



Protective & Marine Coatings

DIAMOND-CLAD® CLEAR COAT URETHANE

PART A
PART A
PART B
PART C

CLEAR - GLOSS
CLEAR - SEMI-GLOSS
HARDENER
CATALYST

B65T105
B65T115
B65V105
B65C105

Revised: March 25, 2022

PRODUCT INFORMATION

5.40

PRODUCT DESCRIPTION

DIAMOND-CLAD CLEAR COAT URETHANE is a three component, graffiti resistant, acrylic polyurethane clear coat that enhances the finish and weathering properties of newly applied aliphatic urethane coatings. It exhibits excellent graffiti resistance and ease of application by brush or roller. Designed to be applied within the recoat window of the respective Sherwin-Williams aliphatic urethane.

- Extends the service life and exterior weathering properties of urethane coatings.
- Enhances the color and gloss of urethane coatings.
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Gloss or Semi-Gloss
Color:	Clear
Volume Solids:	67% ± 2%, mixed, Gloss 66% ± 2%, mixed, Semi-Gloss
Weight Solids:	73% ± 2%, mixed
VOC (EPA Method 24):	<340 g/L; 2.8 lb/gal, mixed
Mix Ratio:	8:4:1; 3 premeasured components 0.81 gallons (3.06L) mixed

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	1.5 40	3.0 75
Dry mils (microns)	1.0 25	2.0 50
~Coverage sq ft/gal (m²/L)	545 13.3	1090 26.6
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1088 26.0	

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

Drying Schedule @ 2.0 mils wet (50 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	2 hours	30 minutes	20 minutes
To handle:	12 hours	3 hours	1.5 hours
To recoat with itself, if required:			
minimum:	12 hours	3 hours	1.5 hours
maximum:	7 days	7 days	7 days
To cure:	7 days	7 days	7 days
Pot Life:	2 hours	1 hour	30 minutes
Sweat-in-Time:		None	

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

Shelf Life:	Part A (gloss) - 12 months, unopened Part A (semi-gloss) - 24 months, unopened Part B - 12 months, unopened Part C - 12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	98°F (37°C) PMCC, mixed
Reducer/Clean Up:	R7K216 or R6K30

RECOMMENDED USES

- For exterior use over newly applied aliphatic urethane coatings in industrial environments
- To enhance urethane coatings by providing extended weathering properties
- Use where graffiti resistance is important
- Use on:
 - Water tanks
 - Pipelines
 - Refineries
 - Amusement parks
 - Corporate logos/signs
 - Storage tank exteriors
 - Bridges
 - Wastewater facilities
 - Commercial buildings
- Acceptable for use in high performance architectural applications.
- Suitable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10/NACE 2

System Tested*:

- 1st ct: Epolon II Multi-Mil Epoxy @ 2-4 mils (50-100 microns) dft
- 2nd ct: Poly-Lon HP @ 2-4 mils (50-100 microns) dft
- 3rd ct: Diamond-Clad Clear Coat @ 1-2 mils (25-50 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance (semi-gloss)	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	55 mg loss
Accelerated Weathering (gloss)	ASTM D4587, QUV-A, 10,000 hours	100% gloss retention
Adhesion (gloss)	ASTM D4541	1250 psi
Corrosion Weathering (gloss)	ASTM D5894, 9 cycles, 3000 hours	Passes, no blistering, cracking, rusting, or delamination
Direct Impact Resistance (semi-gloss)	ASTM D2794	120 in lb
Dry Heat Resistance	ASTM D2485	200°F (93°C)
Exterior Exposure	5 years at 45° South	No blistering, cracking, or chalking; 85% gloss retention, <4 MacAdam unit color change
Flexibility	ASTM D522, 180° bend, 1/8" mandrel	Passes
Graffiti Resistance	Graffiti materials applied - epoxy ester spray, acrylic spray, alkyd spray, ballpoint pen ink, crayon, lipstick	All materials were removed easily and completely with either xylene or MEK
Pencil Hardness (gloss)	ASTM D3363	HB
Salt Fog Resistance (gloss)	ASTM B117, 3000 hours	Passes, no blistering or rusting

Diamond-Clad meets the performance requirements of SSPC Paint No. 36, Level 3.



