



GEMTHANE 1:4 ALIPHATIC

TECHNICAL DATA

ACRYLIC ALIPHATIC EXTERIOR COATING

THE PRODUCT AND ITS USES

GemThane 1:4 Aliphatic is a protective coating formulated to offer the best long-term protection against the elements and against physical damage in almost any outdoor commercial/industrial environment. The mix-and-apply format (1:4 by volume) means plural component performance combined with paint-like application characteristics. The polyurethane and acrylic resin used to formulate this product are the same as those used in better quality auto finishes, but with a higher resin content and less solvent.

GemThane 1:4 Aliphatic provides excellent gloss retention and color fastness. The cured film offers resilience, chemical resistance and a glossy appearance that can be restored by simple washing. It is resistant to aqueous solutions of all kinds including salt water and diluted acid and alkali, and will withstand intermittent exposure to solvents and more concentrated chemicals.

Recommended for exterior applications, typical uses for GemThane 1:4 include architectural finishing of concrete or steel, coating of graffiti-prone surfaces as well as machinery, equipment, metal siding and roofs. It can be applied without a primer in a full coat of about 5 - 6 wet mils. Surfaces exhibiting hard to cover areas, such as graffiti, may require a preliminary coat. It can be used in one coat over top of any of Madison's aromatic (lower cost but not color fast) systems; choice of aromatic base coats include instant setting products requiring plural component spray equipment and slower setting formulations requiring no special equipment.

TECHNICAL INFORMATION

PROPERTY	TEST DESCRIPTION	RESULTS
Application Temperatures	N/A	0°C(32°F) to 50°C(120°F)
Viscosity	Brookfield Viscometer	Paint-Like
Pot Life	@ 20°C/70°F	1 1/2 - 2 hours
Initial Setting Time	@ 20°C/70°F	120 minutes
Curing Time Before Handling	@ 20°C/70°F	12 hours
Recoat Time*	@ 20°C/70°F	Minimum: 30 minutes Maximum: 24 hours
Solids Content	ASTM D-1259	60 to 65%
Volatile Organic Compounds (VOCs)	ASTM D-2369	Less than 340 grams/litre
Theoretical Coverage	N/A	630 m ² /litre/micron (1040 ft ² /US gallon/mil)
Adhesion to Steel	ASTM D-4541 (SSPC 5)	Greater than 800 p.s.i.
Impact Resistance	ASTM D-2794 (20 mils)	Greater than 80 in.lbs
Ultraviolet Resistance	ASTM G-154	Excellent
Colors		Wide color choice; consult sales representative
Finish		Gloss or Semi-Gloss

*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 hot water high pressure wash. Do not proceed unless substrate temperature is at least 5°F (3°C) above dew point. 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 prior coating lifts or appears to be incompatible in any way or if adhesion is poor, completely remove prior coating. When using over an aromatic base coat or primer, apply within the recoat window or roughen prior coating with sandpaper.
- 2) Metal** - Areas displaying evidence of rust should receive extra surface preparation attention. For these areas, scrub with a wire brush to remove all loose material and to create a good surface profile for improved adhesion. For general use, roughen surface by sanding, grinding or power wire brushing. 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.
- 3) Concrete** - Concrete must be fully cured. On floors, clean as above, then roughen with blasting or acid etching to remove laitance. Poured-in-place concrete and concrete block can be coated as-is but, for a pinhole-free result, a quality cementitious 'rendering' compound should be applied before coating.
- 4) Wood** - On most new wood, a light sanding will suffice. Do not coat green or damp wood. For previously painted surfaces, see 'General' above.
- 5) Drywall** - On most drywall a light sanding will suffice. Also sand between coats. For previously painted surfaces, see 'General' above.

B. APPLICATION OF COATING

- 1) The correct mixture for GemThane 1:4 Aliphatic is 1 part 'A' and 4 parts 'B' by volume. Stir individual components, and then add together and stir again. Pot Life (see Technical Information) is temperature dependent.
- 2) GemThane 1:4 Aliphatic can be applied by brush, roller or single component airless spray equipment. If using a roller, choose a roller with the lowest pile possible to avoid incorporation of additional air into the system. Use even backwards and forward strokes to achieve a continuous film. Cross roll to eliminate any ridges but do not overwork the surface as bubbling or blistering may occur. When spraying, use multiple light passes to avoid sags and provide pinhole-free result.
- 3) This product achieves its initial set very quickly (within 1 to 1.5 hours at room temperature) and can be recoated any time after that. If maximum recoat time is exceeded (24 hours), lightly sand previous coat until gloss has disappeared over entire coated area before applying new coat. On porous substrates such as wood and concrete, an aromatic base coat (see above) may be necessary. For best results, use airless spray.

C. CLEAN-UP AND STORAGE

- 1) GemThane 1:4 Aliphatic will react with humidity and moisture. Keep containers tightly sealed; store upside down. For clean-up, use VR-2 Viscosity Reducer, M.E.K. or a 50:50 blend of M.E.K. and Xylol.
- 2) Store at or near room temperature. DO NOT FREEZE. Use product within 6 months of receiving.

HEALTH AND SAFETY

Product is intended for industrial use only. It contains no monomeric isocyanate 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. Contains no proven carcinogens or mutagens. However, prudence dictates that applicators use 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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