



Protective & Marine Coatings

COROTHANE® I HS ALIPHATIC FINISH COAT

B65WX51
B65WX53
B65TX54
B65W50
B65-50

SMALL BATCH (PASTEL)
SMALL BATCH (DEEP)
SMALL BATCH (DARK)
FINISH WHITE
FINISH COLORS

Revised: January 19, 2023

PRODUCT INFORMATION

5.12

PRODUCT DESCRIPTION

COROTHANE I HS ALIPHATIC FINISH COAT is a single component, moisture curing urethane designed for low temperature or high humidity applications while providing UV resistance and chemical resistance equivalent to two-part urethane coatings.

- Low temperature application - down to 20°F (-7°C)
- Superior resistance to yellowing, chalking, or degradation by sunlight
- Superior adhesion to most prepared surfaces
- Superior abrasion resistance
- Outstanding chemical resistance
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	Wide range of colors available
Volume Solids:	61% ± 1%, may vary by color
Weight Solids:	77% ± 2%
VOC (EPA Method 24):	Unreduced: <310 g/L; 2.60 lb/gal Reduced 5%: <340 g/L; 2.80 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.5 (88)	5.0 (125)
Dry mils (microns)	2.0 (50)	3.0 (75)
~Coverage sq ft/gal (m ² /L)	326 (8.0)	489 (12.0)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	976 (23.9)	

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

Drying Schedule @ 4.0 mils wet (100 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	5.5 hours	2 hours	1.5 hours
To handle:	22 hours	8 hours	5 hours
To recoat:			
minimum:	24 hours	12 hours	6 hours
maximum:	14 days	14 days	14 days
To cure:	7 days	3 days	3 days

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

Shelf Life:	12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C). (Tinted colors must be used within 7 days after tinting)
Flash Point:	101°F (39°C), Seta Flash
Reducer/Clean Up:	Reducer #15, R7K15, R7K100, or R7K111 (VOC exempt)

RECOMMENDED USES

- Color coat where maximum color and gloss retention are required
- Suitable for use in the following industries:
 - Marine
 - Industrial
 - Bridge and Highway
 - Water and Waste Water
 - Petro-Chemical
 - Pulp and Paper
 - Rail
- Suitable for use in USDA inspected facilities.
- Acceptable for use in Canadian Food Processing facilities categories: D1, D2, D3 (Confirm acceptance of specific part numbers/rexes with your Sherwin-Williams representative)
- Conforms to AWWA D102-03 OCS #2
- Meets requirements of SSPC Paint 38, Level II

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP6

System Tested*:

1 ct. Corothane I MIO-Aluminum @ 3.0 mils (75 microns) dft

1 ct. Corothane I HS Aliphatic Finish Coat @ 3.0 mils (75 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	80 mg loss
Adhesion ¹	ASTM D4541	1651 psi
Corrosion Weathering	ASTM D5984, 12 cycles, 4032 hours	Rating 10 per ASTM D610 Rusting; Rating 10 per ASTM D714 Blistering
Direct Impact, topcoat only	ASTM D2794	90 in lb
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibility, topcoat only	ASTM D522, 180° bend, 1/8" mandrel	Passes
Humidity	ASTM-D4585, 1000 hours	Rating 10 per ASTM D610 for Rusting; Rating 10 per ASTM D714 for Blistering
Pencil Hardness	ASTM D3363	HB
Salt Fog Resistance	ASTM B117, 1000 hours	Rating 10 per ASTM D610 for Rusting; Rating 10 per ASTM D714 for Blistering
Thermal Cycling	ASTM D2246, 15 cycles	Passes, no cracking, checking, or blistering; no loss of adhesion, 100% gloss retention

¹Tested with Corothane I GalvaPac 1K Zinc Primer

Meets requirements of SSPC Paint 38, Level II.