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RECOMMENDED SYSTEMS

Apply Diamond-Clad Clear Coat Urethane @ 1.0 - 2.0 mils (25-50 microns) dft/ct over the following Sherwin-Williams aliphatic urethanes:

Aliphatic Urethane	coat within
Acrolon 218 HS Acrylic Polyurethane	30 days
Corothane I Aliphatic Finish Coat	7 days
Corothane II Polyurethane	14 days
Envirolastic 940 LV	90 days
Fluorokem HS 100	45 days
Hi-Solids Polyurethane	14 days
Hi-Solids Polyurethane 250	30 days
Poly-Lon HP Polyurethane	48 hours
SherThane 2K Urethane	14 days

The systems listed above are representative of the product's use, other systems may be appropriate.

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.

Refer to product Application Bulletin for detailed surface preparation information.

Refer to data page of the urethane to be topcoated.

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	C St 2	C St 2	SP 2	-
Pitted & Rusted	D St 2	D St 2	SP 2	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	D St 3	D St 3	SP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature: 40°F (4.5°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging: 0.81 gallons (3.06L) mixed
Part A 2 quarts (1.89L) in a 1 gallon (3.78L) container
Part B 1 quart (0.94L)
Part C 8 oz (0.23L) container
Weight: 8.74 ± 0.2 lb/gal ; 1.05 Kg/L, mixed

SAFETY PRECAUTIONS

Refer to the SDS 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.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.



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APPLICATION BULLETIN

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SURFACE PREPARATIONS

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.

General 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 good adhesion.

Refer to data page of the respective aliphatic urethane coating to be topcoated.

Aliphatic Urethane.....coat within

Acrolon 218 HS Acrylic Polyurethane.....	30 days
Corothane I Aliphatic Finish Coat.....	7 days
Corothane II Polyurethane.....	14 days
Envirolastic 940 LV.....	90 days
Fluorokem HS 100.....	45 days
Hi-Solids Polyurethane.....	14 days
Hi-Solids Polyurethane 250.....	30 days
Poly-Lon HP Polyurethane.....	48 hours
SherThane 2K Urethane.....	14 days

APPLICATION CONDITIONS

Temperature: 40°F (4.5°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) 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 compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean Up: Reducer R7K216 or
Reducer R6K30

Do not add reducer solvent more than 30 minutes after mixing material together.

Brush

Brush..... Natural Bristle
Reduction* As needed up to 7% by volume

Roller

Cover 1/4" woven with solvent resistant core
Reduction* As needed up to 7% by volume

HVLP

SATA NR 2000 HVLP Spray gun/gravity feed
1.4 mm set aircap, needle, nozzle
40 psi air pressure

*Other areas (<420 g/L): Reducer R7K216 or Reducer R6K30 up to 10% by volume. Choose a reducer that is compliant in your area. Confirm compliance with state and local air quality rules before use.

If specific application equipment is not listed above, equivalent equipment may be substituted.

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rusted Pitted & Rusted	C St 2 D St 2	SP 2	-
Power Tool Cleaning	Rusted Pitted & Rusted	C St 3 D St 3	SP 3	-



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Combine 8 parts by volume of Part A with 1 part by volume of Part C. Mix thoroughly. Then add 4 parts by volume of Part B to the mixture and mix thoroughly with low speed power agitation. Do not shake. All components are premeasured.

If reducer solvent is used, add only after all components have been thoroughly mixed. Add within 30 minutes of mixing components together.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	1.5 40	3.0 75
Dry mils (microns)	1.0 25	2.0 50
~Coverage sq ft/gal (m ² /L)	545 13.3	1090 26.6
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1088 26.0	

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

Drying Schedule @ 2.0 mils wet (50 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	2 hours	30 minutes	20 minutes
To handle:	12 hours	3 hours	1.5 hours
To recoat with itself, if required:			
minimum:	12 hours	3 hours	1.5 hours
maximum:	7 days	7 days	7 days
To cure:	7 days	7 days	7 days
Pot Life:	2 hours	1 hour	30 minutes
Sweat-in-Time:		None	

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

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer R7K216 or Reducer R6K30. Clean tools immediately after use with Reducer R7K216 or Reducer R6K30. Follow manufacturer's safety recommendations when using any solvent.

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PERFORMANCE TIPS

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 mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

Allow to dry one week before checking adhesion.

Temperatures above 77°F (25°C) will shorten pot life.

Hot Weather Applications. When air, surface, and/or material temperature is above 85°F (29°C), the amount of B65C105 catalyst may be reduced up to 20% for every 5°F (2.8°C) over 85°F (29°C).

Do not add reducer solvent more than 30 minutes after mixing material together.

The addition of Fade-A-Way Dye Additive to Diamond-Clad Clear Coat provides a temporary color contrast to the existing base coat during application. The colorant generally dissipates within 72 hours. Low temperatures and indirect sunlight will slow the rate of disappearance.

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

SAFETY PRECAUTIONS

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