



**Protective
&
Marine
Coatings**



Certified to
NSF/ANSI 61

DURA-PLATE® UHS

WITH OPTI-CHECK OAP TECHNOLOGY

PART A	B62-210	SERIES
PART A	B62W211	WHITE OAP (NSF)
PART B	B62V210	STANDARD HARDENER (NSF)
PART B	B62V211	LOW TEMP HARDENER (NSF)

Revised: November 17, 2016

PRODUCT INFORMATION

TRM.35

PRODUCT DESCRIPTION

DURA-PLATE UHS is an ultra high solids epoxy amine engineered specifically for immersion service in ballast tanks, oil tanks, and refined fuel storage tanks. The high build, edge-retentive properties of Dura-Plate UHS provide superior protection compared to conventional epoxies.

- Airless Spray
- One coat protection
- Low VOC
- Low odor
- High flash point, >200°F (93°C)
- Can be used with 1½ oz. fiberglass mat
- Low Temperature Hardener for applications down to 40°F (4.5°C).
- NSF approved to Standard 61 for potable water (tanks of 1000 gallons or greater and pipes of 30" diameter or greater.)

RECOMMENDED USES

For use over prepared steel or concrete surfaces in industrial and marine exposures such as:

- Meets MIL-PRF-23236, Type VII, Class 5, 7, 9 and 11, Grade C (standard hardener only)
- Ballast tank interiors, Oil storage tank interiors, Refined fuel storage tank and potable water tanks interiors and pipe.
- NSF approved for one coat application up to 50.0 mils (1250 microns) dft if required
- Water and waste treatment plants
- Buried Pipe Applications
- Primary and secondary containment areas
- Where edge protection film build properties are required
- Suitable for use with cathodic protection systems
- White B62W211 Contains OAP fluorescent pigment (NSF Approved)
- Suitable for use in the Mining & Minerals Industry
- Acceptable for use in Canadian Food Processing facilities categories: D4 (Confirm acceptance of specific part numbers/boxes with your SW Sales Representative)

PRODUCT CHARACTERISTICS

Finish: Gloss
Color: White OAP (NSF), White (NSF), Light Gray (NSF), Light Green (NSF), Haze Gray
Volume Solids: 98% ± 2%, mixed
Weight Solids: 98% ± 2%, mixed
VOC (EPA Method 24):
 (with B62-V210 Hardeners) <100 g/L; 0.83 lb/gal, mixed
 (with B62V211 Hardener) <100 g/L; 0.84 lb/gal, mixed
Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat*:

	1 coat system		2 coat system	
	Min.	Max.	Min.	Max.
Wet mils (microns)	18.0	450	22.0	550
Dry mils (microns)	18.0	450	10.0	250
Total mils (microns)	18.0	450	20.0	500
~Coverage sq ft/gal (m²/L)	72	1.76	90	2.2
Theoretical coverage sq ft/gal (m²/L) @ 1 mil/25 micron dft	1568 (38.4)			

* See NSF Systems on next page.
 NOTE: Brush or roll application recommended for stripe coating and repair only. Standard hardener preferred for brush & roll due to pot life.

Drying Schedule @ 10.0-22.0 mils wet (250-550 microns):

	@ 55°F/13°C 50% RH	@ 77°F/25°C	@ 100°F/38°C
With B62-V210			
To touch:	12 hours	5 hours	3 hours
To handle:	48 hours	14 hours	8 hours
To recoat:			
minimum:	48 hours	14 hours	8 hours
maximum:	21 days	14 days	14 days
Cure to service:	10 days	4 days	24 hours
Heat Cure:	8 hours @ ambient, then 16 hrs @ 140°F (60°C)*		
*Not NSF Approved. See Tips Section.			
Pot Life*:	30-45 minutes	30-45 minutes	20-30 minutes
*Dependent upon temperature and mass			
Sweat-in-time:	15 minutes	None	None

PRODUCT CHARACTERISTICS (CONT'D)

