

## Axolotl Applied Metal

### SPECIFICATION DATA SHEET

For the information of Specifiers and Trades

#### Product Description

Axolotl Applied Metal is a spray applied liquid metal coating which can be bonded onto most substrates across varying sizes and shapes. Axolotl coatings are made from real semi-precious metals and have been developed to bond on to substrates such as MDF, steel, plaster, acrylic and fiberglass without causing heat damage to the substrate. Axolotl Applied Metal surfacing provides a joint free metal finish that looks and performs just like solid metal. The proprietary technology is typically only 0.5mm thick and expands both the design and construction potential of any substrate by lending it the appearance of solid metal without any of the restrictions, such as weight and cost of cast metals.

Architects and designers using Axolotl Applied Metals can select from a wide range of metal finishes from finely polished, to textured and aged looks. Axolotl also specialises in producing bespoke patterns and designs in our projects by lasercutting, routing, carving, etching and inlaying surfaces. Typical applications of Axolotl Metals have included shop fronts and shop fit-outs, corporate furniture, signage, entry doors, lift interiors, feature walls and sculpted pieces. Our primary service is to treat supplied panels, joinery items and doors. In some cases we can assist with the supply of CNC router or laser cut items as well.

Axolotl Applied Metals are available in a broad range of metal colours such as Bronze, Brass & Copper, various textures and ageing effects including verdigris patina, black florentine, brown florentine, antique and pearl patina. A guide to specifying Axolotl metals is shown on page 4, along with a matrix of the full Axolotl metal range showing available textures, ageing and effects.

Axolotl Applied Metals are created using natural metals that are chemically aged to a set patina. The aesthetic beauty of the patina is achieved through various proprietary technologies held by Axolotl. The organic nature of the metal coating and ageing process enables an intended inconsistency in the panels, just as the material would do naturally if left for several years. It also works well in high traffic areas as the varied surface helps disguise marks such as fingerprints.

All metals are offered with a topcoat for further protection. Axolotl offers to seal all metals with a semi-gloss or gloss polyurethane. This top-coat application may enhance or dull the patina and will 'lock in' and patina from further ageing. Where a high-shine appearance is required Axolotl also offers to apply a wax or to leave the metal treatments unsealed. This will result in the natural oxidation and tarnishing of the metals over time. A waxed or unsealed Axolotl treatment may need to be rebuffered and waxed to stay clean and bright over time. Maintenance will be dependant on the application and location. Please refer to Axolotl for technical advice.

#### General Surface Preparation

Surfaces to be bonded must be in their raw state (no paint, varnishes etc. and must be dry and free of oils, rust or scale) or with a suitable pretreatment as required. (see note on pretreatment and preparation) Surfaces should also be kept clean and free from any contaminants that could affect the metal. Use fillers recommended below for particular materials. **Do not use oil-based putties or fillers.**

Imperfections in surfaces caused by jointing, fixings and mechanical damage will copy into the finished surface unless carefully repaired. The client acknowledges that the substrate is to be supplied free of imperfections.

Axolotl metals will penetrate into fixing holes, which should have adequate clearance or be redrilled after the metal is applied. Components should be sized to allow for the thickness of the metal, approx 0.5 -1 mm. Axolotl Metals must be applied prior to any adjacent areas being treated. Indicate those areas that are to receive specialised masking.

As Axolotl Metal is applied by hand, the completed surface cannot be entirely uniform. These small irregularities add to the natural and authentic appearance of the metal.

#### Cutting

Cutting of panels must be done prior to the Axolotl treatment to avoid leaving a raw and unsealed edge. Cutting down of panels after an Axolotl Treatment has been applied can lead to the chipping of the surface coat. In the case of metal substrates, items being installed outdoors or subject to water exposure, cutting is not recommended after treatment. Cutting after treatment will leave the panel with an exposed and uncoated edge which can lead to shearing. Cutting after treatment can also expose the metal base substrate to the applied Axolotl Metal which could lead to an electrolytic reaction. Please note any cutting after treatment is not recommended and will void the warranty.

#### Foot Traffic

Axolotl Metals can be used in trafficable applications, however textured coatings are recommended to minimise visible wear and tear. Slight to medium scratch marks are likely to be seen in high traffic applications, common to cast and sheet metal.

