Madison Chemical Industries Inc.

GALVACLAD™ LIQUID ZINC

TECHNICAL DATA

POLYURETHANE PRIMER/TOPCOAT FOR GALVANIZED METAL

THE PRODUCT AND ITS USES

GalvaClad™ Liquid Zinc is a high build primer/topcoat for galvanized metal which offers protection equivalent to traditional zinc rich primers, combined with ease of use and the unique ability to perform at any level of surface preparation. GalvaClad™ Liquid Zinc combines the best of several corrosion protection technologies working synergistically together: aluminum and micaceous iron oxide (MIOX) to provide barrier protection; the sacrificial protection of zinc; and corrosion inhibitors. GalvaClad™ Liquid Zinc also contains Madison's new AP-50 Adhesion Promoter™ for maximum bond and performance with minimum surface preparation.

For both shop and field applications, simply apply Madison GalvaGrip™ surface conditioner over the substrate, rinse off, let dry and apply GalvaClad™ Liquid Zinc. Alternatively, power tool cleaning (e.g. grinding and sanding) will provide an equally satisfactory surface for bonding. Blasting is not required. GalvaClad™ Liquid Zinc will cure at ambient temperatures down to -15°C (5°F). It forms a monolithic film at very low thicknesses (3-4 dry mils) but can be easily applied to higher thicknesses without mud-cracking.

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-15°C(5°F) to 65°C(150°F)
Initial Setting Time	@20°C/70°F	within 30 min. to 2 hrs. depending on catalyst
Recoat Time[1]	@20°C/70°F	recoat within itself < 3 hrs. depending on catalyst topcoat with an aliphatic top coat within 30 days
Pot Life	N/A	15 min. to 2 hrs. depending on catalyst
Solids Content by Weight Solids Content by Volume	ASTM D-1259	70% 68%
Volatile Organic Compounds (VOCs)	ASTM D-2369	280 grams/litre
Theoretical Coverage	N/A	1122 ft^2 /gal/mil; 27 m^2/litre/25 microns
Adhesion	ASTM D-4541 (SSPC SP5)	1500-3000 p.s.i. Depending on Surface Preparation
Hardness	ASTM D-2240	50 to 60 Shore "D"
Impact Resistance	ASTM D-2794 (@6 mils)	200 ± 10 in. lbs
Flexibility	ASTM D-522	Pass (1/2 inch)
Resistance to Cathodic Disbondment	CSA Z-245 (65°C, 48 hrs, 20 mils)	< 15 mm
Temperature Resistance	ASTM D-870, D-2485	-40°C (-40°F) to +90°C (195°F)
Colors		Silver Metallic Only

1. However, recoat window varies depending on ambient, coating and substrate temperatures and coating thickness.

NOTE: All statements, technical information and recommendations contained herein are typical of results obtained under laboratory conditions and are not intended to be used as contract specifications. For specification guidelines please contact Madison Chemical. The information contained herein is believed to be accurate as of the date of publication. Madison reserves the right to change product specifications without notice.

APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED APPLICATION INSTRUCTION BULLETIN (ALSO AVAILABLE ONLINE).

A. SURFACE PREPARATION

1) Ensure that there are no burrs, weld spatter, sharp edges or other surface irregularities that may protrude through the coating. Grind or sand as necessary.
2) Apply Madison GalvaGrip™ surface conditioner. This environmentally-friendly "spray on, wash off" product will provide superior adhesion for any GalvaClad™ topcoat. See Application Instruction Bulletin for GalvaGrip™. Coat the substrate within 8 hours of preparation. Do not apply coating until surface is completely dry. Residual dampness or high ambient humidity will impair adhesion.

B. APPLICATION OF COATING

1) Before application, slowly but thoroughly stir GalvaClad™ Liquid Zinc until homogeneous. Add approximately 5% of Madison C-10 Catalyst (1-1 1/2 hrs. pot life) and stir SLOWLY into GalvaClad™ Liquid Zinc with a power mixer for 3 to 5 minutes. Over-agitation at high speed will cause product to sag when applied. Catalysts for different set time and pot life are available at Madison. If thinning is necessary, use only Madison VR-1 Spray Grade Reducer™ or VR-2 Brush Grade Reducer™. C-7 Catalyst (medium potency) and C-4 Catalyst (fast acting) will allow thicker film build but pot life will be shorter (about 45 and 15 minutes respectively).
2) Coat a test area, cure for 24 hours and check adhesion. If adequate for intended service, proceed to apply GalvaClad ™ Liquid Zinc by brush, roller or airless spray. Recoating must occur within the recoat window (see table on page 1). If recoat time is exceeded, sand surface until gloss has disappeared over entire coated area, clean the surface, and then apply the second coat.
3) Inspect visually to make sure it is pinhole free. See Application Instructions.
4) When the product is used as a primer and will be topcoated with another Madison coating, the recommended DFT is 3-5 dry mils. Apply the topcoat within 30 days, otherwise sand lightly and thoroughly with 80 grit sandpaper. When used alone as a corrosion protective coating, the minimum application thickness is 6 mils dry film. This is better achieved in two thin coats about an hour apart rather then one heavy coat. See Application Instructions if you wish to apply a thicker coat. Contact your Madison Representative for additional information.

C. CLEAN-UP AND STORAGE

1) This material will react with humidity and moisture. Keep containers tightly sealed. Avoid dropping or subjecting the material to strong force. For clean-up, use Madison VR-1 Reducer™or VR-2 Reducer™. Other solvents may react with product.
2) Store between 10°C (50°F) and 27°C (80°F). DO NOT FREEZE. Use product within 6 months of receiving.

HEALTH AND SAFETY

Coatings that contain aluminum might build up pressure over time. To avoid any sudden burst of gas, open the container carefully, thus allowing the gas to escape slowly. Avoid dropping or subjecting the material to strong force. GalvaClad™ Liquid Zinc is intended for industrial or professional use only. It contains no monomeric isocyanates but does contain flammable industrial solvents and will cause respiratory distress in some people. Flammable; avoid open sparks and flames. Indoors, wear a cartridge mask and provide ample ventilation. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician. If splashed on skin, remove immediately with GemThane® VR-2 Reducer™ or with rubbing alcohol and then wash with soap and water. If splashed in eyes, wash liberally with clean water and contact physician; temporary irritation of eyes may last several days. Product contains no proven carcinogens or mutagens. However, prudence dictates that applicators use rubber gloves, safety goggles and protective clothing. Resins are inert when cured. MSDS available upon request. Review Application Instruction Bulletin for further safety information.

LIMITED TWO YEAR WARRANTY

Madison will replace any product which, in service for which it is suitable, fails to meet specifications within two years of sale and which is proven to be defective when applied according to instructions by a Madison Approved Applicator or Certified OEM Applicator. Madison accepts no responsibility or liability for any other loss, claim, damage, injury or expense, direct or consequential, in contract or negligence. This product replacement warranty is in lieu of any other right, warranty, guarantee or condition, statutory or otherwise, expressed or implied, whether as to fitness for a particular purpose or as to merchantable quality or otherwise.

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