

Technical Data Sheet (TDS)

MGAP Silicoat

UV stable Modified Silicon Polyurea

MGAP Silicoat is a new revolutionary **Patent** non-conventional extremely tough UV stable 100% polyurea coating with a silicone tail. It exhibits excellent durability, resistance to abrasion, chemicals and sunlight. It is used primarily in exterior high-wear environments where severe top coating protection is required. **MGAP** may also be color tinted.

MGAP is 100% solids formulation providing superior chemical resistance, lower water absorption, better abrasion resistance, corrosion protection and improved weathering. Although aromatic, this formula will maintain its pigments and properties despite being expose to direct sunlight.

This product has been designed specifically to deliver the toughness and abrasion resistant properties of that of an aromatic polyurea but provides the capability of retaining color-fastness for a full range of pigmented colors. Unlike conventional aromatic polyureas, which in a white pigmented system turns yellow in hours when left in direct sun light, **MGAP** systems can withstand direct harsh sunlight experiencing NO color change.

Typical applications would be road marking, exterior equipment, pools, tank containers, pipe coatings, flooring and truck bed liners.

Health and Safety

Read the Safety Data Sheet (SDS) and container labels for detailed health and safety information. This product is intended for industrial use by properly trained professional applicators only. Proper safety wear is mandatory.

Physical Properties

| Optical Clarity (no pigment) | Visual | Caramel Clear |
|------------------------------|-----------|---------------|
| Tensile Strength | ASTM D412 | 3600 psi |
| Elongation | ASTM D412 | 200% |
| Water absorption (24hr) | ASTM D570 | < 1% |
| Moisture Vapor Transmission | ASTM E96 | < 1 perms |
| Hardness - Shore D | ASTM D785 | 55D |

| | | |
|----------------------|------------|---------------------------------------|
| Abrasion Taber CS17 | ASTM D4060 | 45 mg/1k cycles |
| UV Testing | Visual | 36 + months, no color change in white |
| Gel Time | Time | 5 sec - 60 sec |
| Mix Ratio | PBV | 1:1 |
| Hose Heat | | 140F |
| Primary Heat | | 140F |
| Gun Pressure Minimum | | 2000 PSI |

Adhesion Results of Typical Substrates per ASTM D-4541 Elcometer

| | | |
|-------------------|------------|--|
| Concrete - Primed | > 300 psi | Concrete cohesive failure, excellent bonding |
| Steel - Primed | > 1000 psi | Excellent bonding |
| Wood - Primed | > 250 psi | Wood failure, excellent bonding |

Technical Application Data

MGAP is a two component 100% solids mixture which does not contain VOCs. Application substrate temperature ranges from 4.5°C (40°F) to 38°C (100°F). **MGAP** may not be applied at temperatures below 4.5°C (40°F). Functional ambient operation temperature ranges from -40°C (-40°F) to 65°C (150°F). Final topcoat application surface is slick and smooth.

MGAP requires a heated plural spray equipment such as Graco EXP-2 using hose heats of 60°C-65°C (140°F-150°F). Primary heaters set at 60°C-65°C (140°F -150°F). Pressure at gun around 2000 psi using a round spray tip.

MGAP may be applied @ 500 microns - 1 mm (20-40 mils) in thickness per layer, addition layers may be applied once the first layer is cure. For road marking coating ask for a 60 sec tack free formulation. Road marking coating is recommended to be applied at 500-750 microns (20-30 mils) in thickness with a 60 sec tack free formulation. Addition of glass reflector beads for Non Skid purposes must be applied directly to wet film before tack free (with in the first 60 seconds).

Refer to SDS for material and safety standard procedures.

Proper safety wear is mandatory.

Coverage

Coverage at 400micron (16 mils) is 9 m² (100 sq. ft.) / mixed gal. **MGAP** may be color-tinted if desired.

Substrate Surface Preparation

The surface must be clean, dry, stable and without loose areas or parts. All residues of fats, dust, dirt, salts or any other unrelated materials should be fully removed in order to ensure the adhesion of the coating to the surface. Leveled, stable, pollutant free and free from the loose parts is a guaranteed basis for the long lifespan of the system and achievement of the result.

Casting of new **concrete** can be coated 4 weeks (28 days in a temperature of 25°C) following the casting and with humidity content that does not exceed 4% in a 2.5cm depth under the surface. Concrete must have a compressive strength of at least 30Mpa; in case this requirement does not met, other recommended solutions for reinforcing the infrastructure should be applied.

The preparation of the surface should follow the requirements in the SSPC-SP13 standard in order to get a flat concrete surface that is dry, pollutant free, free from cement water loose parts and dust, with mechanical strength and upper level that are sufficiently porous and enable proper absorption of the coating. Remove completely pattern oil, curing materials, salts, efflorescence, cement water or any other materials using sandblasting, shot-blasting, mechanical milling, diamond polish or acidic etching.

Metal must be clean, free of contaminates and dust prior to primer / coating application. Metals should be prepared with a sandblasting, shot blast or machine sanding depending on the severity of the surface condition. Spraying aggregates using compressed air (it is recommended to manually remove peeling layers of paint, rust peels and welding residues using manual or pneumatic scrapers before spraying) to get a surface level in a cleaning level so SA 2.5 (in accordance with the standard SIS 055900) in order to remove rust, loose parts, old paint, fats etc. from at least 95% of the area (in accordance with the standard SSPC-SP10). Perform dust cleaning using air pressure (fat and humidity free) or using a vacuum cleaner. In cases when aggregate spraying cannot be performed use mechanical or manual tools for careful cleaning using a disc, steel brush, sandpaper and scraper to remove mill scales, rust, layers of loose paint and pollutants up to a cleaning level of ST-3 in accordance with the standards SSPC-SP3, SSPC-SP11.

Call or e-mail our Tech Support Group for assistance in application and preparation.

It is always best to perform a test within a small section of the application area prior to full scale engagement.

Warranty

The information herein is believed to be reliable, but unknown risks may be present. Epolac warrants only that the materials shall be of merchantable quality. This warranty is in lieu of all other written or unwritten, expressed or implied warranties. Epolac expressly disclaims any warranty of fitness for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials. Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve Epolac of all liability with respect to the materials or the use thereof