



# Protective & Marine Coatings

# DURA-PLATE® 6100 HIGH PERFORMANCE EPOXY

PART A  
PART B

B62W475  
B62V475

RESIN  
HARDENER

Revised: November 30, 2018

## PRODUCT INFORMATION

TRM.115

### PRODUCT DESCRIPTION

**DURA-PLATE 6100** is a high build, high physical performance, 100% solids epoxy designed for corrosion protection of concrete and steel in municipal and industrial wastewater treatment facilities, especially where a high build and high physical value coating is required.

- 100% solids
- Resistant to water and wastewater treatment immersion
- Resistant to Sulfuric Acid formation caused by MIC in wastewater environments
- May be applied to an SSD (Saturated Surface Dry) substrate
- May be applied as a mortar system using type DP aggregate with no change in chemical resistance

### PRODUCT CHARACTERISTICS

<b>Finish:</b>	Matte
<b>Color:</b>	Off White
<b>Volume Solids:</b>	100%
<b>VOC (measured):</b>	<10 g/L (EPA Method 24)
<b>Weight Solids:</b>	100%, calculated mixed
<b>Mix Ratio:</b>	2:1, mix by volume

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	12.0 (300)	125.0 (3125)
<b>Dry mils (microns)</b>	12.0 (300)	125.0 (3125)
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	12.8 (0.3)	133.6 (12.4)

#### Drying Schedule @ 120.0 mils wet (3000 microns):

	@ 70°F/21°C 50% RH
<b>To touch:</b>	30 minutes
<b>To handle:</b>	2 hours
<b>To recoat:</b>	
<b>Minimum:</b>	15 minutes
<b>Maximum:</b>	8 hours
<b>Cure to service:</b>	6 hours

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

<b>Pot Life:</b>	20 minutes @ 77°F / 25°C (1 quart mass)
<b>Shelf Life:</b>	24 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
<b>Flash Point:</b>	Greater than 250°F (121°C), PMCC ASTM D93
<b>Clean Up/Reducer:</b>	R2KT4 or MEK. Do not thin material.

### RECOMMENDED USES

Protects concrete and steel surfaces in immersion and atmospheric exposure. Ideally suited for coating, lining, and containment applications in water and wastewater facilities including:

- Lift stations
- Pipes
- Digesters
- Sluice ways
- Influent chambers
- Sumps
- Trenches
- Basins
- Manholes
- Clarifiers
- Wet wells

### PERFORMANCE CHARACTERISTICS

**Substrate\*:** Steel

**Surface Preparation\*:** SSPC-SP10

**System Tested\*:**

1 ct. Dura-Plate 6100 @ 80.0 mils (2000 microns) to 100.0 mils (2500 microns) dft

\*unless otherwise noted below

#### RESISTANCE GUIDE IMMERSION

Contact your local Sherwin-Williams Protective & Marine Sales Rep to verify suitability at elevated temperatures.

• Acetic Acid 5%	Recommended
• Ammonium Hydroxide 5%	Recommended
• Diesel Fuel	Recommended
• Ferric Chloride 1%	Recommended
• Fresh and non potable water	Recommended
• Gasoline	Recommended
• Hypochloric Acid 10%	Recommended
• Kerosene	Recommended
• Nitric Acid 10%	Recommended
• Sodium Carbonate	Recommended
• Sodium Chloride 10%	Recommended
• Sodium Hydroxide 25%	Recommended
• Sodium Hypochlorite 1%*	Recommended
• Sulfuric Acid 20%	Recommended

\* 1% sodium hypochlorite solution was prepared from fresh standard household bleach where sodium hypochlorite solution concentration was assumed to be 5.25%

Test Name	Test Method	Results
<b>Abrasion</b>	ASTM D4060	<90 mg loss
<b>Adhesion (Concrete)</b>	ASTM D7234	Substrate Failure
<b>Adhesion (Steel)</b>	ASTM D4541	>3,000 psi
<b>Compressive Strength</b>	ASTM D695	15,000 psi
<b>Elongation Percent</b>	ASTM D638	4.8%
<b>Flexural Modulus</b>	ASTM D790	590,000 psi
<b>Flexural Strength</b>	ASTM D790	11,000 psi
<b>Hardness, Shore D</b>	ASTM 2240	83
<b>Impact Resistance</b>	ASTM D2794	30 in. lbs.
<b>Modulus of Elasticity</b>	ASTM D638	247,000 psi
<b>Severe Wastewater Analysis Test</b>	ASTM G210	<20% reduction from initial to final EIS values
<b>Standard Specifications for Public Works Construction (SSPWC)</b>	The "Greenbook" - Pickle Jar Testing	Passed and Approved
<b>Tensile Strength</b>	ASTM D638	5,600 psi
<b>Water Absorption</b>	ASTM D570	0.15%
<b>Water Vapor Transmission</b>	ASTM D1653	3.0/gms/m <sup>2</sup> (24 hrs)

Epoxy coatings may darken or discolor following application and curing and may chalk when exposed to sunlight.