#### Durability

The physical and chemical tests indicate the coatings have excellent impact resistance, high water pressure washing and very good chemical resistance to the more popular household cleansers.

## **Maintenance**

The need for care and maintenance of the surfaces depends on the environment and the type of exposure. These factors determine the frequency of washing. Detergents should be checked for harmful reactions on the surface concerned prior to use.

Axolotl Applied Metal surfaces should be cleaned following the instructions below, as required, to prevent accumulation of atmospheric fall out such as dirt, dust, grease and salt residue and ensure the optimum decorative life of the product is achieved. Materials may also be affected where the coating is subject to, but not limited to the following: water pooling, harsh climatic conditions, direct western sunlight, exposure to salt water, water immersion and high pollution levels. Please note surfaces close to salt water will generally require a more regular cleaning cycle to prevent premature aging or break down of the top coat. It is recommended to clean Axolotl treatments exposed to these conditions at least monthly.

**Sealed Metals:** Clean Axolotl Metal surfaces with a soft cloth, warm water and mild detergents only. Never use any solvents, thinners, caustics or powder cleansers. Do not use abrasives as this will potentially scratch or remove the ageing.

**Unsealed Metals:** Caution is to be used when cleaning unsealed metals as it is in their characteristic to continue to change. The use of cleaners may effect or remove the patina. Axolotl recommends the client tests a small section with warm water and a soft cloth first as the patina may take time to settle and become permanent. Never use any solvents, thinners, caustics or powder cleansers. Do not use abrasives as this will potentially scratch or remove the ageing.

Metals supplied without a top coat will age over time - the rate of which is dependant on the environment it is placed in. Placement near salt water will accelerate the aging process in some metals.

The Axolotl top coat has an external life span of between 4-10 years dependant on the environmental conditions it is subject to. As the top coat breaks down the Axolotl metal may begin to darken, oxidise or develop a patina, similar to how a natural raw metal would behave.

To restore or refresh the items, the metal should be polished with 00 grade steel wool to a uniform appearance and receive reapplication of the top coat. Please contact Axolotl for information on the correct polishing procedures for your project, as well as the top coat and application methods.

Please note the quality of restoration will be greatly dependant on the metals condition, texture and if any, the original patina.

**Ageing - Patina** can be added to select metals and will continue to grow on the metal over time. It can be easily cleaned off with very fine steel wool, note the longer the ageing is present the more difficult it will be to remove. If preferred, the surface can be treated by Axolotl with a topcoat to limit further growth. Patina's are added to Axolotl metals either through the application of chemicals or heat. Each individual panel will react slightly different, creating an intended inconsistency found in natural aged metals.

Due to the natural oxidisation and idiosyncrasies in natural metals, Axolotl Metals are bound by the inherent properties of the material. Axolotl recommends its clients acknowledge that they understand the outcomes as outlined below:

Environmental conditions such as temperature fluctuations and humidity naturally affect the metals and may affect the outcome of the desired patina. This may lead to variations in colour and shade.

Physical properties of the metals being treated such as size, shape, cut outs, folds etc can also effect the outcome of the patina. Watermarks, drips and pooling may be present in the finish, due to the application of the liquid chemicals.

All items to be coated should be delivered in good condition. Dents, machining marks, and other inherent issues with any supplied panels will most likely be present in the finished product and may even be highlighted via the aging process. Axolotl will contact the client where possible if a defect is identified prior to treatment.

Samples illustrating the desired patina are used solely as a guide for direction of the finished product. If the client has a sample they would like Axolotl to match to they must provide the sample at the time of order, and all work will be carried out to match as best as possible.

Custom patination of metals must be performed with the direction of an approved sample.

Watermarks, drips and staining may be present in the finish, particularly on three dimensional items due to the application of the liquid chemicals.

## **Lead Times**

Please confirm lead times prior to delivery/commencement of work. The minimum time required for any work carried out in our factory is generally 15-20 working days, however this may increase for large or intricate surfaces, or depend upon the existing factory workload.

## Test Results

### Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release

CSIRO and NATA tested in accordance with Australian Standard 1530.3-1989, Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release on Group 4 substrate material as specified by Clause 4.4.3 of AS 1530-3-1999. These results only apply to any substrate in the same group or a less reactive material.

