



AluSil 100

NanoCeramic Passivation System

Silane passivation system providing higher oxidation and better wear resistance for all marine aluminum surfaces

- Penetrating formula allows “hard-to-reach” passivation of rivets, threads, drilled holes, etc.
- Nearly invisible (200-500nm thick) chemically bonded. No delamination
- Prevents the surface from oxidation through integrated protection
- Optimized surface energy provides repelling properties
- Long term protection *utilizing environmentally neutral chemistry*
- Easy application

Product Description

AluSil 100 was designed as a surface modifier for aluminum substrates used in marine environment. The ultra-thin (100-200nm), inert shield provides a more scratch and wear resistant surface together with repelling properties. These properties impair the absorption of moisture, salts and chlorides. Additionally the passivation provides an extended shield against galvanic corrosion and electrolysis. The organo modified nano-ceramic formula becomes one with the substrate resulting in a higher grade, longer lasting material.

- Completely UV-Stable
- High Chemical resistance
- High hardness (up to H8)
- Repelling surface functions
- Low friction
- High Flexibility (10mm Mandrel)

AluSil 100 is a one-component, inorganic/organic Alkoxysilane formula. Compared to traditional temporary metal passivation-systems, based on oils and waxes, often containing solvents as carriers, AluSil 100 interacts with the substrates reactive elements, forming chemical bonds and creates an inert, integrated shield. The multi-reactivity of AluSil works with the many free ions on/in the substrate as well as the moisture from the air captured on the surface. The fully cured shield which AluSil provides is also driven by its unique built-in catalyst that allows curing at room temperature. AluSil 100 does not contain harsh solvents, heavy metals or toxins resulting in negligible VOC emissions.

Product Information

Color	Clear, slightly yellow
Finish/Sheen	Clear/High gloss
Components	1
Active solids	96 ±2.0
Flash Point	81°F/27.2°C (Pensky-Martens Closed Cup)
Unit Size	55ml, 285ml, 25liter

Application / Drying / Overcoat Information

Method of Application	Wipe, dip, brush, roller or spray
Number of coats	1
Dry Film Thickness	Subject to substrate Absorption; typical surface DFT 500 - 1500nm (0.5 – 1.5 micron)
Application Temp	50-95°F (avoid direct sunlight)
Dry Time	To touch: 30 minutes Hard: 1.5 hours Fully reacted: 24 hours
Thinner Cleaning	DO NOT THIN Ethyl, methyl alcohol, Isopropanol or denatured alcohol



AluSil 100

NanoCeramic Passivation System

Silane passivation system providing higher oxidation and better wear resistance for all marine aluminum surfaces

Surface Preparation

The substrate should be properly cleaned prior to treatment. Any dirt, oil, dust or other contaminants may disturb the reaction and the bonding to the substrate. Possible tensides and cleaning agents should be rinsed off well with clean water. Allow the object to dry completely prior to coating. Sand blasting is not required as **AluSil 100** does not need a mechanical profile to bond to like traditional coatings. **NOTE: Sand blasting or chemical pretreatments may be necessary to prepare the substrate esthetically or mechanically.** Make sure the object to be treated is completely dry. Do not allow water to come in contact with AluSil before it is dry/hard to handle (approximately 1 to 2 hours). Avoid shortcuts. Inadequate performance will follow inadequate surface preparation.

Application / Systems and Use

Recommended temperature for treatment with AluSil 100 is 70-85°F (20-30°C). Forced heat-curing may be introduced after the coating is hard to touch (0,5 - 1 hours) by slowly heating the coated object up to 100°C (212°F) for 30 minutes. Note: make sure the object itself can handle higher temperatures.

AluSil 100 may be applied by dipping, wipe-on, brush, roller or spray. Normally, a thin and even wet film should be left on the surface to be partially absorbed into the surface of the substrate – on vertical surfaces; the substrate will hold just the amount it can take. If the object is dipped in the solution, allow it to stay submerged for at least 20 seconds. When the object is slowly removed from the solution, allow the excess liquid to drip off and wipe away any puddles as AluSil only cures solid when applied in a thin layer.

Dip-application is preferred on smaller components such as rivets, nuts and bolts. Tip: Using a plastic strainer (resistant to alcohol), dip cleaned components in AluSil 100 solution (use appropriate alcohol resistant container). Shake off excess liquid. Carefully remove droplets or “curtains” with a cloth. Place separated components in a dry environment to cure.

Normal coverage is expected to be 10ml per sq. meter. The coverage will depend mostly on the tool and method of application as well as substrate profile and porosity.

CAUTION: AluSil reacts and cures to a solid material when exposed to air and moisture. Do not apply AluSil in direct sunlight. Direct sunlight or high temperature should be avoided until the surface is dry to touch; otherwise AluSil could react too quickly, which will impair its performance. Do not apply AluSil in rain, heavy fog or in dew, as this will also adversely affect the performance of the product. When not in use, keep the container with SilOxi sealed tight so not to expose it to air and moisture. Store in room temperature or slightly below.

Transportation, Storage and Safety Information

Packaging and storage

- Keep containers tightly closed in a cool, dark and well-ventilated place.
- Keep tightly sealed in original packing.
- Flammable liquids – handle with care. UN 1993.

Safety and handling

Before using, please read the Safety Data Sheet (SDS), thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use.

Limited warranty information – Please read carefully

The information contained herein is based on Imada’s present knowledge and experience; it is believed to be accurate and is offered in good faith. However, because conditions and methods of use of our products are beyond our control this information should not be used in substitution for customer’s tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. Imada’s sole warranty is that our products will meet the sales specification in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund purchase price or replacement of any product shown to be other than as warranted. Imada specifically disclaims any other express or implied warranty of fitness for a particular purpose (even if Imada is aware of such purpose) or merchantability. Imada disclaims liability for any incidental or consequential damages (including loss of profits) of any kind.

Imada reserves the right to make any changes to technological progress or further developments. These are starting point formulations and are not proven for use in the user’s particular application, but are simply meant to assist in the development of the user’s own formulations. It is the user’s responsibility to fully test and qualify the formulation, along with the ingredients, methods, applications, or equipment identified herein (“Information”), by the user’s knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information. Furthermore Imada cannot assume any responsibility for patent infringements, which might result from the use of any Information.

May only be sold/distributed by an Imada approved and certified representative.