

4880 / 106033-01
Topcoat



Industrial and Marine Coatings

Attn: Marty C.

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12 Pages

HI-SOLIDS POLYURETHANE

PART S B65-300
PART T B60V30

SERIES HARDENER

PRODUCT INFORMATION

Revised 1/97

Product Description

HI-SOLIDS POLYURETHANE is a two-component, low VOC, acrylic polyurethane resin coating. It is designed for high performance protection with excellent exterior gloss and color retention.

- Good/excellent resistance to corrosion and weathering
- Excellent color and gloss retention
- Chemical resistant
- Part of a system tested for nuclear irradiation and decontamination, Level II.
- Suitable for use in USDA inspected facilities.

Recommended Uses

For use over prepared substrates in industrial environments

Examples:

- Heavy duty interior and exterior structural coating
- A chemical and abrasion resistant equipment and machinery finish
- A gloss and color retentive heavy duty maintenance coating for use in "high visibility" areas
- Exterior surfaces of steel tanks
- Refineries
- Clean rooms
- Chemical processing equipment
- Conveyors
- Handrails
- Exterior metal siding and trim
- Rolling stock
- Paper mills
- Precipitator surfaces
- Power plants
- Oil Field Machinery
- Offshore structures
- Marine Applications

Product Characteristics

Finish: High Gloss, 90 ± 5 units at 60°
Color: Wide range of colors possible including safety colors
Volume Solids: 65% ± 2%, mixed, may vary by color
Weight Solids: 77% ± 2%, mixed, may vary by color
VOC (EPA Method 24): Unreduced: 289 g/L; 2.40 lb/gal
 Pure White, mixed Reduced 15% 369 g/L; 3.08 lb/gal
Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

Wet mils: 4.5 - 6.0
 Dry mils: 3.0 - 4.0
 Coverage: 260 - 347 sq ft/gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.5 mils wet @ 60% RH:

	40°F	77°F	120°F
To touch:	4 hours	2 hours	1 hour
To handle:	16 hours	8 hours	5 hours
To recoat:			
minimum:	24 hours	18 hours	10 hours
maximum:	14 days	14 days	14 days
To cure:	14 days	10 days	7 days
Pot Life:	8 hours	4 hours	2 hours

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Sweat-In-Time: none required

Shelf Life: Part S 36 months, unopened, at 77°F
 Part T 12 months, unopened, at 77°F

Flash Point: 80 °F, PMCC, mixed

Reducer/Clean Up: Below 80°F—Reducer #69, R7K89
 Above 80°F—Reducer #58, R7K58

Performance

System Tested: (unless otherwise indicated)

Substrate: Steel
 Surface Preparation: SSPC-SP6
 Primer: 1 ct. Recoatable Epoxy Primer @ 4.0 mils dft
 Finish: 1 ct. Hi-Solids Polyurethane @ 3.0 mils dft

Abrasion Resistance:

Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load
 Result: 87.1 mg loss

Adhesion:

Method: ASTM D4541
 Result: 300 psi

Direct Impact Resistance:

Method: ASTM G14
 Result: >28 in. lbs.

Dry Heat Resistance:

Method: ASTM D2485
 Result: 200°F

Exterior Durability:

Method: 1 year at 45° South
 Result: Excellent

Flexibility:

Method: ASTM D522, 180° bend, 1/8" mandrel
 Result: Passes

Moisture Condensation Resistance:

Method: ASTM D4585, 100°F, 1000 hours
 Result: No rusting, blistering, or delamination

Pencil Hardness:

Method: ASTM D3363
 Result: F

Salt Fog Resistance:

Method: ASTM B117, 1000 hours
 Result: No blistering, softening, cracking, or delamination

Thermal Shock:

Method: ASTM D2246, 15 cycles
 Result: Excellent

10pcout



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APPLICATION BULLETIN

Revised 1/97

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Remove all weld spatter and round all sharp edges by grinding to a minimum 1/4" radius. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Aluminum

Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required.

Galvanized Steel

Allow to weather a minimum of six months prior to coating. Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.

Concrete and Masonry

Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F. Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with ArmorSeal Crack Filler. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Laitance must be removed by etching with a 10% muriatic acid solution and thoroughly neutralized with water. Primer required. Brick must be allowed to weather for one year prior to surface preparation and painting.

APPLICATION CONDITIONS

Temperature: 40°F minimum, 120°F maximum
(air, surface, and material)
At least 5°F above dew point

Relative humidity: 85% maximum

Application Equipment

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer/Clean Up

Below 80°F Reducer #69, R7K69
Above 80°F Reducer #68, R7K58

Airless Spray

Pressure 2500 - 2800 psi
Hose 3/8" ID
Tip013" - .017"
Filter none
Reduction as needed up to 10% by volume

Conventional Spray

Gun Binks 95
Fluid Nozzle 63 B
Air Nozzle 69 PB
Atomization Pressure ... 60 - 70 psi
Fluid Pressure 20 - 25 psi
Reduction as needed up to 15% by volume

Brush

Brush Natural Bristle
Reduction as needed up to 15% by volume

Roller

Cover 3/8" woven with phenolic core
Reduction as needed up to 15% by volume

If specific application equipment is listed above, equivalent equipment may be substituted.

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APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine 4 parts by volume of Part S with 1 part by volume of Part T. Thoroughly agitate the mixture with power agitation.

If reducer solvent is used, add only after both components have been thoroughly mixed.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	4.5 - 6.0
Dry mils:	3.0 - 4.0
Coverage:	260 - 347 sq ft/gal approximate

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.5 mils wet @ 50% RH:

	@ 40°F	@ 77°F	@ 120°F
To touch:	4 hours	2 hours	1 hour
To handle:	16 hours	8 hours	5 hours
To recoat:			
minimum:	24 hours	18 hours	10 hours
maximum:	14 days	14 days	14 days
To cure:	14 days	10 days	7 days
Pot Life:	8 hours	4 hours	2 hours

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Sweat-in-Time: none required

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #58, R7K58.

Mixed coating is sensitive to water. Use water traps in all air lines. Moisture contact can reduce pot life and affect gloss and color.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEANUP INSTRUCTIONS

Clean spills and spatters immediately with Reducer #58, R7K58. Clean tools immediately after use with Reducer #58, R7K58. Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.