Ignitability Index (0-20) 0	Spread of Flame Index (0-10) 0	Heat Evolved Index (0-10) 0	Smoke Developed Index (0-10) 1
--------------------------------------	---	--------------------------------------	---

### Accelerated Weathering Tests

The Axolotl Metal has undergone Accelerated Weathering tests of 4000 hours, equivalent of 20 years and shows no film breakdown and only slight black surface oxidization that would be found in solid metals. The surface oxidization can be removed with light scouring with steel wool. Under cyclic heat - rain and humidity, no form of film degradation is apparent for any of the system.

These tests were carried out on etch primed aluminum milled panels to produce the above results under laboratory conditions.

### Household Chemical Resistance

Axolotl Metal has undergone 8 hrs concentrated exposure to common household cleansers all recording no effect to the Axolotl coat.

Additional Independent testing was conducted by AWATA Product testing with the following results:

Chemical Sample	Staining Rating
Ammonia	5
Bleach	5
10% citric acid solution	5
Vinegar	5
Windex	5
Betadine	5

Where 5 equals no change and 1 equals very significant change. Each chemical was applied to the sample and allowed to stand for 1 hour

### Requirements for Substrates

It is recommended that the highest quality substrate be used at all times. Axolotl are not always able to determine the quality of a product when it is delivered to us however if it is obvious we will bring it to your attention before we commence work. Axolotl do not recommend grain substrates for outdoor use. Non-grain substrates such as CFC, Masonite and compact laminate are preferred.

**Edge work** - All sharp and square edges should be radiused or bevelled to a minimum of 1mm. Please note it is the responsibility of the supplier to prepare the edges as noted, unless otherwise quoted for as part of Axolotl's scope of works. Failure to prepare edges as specified will void the warranty of the Axolotl treatment.

**Sheet metal** - The minimum thickness recommended for a metal substrate is approximately 2mm. Materials that are thinner may bend and damage during treatment. Sheet metals for internal applications can be supplied raw if suitable with the metal alloy selected for coating. Metal substrates installed outside or with a reactive metal treatment should be supplied with a pretreatment for external use, this pre-treatment will also create a suitable barrier between the substrate and selected metal coating. (See note on pretreatment and preparation).

**Steel** - Welded steel structures can be coated with Axolotl Metal however; once components have been metal coated they cannot be welded again without causing damage to the metal. Steel should be powdercoated or galvanised for external use. (See note on pretreatment and preparation).

**Customwood and CFC** - Where possible it is recommended to use MDF and CFC of 9mm thickness or greater to prevent warpage. Screw and glue all joints, and use solvent to wipe off any excess glue. Fill all cracks, holes, imperfections etc. with Polyfiller or Auto Body Filler and sand to a level surface.

**Masonry, Concrete and Plaster Cast** - Pieces should be produced from moulds free of oil and release agents. Fill all imperfections with Polyfiller or casting plaster and radius all sharp points and edges to a minimum of 1mm. It is not recommended that plaster pieces be used externally.

**Polystyrene** - Lightly sand using 120-grade sandpaper. Imperfections in the polystyrene may read into the finish. Epoxy Resin hardener coat sanded to desired texture required for Axolotl to coat.

**Fiberglass** - Wash down surfaces with acetone then sand to a non-glossy surface using 120-grade sandpaper.

**Plastics** - Surface should be heavily scoured or sanded to obtain greater bonding. Discuss suitability with Axolotl first. Plastics can expand and contract over large surface areas when used externally.

## **Pretreatment and Preparation**

The recommended pretreatment and preparation of metal substrates varies based on the material type, application (I.e internal or external), design of item, and specified Axolotl coating type.

Preparation between the base material and the Axolotl metal finish is often required to remove risk of chemical reaction; metals can naturally react with one another when the different alloys come into contact. Axolotl will express the need for pretreatment of the substrate where possible, and can offer some pretreatment options for each individual job.

In the case of powder coating, a warranty grade powder is recommended. In the case of galvanised metals, hot dip galvanisation is preferred. Axolotl recommends that the coating company providing such treatments warrants all pretreatment and preparation.

It is the client's sole responsibility to ensure that the substrate they supply to Axolotl is suitable or has been treated with the appropriate protective coatings. In many cases a faulty coating system cannot be identified until it begins to fail. Poor quality systems can have a life span of up to 5 years; high quality systems are warranted for 15 years. Where Axolotl is able to identify a substandard pretreatment or substandard preparation of an item that arrives into the factory we will advise the client, and works cannot proceed until the substrate is rectified. (Although visible identification of the pretreatment grade used is generally not possible).

