



GEMTHANE PRECATALYZED ALIPHATIC

TECHNICAL DATA

HIGH PERFORMANCE EXTERIOR COATING

THE PRODUCT AND ITS USES

GemThane PreCatalyzed Aliphatic is based on the tough, aliphatic (color fast), high performance resin technology used in aircraft finishes, yet it is applied like paint. This coating is easy to use and environmentally responsible (low solvent, low toxicity). GemThane PreCatalyzed Aliphatic is self-priming but can be used as the final step of a multi-layer coating system. The cured coating is like a film of plastic which resists weathering, abrasion, corrosion and chemicals, and has a rich, aesthetically pleasing appearance.

Applications include: metal and wood surfaces (walls, siding, flashing and roofs); concrete structures (walls and floors); vinyl or plastics (vinyl siding); anti-graffiti applications; equipment and machinery; and anywhere else that a high grade enamel-like finish is desired.

Of all the GemThane products, GemThane PC Aliphatic offers the best overall combination of ease-of-use, exterior suitability and above average physical properties.

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	-10°C(15°F) to 60°C(120°F)
Viscosity	Brookfield Viscometer	Paint-Like
Initial Setting Time	@ 70°F/20°C	4-6 hours
Curing Time Before Handling	@ 70°F/20°C	12 hours
Ultimate Cure	@ 70°F/20°C	7-10 days
Recoat Time*	@ 70°F/20°C	Up to 48 hours
Solids Content	Conversion to Solids by Volume	68%
Volatile Organic Compounds VOC's		Less than 2.7 lb per US gallon or 320 grams per litre
Theoretical Coverage		24 m ² /litre/25 microns (1000 ft ² /US gal/mil)
Adhesion	ASTM D-4541 (SSPC-SP5)	Greater than 600 psi
Flexibility	ASTM D-412 @ 23°C	180° over knife edge @ 10 mils
Abrasion Resistance	ASTM D-4060 (Taber CS-17 1kg)	82 mg loss per 1000 rev
Ultraviolet Resistance	ASTM G-154	Excellent
Chemical Resistance	ASTM D-543	Splash and spill
Hardness	ASTM D-2240 (Shore D)	40 ±5
Water Absorption	ASTM D-471	Less than 3%
Temperature Resistance	ASTM D-870, D-2485	-40°C (-40°F) to +50°C (120°F)
Colors		Various colors available, Contact Madison representative.

*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) General** - This section applies to **ALL** substrates. The surface must be free of moisture, dust, oil and other contaminants. Degrease by scrubbing with hot water and detergent (preferably trisodium phosphate) or use a hot water high pressure wash. Proceed only if the substrate temperature is more than 3°C (5°F) above the dew point temperature during surface preparation and coating application. Humidity over 85% may impair adhesion and/or ruin the finish. On previously painted surfaces, remove loose coating, then test for compatibility and adhesion. If it appears incompatible in any way or if adhesion is poor, completely remove prior coating.
- 2) Metal** - For general use, roughen surface by sanding, grinding or power wire brushing. Check adhesion; if inadequate, use GemThane Aluminized Primer before applying GemThane PC Aliphatic. For immersion service and other critical applications, blast to a near-white surface with a 2.5 mil profile. Welds and corners require extra coating. Avoid thinning if possible.
- 3) Concrete** - Concrete *must* be fully cured. On floors, clean as above, then roughen with blasting or acid etching to remove laitance. Concrete block can be coated directly using GemThane PC Aliphatic but, for a pinhole-free result, a quality cementitious/rendering compound should be applied first. Use 10-20% Reducer in first coat of GemThane PC Aliphatic.
- 4) Wood** - New wood can be sanded lightly before coating. Do not coat green or damp wood. Use 10-20% Reducer in first coat. For previously painted surfaces, see **General**. Not suitable where wood is exposed to constant moisture (e.g. docks).

B. APPLICATION OF COATING

- 1) Before application, thoroughly stir or shake GemThane PC Aliphatic to disperse any settling that may have occurred. If thinning is required use up to a maximum of 20% GemThane VR-1 or VR-2 Viscosity Reducer only. During cold temperatures and low relative humidity, the use of C-16 Catalyst is recommended. Add approximately 5% Madison C-16 Catalyst and mix thoroughly for 2 to 3 minutes. GemThane PC Aliphatic will thicken quickly when exposed to air, so dip out the quantity required for working for an hour or two and re-seal the can immediately.
- 2) GemThane PC Aliphatic can be applied by brush, roller or single component airless spray equipment. For detailed application instructions contact Madison.
- 3) Apply two coats of 3 to 5 wet mils per coat. The second coat can be applied once the first coat becomes tacky (approximately 2 hours).
- 4) For optimum intercoat adhesion, recoat within 48 hours. If the recoat time is exceeded, sand the previous layer until the gloss is removed over the entire coated area, clean, then apply the next coat.

C. CLEAN-UP AND STORAGE

- 1) GemThane PC Aliphatic will react with humidity and moisture. Keep container tightly sealed; store upside down. Avoid dropping or subjecting the material to strong force. For clean-up use GemThane VR-1 or VR-2 Reducer, or M.E.K. Other solvents may react with the 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 PC Aliphatic might build up gas over time. To avoid any sudden burst of gas, open container carefully, thus allowing the gas to escape slowly. Avoid dropping or subjecting the material to strong force. GemThane PC Aliphatic is intended for industrial use only. It contains no monomeric isocyanate but may nevertheless cause respiratory distress in some people. Flammable; avoid open sparks and flames. Provide ample ventilation. Wear a fresh air respirator when using in confined areas or when spraying. If swallowed, do NOT induce vomiting as this will cause additional throat irritation; call 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. Applicators should wear rubber gloves, safety goggles and protective clothing. Resins are inert when cured. See MSDS for more 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.

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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