## Technical analysis

Test method: US code of federal regulations Part. 1500.44, Titel 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 a 0.10 inch per Second.

Test method: As specified in AOAC 16th Ed. Section 973.32 & 973.82

Polyester resin-based- metallized panel / bowl

Lead and Cadmium content in earthenware quantilation 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

AAS = ATOMIC 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 6x12

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

**Stone-Veneer details**

S.No.	MATERIAL	Quantity
	compound/ ingredients	Kg./Sqm.
1	Processing Material	1.300 -1.500
2	Backing Material	0.150 – 0.200
3	Natural Stone	10.100 – 0.200
	Total Weight per sqm.	1.550-1.900

**Website**

Due to the evolving nature of all our products we recommend that up to date information be sourced from the downloadable Stone Data sheet and Brochure on our website ([www.axolotl.com.au](http://www.axolotl.com.au)) and we accept no responsibility if outdated technical information has been used.

**Lead Times**

Please contact the office to confirm current stock levels of the stone type and range you are interested in. In the case that your required quantity is in stock a lead time of 2-10 working days to pack is required.

Please note orders that are not stocked can take up to 10 weeks to cut and process. In the case of larger orders, or bespoke colourways this leadtime may increase.

**Warranty**

Axolotl Stone products are warranted to be free from defects in materials and workmanship. Any such defects must be reported within ten (10) days of date of delivery and prior to installation of goods. During this warranty period we will repair, or at our option, replace such merchandise as shall prove to be defective. The liability under this Warranty is limited to surface repair or re-supply of the material. 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 1,36 kg per 92,9 m2 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 TEN (10) DAYS FROM DATE IT WAS, OR SHOULD HAVE BEEN DISCOVERED.

Disclaimer: The information presented herein is supplied as a guide to those who handle, install or use this product. It is important that the end user makes a determination regarding the safety procedures utilised during use of this product and ensure they are adequate. Our application of written or spoken technical recommendations that we use to support the buyer/processor is based on our experience, according to the current state of knowledge in science and practice and are not binding and shall not establish a legally valid contractual relationship, and no additional obligations under the purchase contract.

**NOTE FOR SPECIFIERS -**

**PLEASE ENSURE SPECIFICATION SHEET IS COPIED & ATTACHED TO TENDER DRAWINGS FOR THE REFERENCE OF ALL RELEVANT TRADES.**

**For further information, technical assistance or costing please contact:**

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