Axolotl coatings are reliant on the preparative work and protective coating it is bonded to; failure of the preparative coatings will directly affect the Axolotl finish. The Axolotl warranty is voided where the proper preparation requirements of a project are ignored. The warranty and details of the preparatory works should be provided to Axolotl upon request.

Axolotl recommend Strip Co as the preferred pretreatment and preparatory coating company in Sydney. Contact: Paul Bucciarelli Phone: 02 9792 3411

Proper pretreatment is the base for any high performance coating system, and should be properly considered as the rework and rectification of a substandard system is difficult and costly.

**Disclaimer:** By signing Axolotl's quotation clients are acknowledging that they understand the outcomes as outlined above. 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. Since the use and application of this product is beyond our control we cannot be held responsible for product field performance. The information represented above is the result of our considerable experience with this product but is not to be construed as a performance warranty.

Any advice, recommendation, information, assistance or service provided by any of the divisions of Axolotl Group Pty Ltd or its related entities (collectively, Axolotl Group) in relation to goods manufactured by it or their use and application is given in good faith and is believed by Axolotl Group to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by Axolotl Group is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon Axolotl Group by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification.

METAL	TEXTURE						EFFECT				AGING						SEALER				
	CAST	PSEUDO SMOOTH	SMOOTH	LUNAR	PITTED	LIGHT	VIPER	CAYMAN	LACE	LINISHED	ANTIQUE	BROWN FLORENTINE	FLORENTINE	PEARL PATINA	VERDIGRIS PATINA	TARNISH	UNSEALED (TARNISH)	SEMI-GLOSS TOPCOAT (STANDARD)	GLOSS TOPCOAT	ANTI GRAFFITI TOPCOAT	WAX
ALUMINIUM	..	..	..	..	..	..	..	..	..	..	..					..	..	..	..	..	..
ANTHRA ZINC	..	..	..	..	..	..	..	..	..	..	..					..	..	..	..	..	..
BRASS	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
BRONZE	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
COPPER	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
GOLD BRONZE	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
GOLD NICKEL	..	..	..	..	..	..	..	..	..	..	..		..		..	..	..	..	..	..	..
GRAPHITE	..	..	..		..	..	..	..	..	..					..	..	..	..	..	..	..
BLACK RUST	..						..										..				
BROWN RUST	..						..										..				
MARINE RUST	..						..										..				
MAJESTIC RUST	..						..										..				
NICKEL	..	..	..	..	..	..	..	..	..	..	..		..		..	..	..	..	..	..	..
PEWTER	..	..	..	..	..	..	..	..	..	..	..				..	..	..	..	..	..	..
ROSE ALLOY	..	..	..	..	..	..	..	..	..	..	..				..	..	..	..	..	..	..
SENTINAL COPPER	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
SILVER NICKEL	..	..	..	..	..	..	..	..	..	..	..		..		..	..	..	..	..	..	..
STAINLESS STEEL	..	..	..	..	..	..	..	..	..	..	..				..	..	..	..	..	..	..
TREASURY BRONZE	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

**PLEASE NOTE:**

- Antique aging is suitable with Lunar, Pitted and Light texture only.
- Anti Graffiti topcoat is a high gloss finish.

- Verdigris Patina shows best results with a tarnish or semi-gloss sealer.
- Linish direction is to be defined in specification

**SPECIFICATION**

Please refer to the example below when specifying an Axolotl treatment to ensure all information necessary for quoting is provided. If the specification is to match a supplied sample or image, a photograph should be included with the specification. For best results we recommend the physical sample, or a section of it is returned when the order commences.

**EXAMPLE:**

**Manufacturer:** Axolotl  
**Product:** Metal  
**Type:** Brass  
**Texture:** Pitted  
**Aging:** Brown Florentine \*refer to image  
**Surface effect:** Carved Tortoise  
**Topcoat:** Semi-gloss (standard)



**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:**

Company    The Axolotl Group  
Phone      + 1(778) 680 0908  
Fax         + 1(778) 680 0908  
Email      [riley@theaxotl.com](mailto:riley@theaxotl.com)  
Website    [www.theaxotl.com](http://www.theaxotl.com)