	With B62V211 @ 40°F/4.5°C	@ 55°F/13°C 50% RH	@ 77°F/25°C
To touch:	24 hours	5 hours	3 hours
To handle:	48 hours	24 hours	8 hours
To recoat:			
minimum:	48 hours	24 hours	8 hours
maximum:	30 days	21 days	14 days
Cure to service:	7 days	5 days	3 days
Heat Cure:	8 hours @ ambient, then 16 hrs @ 140°F (60°C)*		
Material should be at least 50°F (10°C) for optimal performance. If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.			
Sterilize and rinse per AWWA C652. *Not NSF Approved. See Tips Section.			
Pot Life*:	20 minutes	20 minutes	10 minutes
*Dependent upon temperature and mass			
Sweat-in-Time:	5 minutes	None	None

Shelf Life: 36 months
Store indoors at 40°F (4.5°C) to 100°F (38°C).

Flash Point: >200°F (93°C), PMCC, mixed

Reduction: Not recommended

Clean Up: MEK, R6K10 or R7K104 Reducer

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP10/NACE 2
System Tested*:
 1 ct. Dura-Plate UHS @ 18.0 mils (450 microns) dft with B62GV210 Hardener
 *unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	20.8 mg loss
Adhesion	ASTM D4541; ASTM D3359	800 psi, minimum (ASTM D4541); 5A (ASTM D3359)
Corrosion Weathering	ASTM D5894, 6 cycles, 2016 hours	Rating 10 per ASTM D610 for rusting and Rating 10 per ASTM D714 for blistering
Direct Impact Resistance	ASTM D2794; ASTM G14	30 in. lb. (ASTM D2794); 168 in. lb. (ASTM G14)
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibility	ASTM D522, 180° bend, 1/2" mandrel	Passes, 9.7% elongation
Immersion (Galva-pac/1 ct Dura Plate UHS)	5 year potable water	Rating 10 per ASTM D610 for rusting and Rating 10 per ASTM D714 for blistering
Pencil Hardness	ASTM D3363	3H

- IMMERSION (Ambient temperature):**
- Ballast Tank mix Recommended
 - Crude oil Recommended
 - Diesel fuel Recommended
 - Ethanol or Gasohol Recommended
 - Fresh water/Potable Water Recommended
 - Fuel oil Recommended
 - Methanol or methanol blends Not Recommended
 - MTBE, TAME, ETBE Recommended
 - Refined petroleum products Recommended
 - Sea water Recommended
 - Hi-Aromatic Gasolines Recommended



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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
Steel, NSF Systems:		
1 ct. Dura-Plate UHS Primer	4.0-8.0*	(100-200)
1 ct. Dura-Plate UHS	10.0-12.0*	(250-300)
or		
1 ct. Dura-Plate UHS	16.0-50.0	(400-1250)
or		
2 cts. Dura-Plate UHS	8.0-25.0	(200-625)
or		
3 cts. Dura-Plate UHS	8.0-16.0	(200-400)
Steel, OAP Fluorescent Pigment System		
1 ct. Dura-Plate UHS (B62W211)	12.0-14.0	(300-350)
Steel:		
1 ct. Dura-Plate UHS Primer	4.0-8.0**	(100-200)
1 ct. Dura-Plate UHS	10.0-12.0	(250-300)
or		
2 cts. Dura-Plate UHS	6.0-7.0	(150-175)
or		
1 ct. Dura-Plate UHS	18.0-22.0	(450-550)
or		
2 cts. Dura-Plate UHS	10.0-12.0	(250-300)
Steel, with hold primer:		
1 ct. Macropoxy 5500 Primer (as required for blast hold primer)	1.0-1.5**	(25-40)
2 cts. Dura-Plate UHS	10.0-12.0	(250-300)
or		
1 ct. Copoxy Shop Primer	1.0-1.5	(25-40)
1 ct. Dura-Plate UHS	18-22	(450-550)
Steel, Laminate System:		
1 ct. Copoxy Shop Primer (as required for blast hold primer)	1.0-1.5	(25-40)
or		
1 ct. Dura-Plate UHS Primer	4.0-8.0**	(100-200)
1 ct. Steel-Seam FT910 as required for filling pits, and transitioning sharp edges, weld seams, etc.		
1 ct. Dura-Plate UHS Clear Laminate Resin with 1½ oz. glass mat	40.0-45.0	(1000-1125)
1 ct. Dura-Plate UHS as required to seal fiberglass mat	10.0-12.0	(250-300)
Concrete/Masonry:		
1 ct. Corobond 100 Epoxy Primer/Sealer (or 1 ct Dura-Plate UHS Primer (as required for NSF)	4.0-6.0 4.0-8.0**	(100-150) (100-200)
1 ct. Dura-Plate UHS (as required for NSF)	18.0-22.0	(450-550)

