

100% Solid Polyurea Coating for All Types Industrials Application, Ultra-high Performance Chemical Resistance System. Fast Curing & Tack-free, Excellent of Tensile Strength

Specialty Ultra Heavy-Duty Coating System

Ultra Heavy-Duty of Thickness: 1.00 – 1.20mm

Ultra Heavy-Duty & Abrasion of Thickness: 1.50 – 2.00mm

Description

ISO Polyurea UHC is a second generation, high performance, sprayed, plural component pure polyurea elastomer exhibiting very high elongation. This system is based on amine-terminated polyether resins, amine chain extenders and prepolymers. It provides an extremely flexible, excellent tensile strength, resilient, tough, monolithic membrane with good water and chemical resistance.

Features

- ❖ 100% solids. No solvents, no VOC's
- ❖ Fast or Rapid Curing Time: Handle within five minutes or less
- ❖ Hydrophobic and therefore affected very little by damp, cool surfaces during application. It can be built up to any thickness in one application
- ❖ High temperature stability up to 250° F (121° C) with intermittent temperatures up to 300° F (148° C)
- ❖ High elongation for crack bridging
- ❖ Excellent encapsulation characteristics

Recommended Uses

- ❖ Earthen containment lining used with or without geotextile
- ❖ Liner for concrete tanks, ponds, lagoons, reservoirs, dikes, irrigation ditches, tunnels, barges, etc.
- ❖ Replace or repair failed existing sheet membrane liners
- ❖ Steel Tanks, silos and pipes
- ❖ Protective elastomer for sprayed-in-place urethane foam
- ❖ "Hard coating" or encapsulation material for EPS or other types of flotation materials
- ❖ Encapsulation material for asbestos, lead paint or other dry hazardous materials (Consult LaMaCo Group of Company)
- ❖ Rock shield for pipelines
- ❖ Roof systems

Colors

It should be noted that **ISO Polyurea UHC** is an aromatic polyurea; therefore, as with all aromatics over a period of time color change as well as superficial oxidation will occur.

ISO Polyurea UHC is available in a high-pigment, U-V inhibited formulation for stand-alone applications, such as roofs and containment liners.

Aliphatic urethane and other suitable topcoats can be used where long-term aesthetics and increased longevity are of critical importance.

General Application Instructions

Apply **ISO Polyurea UHC** to only clean, dry, sound surfaces free of loose particles or other foreign matter. A primer may be required, subject to type and/or condition of the substrate. Consult technical service personnel for specific primer recommendations and substrate preparation procedures.

ISO Polyurea UHC can be sprayed over a board range of ambient and substrate temperatures. The limitations are in the ability of the application equipment to provide adequate material pressure and heat. Contact technical service personnel for specific recommendations, pricing and availability of spray and auxiliary equipment.

It is recommended that **ISO Polyurea UHC** be sprayed in multi-directional (north-south/east-west) passes to insure uniform thickness.

The polyol "B" component must be thoroughly power mixed each day, prior to use. Contact an **LaMaCo Malaysia** team of technician regarding proper mixing equipment.

Follow the instructions attached to A and B containers.

Polyurea Properties of Specification			
Wet Properties @ 77°F [25°C]		ISO Polyurea UHC	
Solid by Volume		100%	
Solid by Weight		100%	
Density		1.08 g/cm ³ [±0.05]	
Volatile Organic Compounds		[0 g/litre]	
Theoretical Coverage "Dry Finish Thickness"		1.00mm [39.37mils]	@0.92/m ² [9.96/ft ² /kg]
		1.50mm [59.06mils]	@1.38/m ² [14.85/ft ² /kg]
Weight per US Gallon	"approx"	8.990 lbs ±0.05	[4.087 kg] ±0.05
Weight per UK Litre	"approx"	2.376 lbs ±0.05	[1.080 kg] ±0.05
Number of Coats "by Spray"		1 ~ 2	
1 Layers/Coat Spray at	0.139mm	0.330 lbs	0.15 kg/m2
2 Layers/Coat Spray at	0.861mm	2.046 lbs	0.93 kg/m2
Total at	1.000mm		
1 Layers/Coat Spray at	0.139mm	0.330 lbs	0.15 kg/m2
2 Layers/Coat Spray at	1.361mm	3.300 lbs	1.47 kg/m2
Total at	1.500mm		
Mix Ratio		Component A: 1 part + Component B: 1 part	
Viscosity [cps or mPas]		450[±25] Component A 400[±25] Component B	
Shelf Life @60-90°F [15-32°C]		9-12 months	

Polyurea Properties of Specification

Dry Properties @ 59mils [1.50mm]

ISO Polyurea UHC

Tensile Strength	ASTM D412	4300 psi ±250	[29 Mpa]
Elongation	@77°F [25°C]	80% ±5%	
Hardness [Shore D]		75/65 ±5%	
Adhesion Strength		Concrete test cohesive failure of concrete Steel test 1750 psi	
100% Modulus	ASTM D412	1300 psi ±20	[8.96 Mpa]
300% Modulus	ASTM D412	2210 psi ±20	[15.24 Mpa]
Tear Resistance	ASTM D624	400 pli±10	[70 kN/m]
Abrasion Resistance	ASTM D4060 H-18 wheel H-22 wheel	1000g-1000 cycles [105mg loss±5] [50mg loss±5]	
Service Temperature		-60°F to 300°F -50°C to 150°C	
Flame Spread @ 20mils	ASTM E84	10	
Smoke Density @ 20mils	ASTM E84	10	
Gel Time		6/sec ±2	
Tack-Free Time		20/sec ±3	
Full Cure Time		24 hours	
Recoat by Spray		12 hours [at least]	

