



Protective & Marine Coatings

DURA-PLATE® 301K MOISTURE TOLERANT EPOXY

PART A: B62-340
PART B: B62V340

SERIES
HARDENER

Revised: February 21, 2017

PRODUCT INFORMATION

4.65

PRODUCT DESCRIPTION

DURA-PLATE 301K is an ultra surface and moisture tolerant high solids epoxy coating engineered to provide outstanding adhesion and anti-corrosion performance over a wide range of surface preparation techniques including water jetting, abrasive blasting, and hand or power tool cleaning. The unique formulation of DP 301K allows it be applied over damp and medium flash rusted metal substrates and without dew point restrictions. This characteristic significantly broadens acceptable application windows to drive efficiencies in coating schedules for both new construction and maintenance projects.

- Excellent substrate and intercoat adhesion
- No dew point or relative humidity restrictions
- Excellent anti-corrosive properties
- May be applied over medium flash rust

PRODUCT CHARACTERISTICS

Finish:	Semi-gloss
Color:	Red Oxide, White
Volume Solids:	86 ± 3%
VOC (EPA Method 24):	<100 g/L ; 0.83 lb/gal
Mix Ratio:	3.3:1, by volume

Theoretical Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	4.0 (100)	12.0 (300)
Dry mils (microns)	3.5 (90)	10.5 (270)
~Coverage sq ft/gal (m²/L)	137 (3.3)	412 (10.0)

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):

	@ 65°F/18°C	@ 77°F/25°C 50% RH	@ 104°F/40°C
To touch:	24 hours	14 hours	5 hours
Foot traffic:	56 hours	24 hours	16 hours
To recoat:			
minimum:	24 hours	16 hours	8 hours
maximum:	15 days	8 days	5 days
To cure:	10 days	4 days	36 hours
Pot life:	8 hours	3 hours	30 minutes

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)
Flash Point:	>212°F (>102°C), mixed (ASTM D56)
Clean Up:	R6K10 (MEK) or R7K104

RECOMMENDED USES

DURA-PLATE 301K is an anti-corrosive coating for long service life protection of marine and industrial plant assets. It is a surface and moisture tolerant epoxy coating that provides excellent performance in a wide array of applications in both immersion and atmospheric exposures including new construction, conversion, repair, and maintenance overcoat applications.

- Marine external hulls, decks, ballast and void tanks, bilges and wet spaces
- Oil & Gas offshore platforms, refineries, storage tanks, piping, and structural steel
- Steel bridges
- Water / Wastewater dams, pipe galleries, penstocks, tank externals
- Food and Beverage – suitable for use in USDA inspected facilities

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results
Adhesion (Pull-off)	ASTM D4541 After application and curing	1740 - 3480 psi 12.0 - 24.0 MPa
Atmospheric Exposure	2.5 years	Rust rating: 10 Blistering rating: 10 Scribe undercut: .5mm
Cathodic Disbonding	MIL-P-24647, 90 days	Passes
Combined Weathering	NACE TM0184, 4000 hrs.	No defects
Compressive Strength	ISO 844	~ 15,000 psi (1.050 KgF/cm ²)
Corrosion Weathering	NORSOK M-501 Rev.4, 4200 hrs. ASTM D5894, 4032 hrs. ISO 20340, 4200 hrs.	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Elasticity Modulus	ISO/R 527	~1,422 x 106 psi (100,000 KgF/cm ²)
Fire Resistance	ASTM E84-01	Rating A
Flexibility	ASTM D522, 180° bend, 1/2" mandrel	Passes
Flexural Strength	ISO 178	9245 psi (650 KgF/cm ²)
Humidity Resistance	ASTM D4585, 1000 hrs. ASTM D4585, 2000 hrs.	ASTM D1654, Rating:10 No defects
Maximum Elongation	ISO/R 527	3%
Prohesion	ASTM G85, 2000 hours	Passes
Salt Fog Resistance	ASTM B117, 1000 hours ASTM B117, 2000 hours	D1654: Rating: 10 No defects



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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct.	
		Mils	(Microns)
Immersion			
2 cts.	DURA-PLATE 301K	3.5-10.5	(90-270)
Atmospheric			
1-2 cts.	DURA-PLATE 301K	3.5-10.5	(90-270)
*1ct.	Acrolon 218 HS Polyurethane	3.0-6.0	(75-150)

*optional

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

CERTIFICATES AND APPROVALS

IMO PSPC (301K only): Type Approved as part of a coating system compliant with IMO MSC.215(82) (Performance Standard for Protective Coatings for Dedicated Seawater Ballast Tanks and Double Side Skin Spaces).