* If primer is used, 10 mils (250 microns) dft maximum for primer and 14 mils (350 microns) dft maximum for topcoat.

** When using the B62L210 Primer containing the OAP fluorescent pigment, make sure a non-containing OAP fluorescent pigment Topcoat is used.

Refer to Application Bulletin for treatment of pitted tank bottoms.

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-SP6/NACE 3, 2 mil (50 micron) profile or SSPC-SP12/NACE No. 5, WJ-3/NV-2 SSPC-SP10/NACE2, 2-3 mil (50-75 micron) profile or SSPC- SP12/NACE No. 5, WJ-2/NV-2
Immersion:	
Concrete & Masonry:	
Atmospheric:	SSPC-SP13/NACE 6, or ICRI No. 310.2R CSP 2-3
Immersion:	SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R CSP 2-3

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 Part A.

Clear Hardeners B62V210 and B62V211 may be tinted with up to 1½ oz. per gallon with Maxitoner Colorant, Phthalo Green or Black (both NSF approved) **ONLY**.

APPLICATION CONDITIONS

Temperature (air, surface):	
B62-V210 Hardeners	50°F (10°C) minimum, 110°F (43°C) maximum
B62V211 Hardener	40°F (4.5°C) minimum, 77°F (25°C) maximum
	At least 5°F (2.8°C) above dew point
Material should be	70°F (21°C) to 85°F (29°C) or optimal performance.
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	
Part A:	4 gallon (15.1L) container
Part B:	1 gallon (3.78L) container
Weight:	10.52 ± 0.2 lb/gal ; 1.26 Kg/L, mixed

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

Iron & Steel (atmospheric service)

Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3 or SSPC-SP12/NACE No. 5. For surfaces prepared by SSPC SP6/NACE 3, first remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. 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 (2-3 mils / 50-75 microns). For surfaces prepared by SSPC-SP12/NACE No. 5, all surfaces shall be cleaned in accordance with WJ-3/NV2. Pre-existing profile should be approximately 2 mils (50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Iron & Steel (immersion service)

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2, or SSPC-SP12/NACE No. 5. For SSPC-SP10/NACE 2 blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-3 mils / 50-75 microns). For SSPC-SP12/NACE No.5, all surfaces to be coated shall be cleaned in accordance with WJ-2/NV2 standards. Pre-existing profile should be approximately 2 mils (50 microns). Remove all weld spatter. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Concrete and Masonry

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 2-3. 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.

Concrete, Immersion Service:

For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 1.3.2 or ICRI No. 310.2R, CSP 2-3.

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS709: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	-
Power Tool Cleaning	C St 3	C St 3	SP 3	-
Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature (air, surface):

B62-V210 Hardeners	50°F (10°C) minimum, 110°F (43°C) maximum
B62V211 Hardener	40°F (4.5°C) minimum, 77°F (25°C) maximum
	At least 5°F (2.8°C) above dew point

Material should be 70°F (21°C) to 85°F (29°C) or optimal performance.

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.

