



## GEMTHANE ULTRAPRIME

### TECHNICAL DATA

### CORROSION PREVENTATIVE POLYURETHANE PRIMER/COATING

#### THE PRODUCT AND ITS USES

GemThane UltraPrime is a high solids, polyurethane-based primer/coating which combines the best of several corrosion protection technologies: aluminum and micaceous iron oxide (MIOX) barrier protection; the sacrificial protection of zinc; plus corrosion inhibitors. These proven technologies work synergistically within GemThane UltraPrime to provide the best qualities of each, making it a unique primer that outperforms every other high performance primer on the market and offers protection equivalent to hot dip galvanizing. This hybrid product, when applied like paint, polymerizes to form a tough, thick corrosion resistant film. It can be used either as a primer or as a "one-product" coating system on different substrates where maximum resistance to rust or corrosion undercutting is required. GemThane UltraPrime will cure at ambient temperatures down to -15°C (5°F). The single-component-plus-catalyst format is paint-like to apply.

GemThane UltraPrime forms a monolithic film at very low thicknesses (3-4 dry mils) but can be easily applied to higher thicknesses without mud-cracking. This product is typically teamed up with Madison's AcrylaThane or GemThane topcoats. Where color stability or lustre is not an issue, GemThane UltraPrime may be used on its own (2 coats recommended), as a corrosion barrier on steel. GemThane UltraPrime will also perform well on concrete and wood as a barrier coating.

#### 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*	@ 20°C(70°F)	recoat with itself < 3 hrs. depending on catalyst recoat with an aliphatic top coat within 3 months
Pot life	N/A	15 min. to 2 hrs. depending on catalyst
Solids Content by wt.	ASTM D-1259	70%
Solids Content by vol.		68%
Volatile Organic Compounds (VOCs)	ASTM D-2369	280 grams/litre
Theoretical Coverage	N/A	1122 ft <sup>2</sup> /gal/mil; 27 m <sup>2</sup> /litre/25 microns
Adhesion	ASTM D-4541 (SSPC-SP5)	1,500 - 1,800 p.s.i.
Hardness	ASTM D-2240	50 to 60 Shore "D"
Impact Resistance	ASTM D-2794 (@ 6 mils)	90+/-10 in. lbs.
Flexibility	ASTM D-522	Pass (2 inch)
Resistance to Cathodic Disbondment	CSA Z-245 (65°C, 48 hours, 20 mils)	< 15 mm
Temperature Resistance	ASTM D-870, D-2485	-40°C (-40°F) to +90°C (195°F)
Colors		Silver metallic only

\*However, recoat window varies depending on the spray equipment temperature setting, the ambient conditions, product temperature/thickness, and the temperature of the substrate being coated.

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.

## APPLICATION INSTRUCTIONS

CONTACT MADISON FOR DETAILED APPLICATION INSTRUCTIONS.

### A. SURFACE PREPARATION

- 1) Ensure the surface is clean, dry and uncontaminated. Proceed only if the substrate temperature is at least 3°C(5°F) above the dew point temperature, during surface preparation and coating application.
- 2) Abrasive blast clean with sand or grit (G40 or coarser). DO NOT USE steel shot or non-angular media. With steel, blast the substrate using an angular media to a near white blast (SSPC-SP10 or NACE 2). An angular, continuous anchor pattern of:
  - 3.0 mils (75 microns) profile for continuous immersion;
  - 2.5 mils (65 microns) profile for underground or embedded service;
  - 2.0 mils (50 microns) profile for atmospheric service.Before the coating application, the surface must once again be rendered clean, dry and free of any traces of foreign contaminants using dry compressed air or other effective means.
- 3) See Madison Application Instructions for further details.

### B. APPLICATION OF COATING

- 1) Before application, slowly but thoroughly stir GemThane UltraPrime until homogeneous. Add approximately 5% of Madison C-10 Catalyst (1-1 1/2 hrs. pot life) and stir into GemThane UltraPrime for 3 to 5 minutes. Catalysts for different set time and pot life are available at Madison. If thinning is necessary, use only Madison VR-1 Spray Grade Viscosity Reducer or VR-2 Brush Grade Viscosity 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) Apply by brush, roller or airless spray. Recoating must occur within the recoat window (see 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) Test coating to make sure it is pinhole free. See Application Instructions.
- 4) Allow coating to reach ultimate cure time before putting into service.
- 5) When the product is used as a primer and will be topcoated with a Madison aliphatic coating, the recommended DFT is 3-5 dry mils. 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 than 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 Viscosity Reducer, VR-2 Viscosity Reducer, M.E.K. or a 50:50 blend of M.E.K. and Xylene. 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

GemThane UltraPrime is intended for industrial use only. Coatings that contain aluminum might build-up gas over time. To avoid any sudden burst of gas, open the container carefully thus allowing the gas to escape slowly. Avoid sparks and open flames. Provide sufficient ventilation when working on this product. It contains no monomeric isocyanates but may nevertheless cause respiratory distress in some people. Provide ample ventilation. Wear a fresh air respirator when using in confined areas or when spraying. Wear rubber gloves, safety goggles and protective clothing. If swallowed, DO NOT induce vomiting as this will cause additional throat irritation; contact physician. If splashed on skin, remove immediately 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. In case of fire, use self-contained breathing apparatus. See MSDS for more information. The finished product is completely inert.

### 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.

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.

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