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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct.	
		Mils	(Microns)
Steel:			
1 ct.	Corothane I MIO-Aluminum	2.0-3.0	(50-75)
1 ct.	Corothane I Ironox B	3.0-5.0	(75-125)
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Steel:			
1 ct.	Corothane I MIO-Aluminum	2.0-3.0	(50-75)
1-2 cts.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Steel:			
1 ct.	Corothane I GalvaPac Zinc Primer	3.0-4.0	(75-100)
1 ct.	Corothane I Ironox B	3.0-5.0	(75-125)
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Steel:			
1 ct.	Corothane I PrePrime	1.0-1.5	(25-40)
1 ct.	Corothane I MIO-Aluminum	2.0-3.0	(50-75)
1 ct.	Corothane I Ironox B	3.0-5.0	(75-125)
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Steel (Epoxy Primer):			
1 ct.	Dura-Plate 235	4.0-8.0	(100-200)
1-2 cts.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Concrete, smooth:			
1 ct.	Corothane I PrePrime	1.0-1.5	(25-40)
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Concrete, rough:			
On deeply profiled or damaged concrete floor:			
1 ct.	Kem Cati-Coat HS Epoxy Filler/Sealer	10.0-20.0	(250-500)
as required to fill voids and provide a continuous substrate.			
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
Previously Painted Surfaces:			
Spot prime bare steel with 1 coat of Corothane I GalvaPac Zinc Primer			
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
or			
1 ct.	Corothane I Ironox B	3.0-5.0	(75-125)
1 ct.	Corothane I HS Aliphatic Finish Coat	2.0-3.0	(50-75)
(Check compatibility)			

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

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.

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.

Minimum recommended surface preparation:

- *Iron & Steel: SSPC-SP6/NACE 3
- *Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3
- *Previously Painted: SSPC-SP2 or SP3
- *Primer required

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

Custom color options are available. Store tinted material is to be used within 7 days of tinting. Contact your Sherwin-Williams representative for additional information.

APPLICATION CONDITIONS

Temperature:
air and surface: 20°F (-7°C) minimum, 100°F (38°C) maximum
material: 45°F (7°C) minimum
Do not apply over surface ice

Relative humidity: 30% minimum, 99% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging: 1 gallon (3.78L) and 5 gallon (18.9L) containers
Weight: 11.79 ± 0.2 lb/gal ; 1.4 Kg/L
may vary by color

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.



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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.

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/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/ NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). 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 Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:

ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

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
Rusted	C St 2	C St 2	SP 2	-
Hand Tool Cleaning	Pitted & Rusted	D St 2	SP 2	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:
air and surface: 20°F (-7°C) minimum, 100°F (38°C) maximum
material: 45°F (7°C) minimum
Do not apply over surface ice

Relative humidity: 30% minimum, 99% 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

Brush/Roll Reducer #15, R7K15
Spray..... Aromatic 100 Reducer, R2K5
VOC exempt R7K111

Airless Spray

Pump..... 30:1
Pressure..... 1800 - 2000 psi
Hose..... 1/4" ID
Tip011" - .015"
Filter 60 mesh
Reduction..... As needed up to 5% by volume

Conventional Spray

Unit.....	Graco	Binks
Gun	900	95
Fluid Nozzle	070	66/65
Air Nozzle.....	947	66PR
Atomization Pressure.....	60-70 psi	60-70 psi
Fluid Pressure.....	15-20 psi	15-20 psi
Reduction.....	As needed up to 5% by volume	

Brush

Brush..... Natural bristle
Reduction..... As needed up to 5% by volume

Roller

Cover 1/4" natural or synthetic with solvent resistant core
Reduction..... As needed up to 5% by volume

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



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix paint thoroughly prior to use with a low speed power agitator. Filter slowly through a 55 mesh screen.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.5 (88)	5.0 (125)
Dry mils (microns)	2.0 (50)	3.0 (75)
~Coverage sq ft/gal (m ² /L)	326 (8.0)	489 (12.0)
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NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet (100 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	5.5 hours	2 hours	1.5 hours
To handle:	22 hours	8 hours	5 hours
To recoat:			
minimum:	24 hours	12 hours	6 hours
maximum:	14 days	14 days	14 days
To cure:	7 days	3 days	3 days

*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 #15, R7K15. Clean tools immediately after use with Reducer #15, R7K15. Follow manufacturer's safety recommendations when using any solvent.

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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.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #15, R7K15.

Pour a small amount of Reducer #15, R7K15 over the top of the paint in the can to prevent skinning or gelling.

Place a temporary cover over the pail to keep excessive moisture, condensation, fog, or rain from contaminating the coating.

Do not exceed recommended dry film thickness.

When applying Corothane I HS Aliphatic Finish Coat over dark colors, Corothane I Zinc Primers, or porous surfaces, an intermediate coat or a minimum of 2 finish coats is required for adequate hide and uniformity of appearance.

E-Z Roll Urethane Defoamer is acceptable for use - see data page for details.

Corothane KA Accelerator is acceptable for use - see data page for details.

It is recommended that partially used cans not be sealed/closed for use at a later date.

Do not shake beyond two minutes.

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

SAFETY PRECAUTIONS

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