Recommended Equipment Settings

- ❖ Standard 1:1 ratio, heated, plural component equipment developing a minimum of 1500psi (10.4 mpa) dynamic pressure with heating capabilities to 175° F (79°C) will adequately spray this product. These include Gusmer 18/18, Gusmer 25/25 HP, and Gusmer 20/35. Gun models include Gusmer/ D7, GUSMER GX7, GUSMER GX7-400, and GUSMER GX8.
- ❖ Pre-heater temperature should be at 160-170°F (71-76°C).
- ❖ Hose temperature should be at 160-170°F (71-76°C) a hose thermometer inserted under the insulation near the gun should read a minimum of 145-155°F (63-68°C)
- ❖ Physical properties will be enhanced when sprayed at higher pressure (2000 psi or more) (13.9 mpa), utilizing an impingement mix gun such as the Gusmer GX7 gun, Gusmer GX7-400 or Gusmer GX8 gun.

Mixing And Thinning

Thinning is not required. Using any thinner may adversely affect product performance.

General Safety, Toxicity & Health Data

Material Safety Data Sheets are available on this coating material. Any individual who may come in contact with these products should read and understand the M.S.D.S. **EMERGENCY NUMBER, Malaysia +60-4-771 1111**

WARNING: Contact with skin or inhalation of vapors may cause an allergic reaction. Avoid eye contact with the liquid or spray mist. Hypersensitive persons should wear protective clothes, gloves and use protective cream on face, hands and other exposed areas.

CLEAN UP: Use DPM, NMP, and Polyclean.

CONTAMINATION: Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, carbon dioxide created pressure can develop. Do not attempt to use contaminated material.

EYE PROTECTION: Safety glasses, goggles, or a face shield are recommended.

SKIN PROTECTION: Chemical resistant gloves are recommended. Cover as much of the exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION: Use a respirator approved for isocyanates and organic vapors. If you are not sure or not able to monitor levels, use MSHA/NIOSH approved supplied air respirator. Consider the application and environmental concentrations in deciding if additional protective measures are necessary.

INGESTION: Do not take internally. It is believed that ingestion of polymeric isocyanates would not be fatal to humans, but may cause inflammation of mouth and stomach tissue.

Limitations

- ❖ This product is for professional use only.
- ❖ Minimum material/container temperature for spray application is 70° F (21° C).
- ❖ Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, Carbon Dioxide (CO₂) created pressure can develop. Do not attempt to use contaminated material.
- ❖ Undried air exposed to liquid components will reduce physical properties of the cured coating.

Note: The material supplied is two components (Component A/Component B) used to formulate **ISO Polyurea UHC**. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components.

Warranty & Disclaimer

LaMaCo System Sdn Bhd has no role in the manufacture of the finished polymer other than to supply its two components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of plural component equipment.

LaMaCo System Sdn Bhd, an Malaysia corporation, warrants only that the two components of this product shall conform to the technical specifications published in the product literature.

The quality and fitness of the product is dependent upon the proper mixture and application of the components by the applicator. There are no warranties that extend beyond the description on the face of this instrument.

LaMaCo SYSTEM SDN BHD MAKES NO WARRANTY OF MERCHANTABILITY OF THE PRODUCT OR OF FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE.

LaMaCo System Sdn Bhd, makes no warranty as to the quality of any product modified, supplemented, tinted, or altered in any way after it leaves the manufacturing plant. LaMaCo System Sdn Bhd, does not warrant that this product is suitable for use as a liner for potable water containers. Use of this product in a potable water container could be hazardous to health if it is improperly processed or applied.

The liability of LaMaCo System Sdn Bhd, for any nonconformity of the product to its technical specifications shall be limited to replacement of the product.

The sole exclusive remedy of buyer, which is to have LaMaCo System Sdn Bhd, replace any nonconforming product at no cost to buyer, is conditioned upon buyer notifying LaMaCo System Sdn Bhd, or its distributor in writing of such defect within thirty days of the discovery of such defect.

LaMaCo System Sdn Bhd, shall not be liable for any direct, incidental, or consequential damages resulting from any breach of warranty.

The data presented herein is not intended for non-professional applicators or those persons who do not purchase or utilize this product in the normal course of their business.

The potential user must perform any pertinent tests in order to determine the product's performance and suitability in the intended application, since final determination of fitness of the product for any particular use is the responsibility of the buyer.

The aforementioned data on this product is to be used as a guide and is subject to change without notice.

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All recommendations for use of our product, whether given by us in writing, verbally, or to be implied from the results of tests carried out by us are based on the current state of our knowledge Notwithstanding any such recommendations the Buyer shall remain responsible for satisfying himself that the products as supplied by us are suitable for this intended process or purpose. Since we cannot control the application, use or processing of the products, we cannot accept responsibility therefore. The Buyer shall ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from defects in accordance with and subject to our general conditions of supply.

The above mentioned details Specified key data are individually checked throughout, guarantee, and included in the certificates of Analysis (CoAs). & Typical key data are spot checked, the value are typical for the product and are indicated for information only. The values are not guaranteed or included in the CoAs.

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