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### RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
<b>Ductile Iron Pipe:</b>		
1 ct. Dura-Plate 6100	12.0-50.0	(300-1250)
<b>Steel (Immersion Service):</b>		
1 ct. Dura-Plate 6100	12.0-50.0	(300-1250)
Dura-Plate 6100 Ultra can be applied in excess of 125 mils (3,125 microns) thick in multiple coats in areas requiring protection from erosion. Maximum total DFT is 275.0 mils (6,875 microns).		
<b>Buried Concrete (Immersion Service):</b>		
1 ct. Dura-Plate 6100	40.0-125.0	(1000-3125)
<b>Atmospheric Concrete (Immersion Service):</b>		
1 ct. Corobond 100 or Corobond LT	4.0-8.0	(100-200)
1 ct. Dura-Plate 6100	40.0-125.0	(1000-3125)
<b>*Concrete, Mortar (Lining and Resurfacing):</b>		
1 ct. DURA-PLATE 2300	as needed	
1 ct. Dura-Plate 6100	40.0-125.0	(1000-3125)

\*For more information on mixing, reference Protective & Marine technical bulletin - Dura-Plate Epoxy Mortars

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:

Atmospheric: SSPC-SP 6/NACE 3, 2 mil (50 micron) profile

Immersion: SSPC-SP 10/NACE 2, ≥3 mil (75 micron) profile

\*Concrete & Masonry:

Immersion: SSPC-SP 13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R, CSP 3-6

\*Ductile Iron Pipe: Atmospheric and Immersion NAF 500.03.03 Blast Cleaning

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

### TINTING

Do not tint.

### APPLICATION CONDITIONS

Temperature: 50°F (10°C) minimum, 100°F (38°C) maximum (Air and surface)

At least 5°F (2.8°C) above dew point  
Material must be preconditioned to 100°F (38°C) for proper heating and mixing through plural component equipment.

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

### ORDERING INFORMATION

Packaging:	
Part A:	5 gallon (18.9L) container 50 gallon (189.25L) container
Part B:	5 gallon (18.9L) container 50 gallon (189.25L) container
Weight:	11.4± 0.2 lb/gal 1.4 Kg/L

### 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

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

**Carbon Steel, Immersion Service:**

Clean and degrease the surface prior to abrasive blasting per SSPC-SP 1 Solvent Cleaning. Methods described in SSPC-SP 1 include solvents, alkali, detergent/water, emulsions, and steam. The surface shall be abrasive blasted to SSPC-SP10/NACE No. 2 Near-White Blast Cleaning with a 2 - 3 mil profile. The anchor pattern shall be sharp with no evidence of a polished surface. The finished surface shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products, and other foreign matter with no more than 5% staining. After blasting, all dust and loose residue should be removed from the surface by acceptable means. Coat steel the same day as it is prepared and prior to the formation of rust.

**Concrete and Masonry, Immersion Service:**

Decontamination of the concrete surface requires the removal of oils, grease, wax, fatty acids and other contaminants and may be accomplished by the use of detergent scrubbing with a Sherwin-Williams cleaner and degreaser, low pressure water cleaning (less than 5,000 psi), steam cleaning, or chemical cleaning. The preferred methods for creating a surface profile, including the removal of dirt, dust, laitance and curing compounds, is abrasive blasting or scarifying to achieve an ICRI surface equivalent to CSP 3-6. Fill all cracks, voids, and bug holes with cementitious grout, Steel-Seam FT910 or Corobond 300. See ICRI Technical Guideline No. 310.2R for additional information.