NFPA: part of a system recognizable as Class A rated by National Fire Protection Agency (USA) regarding Flame Spread and Smoke Developed Index accordingly to NFPA standard 101. Systems have been tested using the ASTM E84 standard by the NGC Fire Testing Laboratory (File FH 1525, Project H330).

APPLICATION CONDITIONS

Temperature:		
Ambient:		
Minimum:	65°F/18°C	
Substrate:		
Minimum:	65°F/18°C	
Maximum:	122°F/50°C	
Relative humidity:	No restrictions	
Refer to product Application Bulletin for detailed application information.		

TINTING

Do not tint.

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.

SURFACE PREPARATION

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

DURA-PLATE 301K is tolerant to hydroblasted, wet or dry abrasive blasted or mechanically treated surfaces.

***Abrasive blasting:** SSPC SP6 or NACE 3 (ISO 8501-4)

***Hydroblasting:** WJ-2M (SSPC SP12)

***Mechanical Treated:** SSPC SP3 (ISO 8501 -1:1988)

*Recommended surface profile 2-3 mils (50-75 microns)

Additional Advantages: Independently of the type of surface preparation, DURA-PLATE 301 moisture tolerance allows for a clean water surface washing before coating to reduce salt contamination. This procedure allowance means that SC2 non-visual standards (NACE 5 / SSPC-SP12) can easily be reached. DURA-PLATE 301 iron oxides tolerance allows to proceed with the coating application even over a considerably flash rusted surface (equivalent to M degree as described at SSPC VIS4 (I) / NACE N°7 standard).

Recoating over old paints in good condition: DURA-PLATE 301K in most cases can be applied over existing sound coating systems. Adhesion with existing coatings should be tested in a small area, before painting. Also, the adhesion of the old material should be verified. All loose materials should be removed. Please contact our Technical Support team to evaluate surface preparation alternatives. Acceptable cleaning and degreasing the surface is required. Abrading the old coating surface, to promote adhesion, is also recommended.

Surface Preparation Standards

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

ORDERING INFORMATION

Packaging and Weight:

5 Gal kit: Part A: 3.3 US gal in a 5 US gal container
Part B: 1 US gal in a 1 US gal container

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APPLICATION CONDITIONS

Temperature:

Ambient:

Minimum: 65°F/18°C

Substrate:

Minimum: 65°F/18°C

Maximum: 122°F/50°C

Relative humidity: No restrictions

Refer to product Application Bulletin for detailed application information.

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.

Clean UpMEK or R7K104

Airless Spray

Pressure.....3625 - 4350 psi (250-300 bar)

Tip......015" - .021" (0.38 - 0.53mm)

Reduction.....None

Conventional Spray

GunDeVilbiss MBC-510

Fluid TipD

Cap64HD

Atomization Pressure.....35-40 psi

Fluid Pressure.....15 psi

Fluid & Air Lines.....3/8"

Plural Component Equipment

Pump.....Graco XM70, ExtremeMix

or equivalent

Pressure.....5,000 psi

Hose.....3/8" ID

Tip......015" - .021"

Pump Heater Setting.....80-90

Brush (for stripe coating and repair only)

Brush.....Nylon/polyester or natural bristle

Roller (for stripe coating and repair only)

Cover3/8" woven with solvent resistant core

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

Surface Preparation Standards

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



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly to a uniform consistency with low speed power agitation prior to use.

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

Theoretical Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	4.0 (100)	12.0 (300)
Dry mils (microns)	3.5 (90)	10.5 (270)
~Coverage sq ft/gal (m ² /L)	137 (3.3)	412 (10.0)

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):

	@ 65°F/18°C	@ 77°F/25°C 50% RH	@ 104°F/40°C
To touch:	24 hours	14 hours	5 hours
Foot traffic:	56 hours	24 hours	16 hours
To recoat:			
minimum:	24 hours	16 hours	8 hours
maximum:	15 days	8 days	5 days
To cure:	10 days	4 days	36 hours
Pot life:	8 hours	3 hours	30 minutes

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 R6K10 (MEK) or R7K104. Clean tools immediately after use with R6K10 (MEK) or R7K104. After cleaning, flush spray equipment with R6K10 (MEK) or R7K104 to prevent rusting of the equipment. Follow manufacturer's safety recommendations when using R6K10 (MEK) or R7K104.

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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.

Reduction of material will affect film build, appearance, and adhesion.

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with reducer R6K10 (MEK) or R7K104.

Holiday Detection (if required): Prior to immersion service, test coating with appropriate holiday detection equipment. Refer to NACE RPO188-0 for specific procedures.

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

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.

WARRANTY

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