TECHNICAL INFO

Liquid Coatings Sheet TILC/T-3.0222

Polyurethane Acrylic

General Description

Polyurethane Acrylic is a two-package, VOC conforming to comply with 3.5 lbs./gal. regulated areas, low HAPS, direct-to-metal (DTM) acrylic polyurethane. The coating is designed to provide a highly durable high gloss, high build, one-step system suitable for non-corrosive exposures and selected harsher environments. The resulting product is a direct-to-metal acrylic polyurethane that provides maximum topcoat appearance and industry-leading polyurethane performance.

Typical Uses

Designed as a quality high build, high gloss, polyurethane DTM on hot rolled carbon steel, weathered and properly treated galvanized, aluminum when:

- Outstanding DTM color and gloss retention are required
- Excellent durability is required
- Excellent adhesion and flexibility are desired
- Excellent UV resistance is required

Compatibility with Other Coatings

- Polyurethane Acrylic can be applied as a DTM over properly prepared: aluminum, hot rolled carbon steel and weathered galvanized surfaces, in non-corrosive exposures and selected harsher environments. Contact Twin City Fan & Blower for specific recommendations.
- It may be used over most aged and hard cured coatings in good condition. Testing for lifting, bubbling and adhesion is recommended to assure compatibility with unknown coatings.
- For more protection, Polyurethane Acrylic can also be used over properly primed surfaces in exterior exposures. Recommended primers include Epoxy Mastic and Zinc Rich Primer. Contact Twin City Fan for specific recommendations.

Not Recommended For

- Immersion service or floors
- Severely corrosive environments (as a one coat system)

Performance Properties

Abrasion & Mechanical	Excellent
Alkalis	Excellent
Humidity	Excellent
Solvents	Excellent
Color & Gloss Retention	Excellent
Acids	Excellent
Salts	Excellent
Weather	Excellent

Color

164-67632 White
164-67640 Black
Custom Mix Colors / Mix quality TH

Application

Surface Preparation

Polyurethane Acrylic can be applied as a DTM over properly prepared: aluminum, steel and weathered galvanized surfaces. All surfaces should be cleaned with solvent (SSPC-SP1) to remove any grease or oil contamination prior to priming.

- Aluminum surfaces should be properly treated. Surface preparations may include sanding, alodine treatment or other preparation necessary to ensure adhesion. Can be applied over other surface preparations as well as phosphatizing.

Physical Properties of the Coating

Maximum Service Temperature:	250°F (121°C) in continuous service
Flash Point Closed Cup:	Between 20° to 73°F (-6° to 23°C)
Gloss (ASTM D523):	90 measured @ 60° angle
Color:	Custom colors

Storage Conditions

Store in a dry, well-ventilated area. Storage conditions should be between 35°F (2°C) and 120°F (48°C).

Typical Properties of the Coating

Physical properties are for Polyurethane Acrylic direct-to-metal only. Properties may be enhanced by use of appropriate primers. For other system results, contact Twin City Fan & Blower.

Paint System: Polyurethane Acrylic
Substrate: Grit-blasted cold rolled steel / Bonderite 1000
Type: Polyurethane
DFT: 4-5 mils

Salt Fog (ASTM B117)	750 hours	no creep from scribe, no blistering
	1000 hours	creep: 0.5 to 1.0 mm, no blistering
Relative Humidity (ASTM D2247)	750 hours	no blistering
	1000 hours	no blistering
Adhesion (ASTM D335)	X-cut	5 A - no failures
	Cross hatch	5 B - no failures
Pencil Hardness		4H
QUV Condensation (ASTM D4587/340A)	750 hours	86% gloss retention @ 60°
	1000 hours	86% gloss retention @ 60°
Impact (ASTM D2794)	80 inch pounds	no failures
Mandrel Bend (ASTM D522)	1/8" mandrel	no cracking

Select Chemical Resistance
The following are chemical resistance ratings (1=poor, 10=excellent), after exposure to listed chemicals and 24-hour watch glass exposure.

CHEMICAL	RATING	CHEMICAL	RATING	CHEMICAL	RATING
Sulfuric Acid 1%	10	Sodium Hydroxide 5%	8	Cutting Oil (Rigid)	7
Sulfuric Acid 10%	8	Ethanol	9	Unleaded Gas	8
Phosphoric Acid 10%	10	Aromatic Controlled VM&P Naphtha	9	Skydrol (500B4L)	7
Methyl Ethyl Ketone	9	Isopropyl Alcohol	9	Tide Soap 10%	10
Nitric Acid 1%	9	Diethylene Glycol Monobutyl Ether	8	Fantastic	7
Ammonium Hydroxide 5%	9	Sodium Hydroxide 10%	7	Bleach	7
Ammonium Hydroxide 28%	9	Motor Oil (Mobil 10W-30)	10	Break Fluid (DOT 3 Wagner Premium)	7
Sodium Hydroxide 1%	10	Hydraulic Oil (Pennzoil)	10	Cola	10

Safety and Handling

Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.

Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation and gloves.

All technical advice, recommendations and services are rendered by the Seller gratis. They are based on technical data that the Seller believes to be reliable and are intended for professional use by persons having skill and know-how at their own discretion and risk. Seller assumes no responsibility for results obtained or damages incurred from their use by Buyer in whole or in part. Such recommendations, technical advice or services are not to be taken as a license to operate under or intended to suggest infringement of any existing patent.

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