**Ductile Iron Pipe:**

Remove all oil and grease from surface by Solvent Cleaning per NAPF 500-03-01. The substrate shall not contain soluble salt concentrations in excess of 3 ppm for chlorides, 5 ppm for nitrates, and 10 ppm for sulfates. Surface with soluble salt concentrations in excess of these values shall be cleaned until satisfactory results are obtained. Minimum surface preparation for large surfaces shall be Abrasive Blast Cleaning for Ductile Iron Pipe per NAPF 500-03-04. Blast clean all surfaces using sharp, angular abrasive for optimum surface profile (3 mils / 75 microns or greater, with no individual reading being less than 2.5 mils / 63 microns per NACE RP0287). Small surface areas (<50 sq. ft.) shall be Power Tool Cleaned per NAPF 500-03-03. Grind all surfaces utilizing mechanical scarification capable of producing the greatest surface profile and shall be performed in a perpendicular pattern to the direction of flow on the substrate.

**APPLICATION CONDITIONS**

Temperature: 50°F (10°C) minimum, 100°F (38°C) maximum (Air, surface)

Material must be preconditioned to 100°F (38°C) for proper heating and mixing through plural component equipment.

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 environmental and application conditions.

Application requires a hopper feed or transfer pump delivery of unmixed materials. Changes in pressures and tip sizes may be needed for proper spray characteristics.

**Clean Up Solvent** ..... Reducer R2KT4 or MEK

**Airless Spray**

- Pump..... Xtreme Mix 45:1 or 50:1 or Graco XP50 or equivalent
- Material Heaters..... Graco Hi-Flow Heaters or equivalent
- Pressure..... 4,000 - 5,600 psi
- Transfer Pump ..... 5:1 Monarch Pumps
- Hose..... 1/2" ID heated hose (Part A) X 3/8" ID heated hose (Part B) to mix manifold + 1/4" ID by 12' whip hose from static mixers to spray gun
- Manifold ..... Graco Remote Manifold
- Static Mixing Tubes..... Two (2) 1/2" x 12 turn insert\*
- Gun ..... Silver Flex, XTR, or Graco Pole Gun
- Tip ..... 21-31
- Material Temperature ..... Part A - 120-140°F / Part B - 90-110°F
- Material Temperature at gun tip ..... 95-140°F (vary as needed)
- Filter ..... No tighter than 60 mesh if necessary
- Reduction..... None

**Brush**

**For Stripe Coating or repair only**

Brush..... Nylon/Polyester Natural Bristle

**Roller**

**For backrolling only**

Cover ..... Soft Woven 1/2" or greater



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### APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

**Mixing Instructions:** Mix contents of each component thoroughly with low speed power agitation. Make certain no pigment remains on the bottom of the can. Thoroughly agitate the mixture with power agitation. Load each component into the proper side of the plural component spray pump hoppers or transfer pumps.

Apply paint at the recommended film thickness and spreading:

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	12.0 (300)	125.0 (3125)
Dry mils (microns)	12.0 (300)	125.0 (3125)
~Coverage sq ft/gal (m <sup>2</sup> /L)	12.8 (0.3)	133.6 (12.4)

#### Drying Schedule @ 120.0 mils wet (3000 microns):

	@ 70°F/21°C 50% RH
To touch:	30 minutes
To handle:	2 hours
To recoat:	
Minimum:	15 minutes
Maximum:	8 hours
Cure to service:	6 hours

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

**For Mortar Applications: (lining and resurfacing)**  
Refer to Protective & Marine technical bulletin - Dura-Plate Epoxy Mortars for mixing instructions

### CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer. Clean pump, hose, and gun by flushing system with R2KT4. Then flush tools immediately after use with MEK.

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### PERFORMANCE TIPS

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, over thinning, climatic conditions, and excessive film build.

No reduction of material is recommended, as this can affect film build, appearance and performance.

Brush application is for stripe coating and small areas only.

Premix each individual component prior to application. Use of drum transfer pumps will require agitators for both components. Do not mix Part A and Part B prior to spray application.

Precondition both Part A and Part B to 100°F (38°C) prior to transferring to the spray pump for proper heating and mixing during spray application

When long hose lengths are not required, the manifold at the pump can be utilized with a maximum of 25' x 1/2" integrated hose and 10' x 1/4" whip connected to the spray gun. This will require frequent cleaning to prevent clogs or blockages within the spray pump.

In order to avoid blockage of spray equipment, flush equipment before use or from the mix manifold to the spray gun before periods of extended downtime.

Tinting is not recommended for immersion service.

**For Immersion Service** (if required): Holiday test in accordance with ASTM D 5162 for steel, or ASTM D 4787 for concrete.

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

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