ReductionNot recommended

Clean UpMEK, R6K10 or R7K104 Reducer

Airless Spray

Unit.....	74:1 Pump, minimum
Pressure.....	6000 psi minimum
Hose.....	3/8" ID
Tip.....	.019" - .021"
Filter.....	30 mesh

In order to avoid blockage of spray equipment and hose, flush equipment with MEK, R6K10 or R7K104 Reducer at least once every 30 minutes when using the B62V210 Hardener and after each kit when using the Low Temperature Hardener, and before periods of extended downtime.

Plural Component

EquipmentAcceptable

BrushFor stripe coating and repair only

Brush.....Nylon/Polyester or Natural Bristle

RollerFor 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.



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix contents of each component thoroughly using low speed power agitation. Make certain no pigment remains on the bottom or the sides of the can. Then combine four parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation.

To ensure that no unmixed material remains on the sides or bottom of the cans after mixing, visually observe the container by pouring the material into a separate container.

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

Recommended Spreading Rate per coat*:

	1 coat system		2 coat system	
	Min.	Max.	Min.	Max.
Wet mils (microns)	18.0	450	22.0	550
Dry mils (microns)	18.0	450	22.0	550
Total mils (microns)	18.0	450	22.0	550
~Coverage sq ft/gal (m ² /L)	72	1.76	90	2.2
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil/25 micron dft	1568 (38.4)			

* See NSF Systems on next page.

NOTE: Brush or roll application recommended for stripe coating and repair only. Standard hardener preferred for brush & roll due to pot life.

Drying Schedule @ 10.0-22.0 mils wet (250-550 microns):

	@ 55°F/13°C	@ 77°F/25°C	@ 100°F/38°C
With B62-V210	50% RH		
To touch:	12 hours	5 hours	3 hours
To handle:	48 hours	14 hours	8 hours
To recoat:			
minimum:	48 hours	14 hours	8 hours
maximum:	21 days	14 days	14 days
Cure to service:	10 days	4 days	24 hours
Heat Cure:	8 hours @ ambient, then 16 hrs @ 140°F (60°C)*		
Pot Life*:	30-45 minutes	30-45 minutes	20-30 minutes
Sweat-in-time:	15 minutes	None	None

*Not NSF Approved. See Tips Section.

*Dependent upon temperature and mass

PERFORMANCE TIPS

Repair of Pitted Tank Bottoms

Extensive, deep pitting:

Options:

Option 1 Apply a full wet coat, by spray application, of Dura-Plate UHS Primer. Follow with rubber squeegee to work material into and fill the pitted areas. After recommended drying time, apply a full coat of Dura-Plate UHS at recommended film thickness.

Option 2 Apply Dura-Plate Laminant Resin with 1½ oz fiberglass mat over the pitted areas. After recommended drying time, apply a full coat of Dura-Plate UHS at recommended film thickness.

Option 3 Weld new steel plates, or use puddle welds, as required to repair pitted areas. Coat areas as recommended.

Shallow pitting, isolated areas:

Options:

Option 1 Same as number 1 above.

Option 2 Apply Steel-Seam FT910 as required to fill the pitted areas. Coat areas as recommended.

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

No reduction of material is recommended as this can 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 and hose, flush equipment with MEK, R6K10 or R7K104 Reducer at least once every 30 minutes when using the B62V210 Hardener and after each kit when using the Low Temperature Hardener, and before periods of extended downtime.

For Immersion Service: (if required) Holiday test in accordance with ASTM D5162 for steel, or ASTM D4787 for concrete.

May be applied up to 50.0-60.0 mils (1250-1500 microns) dft in one coat if required.

When using the B62L210 Primer containing the OAP fluorescent pigment, make sure a non-containing OAP fluorescent pigment Topcoat is used.

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

Heat curing is not acceptable for NSF approval.

Guidance on techniques and required equipment to inspect a coating system incorporating Opti-Check OAP Technology can be found in SSPC-TU 11.

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

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CLEAN UP INSTRUCTIONS

Clean spills and splatters immediately with MEK, R6K10. Clean tools immediately after use with MEK, R6K10. Follow manufacturer's safety recommendations when using any solvent.