



Protective & Marine Coatings
DURA-PLATE® UHS

Revised 06/2014 Issue 3

PRODUCT INFORMATION

PRODUCT DESCRIPTION

DURA-PLATE UHS

The rapid return to service and high build, edge retentive properties of this superior tank lining provide superior protection. Can be applied by conventional airless pumps in a single coat, Dura-Plate UHS is the user friendly solution that matches the need for fast curing & top performance for use in tanks containing a wide range of cargos from crude to potable water or ethanol.

- Airless Spray
- One coat protection
- Low VOC
- Low odour
- High flash point, >93°C

PRODUCT CHARACTERISTICS

Finish	Gloss
Colour:	White
Volume Solids:	98% ± 2%, mixed
Weight Solids:	98% ± 2%, mixed
VOC:	<155 g/ltr
Mix Ratio:	4:1 by volume

Recommended Spreading Rate per coat:

	1 coat system		2 coat system	
	Min.	Max.	Min.	Max.
Wet microns	450	550	250	300
Dry microns	450	550	250	300
Total microns	450	550	500	600
Theoretical Coverage m²/ltr	2.2	1.8	2.0	1.7

NOTE: Brush or roll application recommended for stripe coating and repair only.

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

	@ 13°C 50% RH	@ 25°C	@ 38°C
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 @ 60°C*		

*Not NSF Approved. See Tips Section.

Pot Life:	30-40 minutes	30-40 minutes	20-30 minutes
Induction Time:	15 minutes	None	None

Shelf Life: 36 months
Store indoors at 4.5°C to 38°C

Flash Point: >93°C mixed
Thinning: Not recommended
Cleanser: No 13

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
- Ballast tank interiors, Oil storage tank interiors, Refined fuel storage tank
- Portable water tanks interiors and pipe (Certified to NSF/ANSI 61)
- Water and waste treatment plants
- Primary and secondary containment areas
- Where edge protection film build properties are required
- Suitable for use with cathodic protection systems

PERFORMANCE CHARACTERISTICS

Substrate: Steel

Surface Preparation: SSPC-SP10/NACE 2/Sa2½

System Tested:

1 ct. Dura-Plate UHS @ 450 microns dft

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	121°C
Flexibility	ASTM D522, 180° bend, 1/2" mandrel	Passes, 9.7% elongation
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 Petrol Recommended



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DISCLAIMER

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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:
Steel:

Atmospheric: SSPC-SP6/NACE 3/Sa2 50 micron profile or SSPC-SP/NACE WJ-3/NV-2

Immersion: SSPC-SP10/NACE2/Sa2½ 50-75 micron profile or SSPC- SP/NACE WJ-2/NV-2

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	-

APPLICATION CONDITIONS

Temperature (air, surface):
Standard Hardener 10°C minimum, 43°C maximum

At least 3°C above dew point, material should be 21°C to 29°C for optimal performance.

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:

Base (Part A): 14ltr in 20 ltr pail

Additive (Part B): 3.5ltr in 5ltr can

Weight: 1.26 Kg/ltr

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

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/Sa2 or SSPC-SP/NACE WJ. 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/Sa2½. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile 50-75 microns. For surfaces prepared by SSPC-SP/NACE WJ, all surfaces shall be cleaned in accordance with WJ-3/NV2. Pre-existing profile should be approximately 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. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2/Sa2½, or SSPC-SP/NACE WJ. For SSPC-SP10/NACE 2/Sa2½ blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-3 mils / 50-75 microns). For SSPC-SP/NACE WJ, 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.

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	-

APPLICATION CONDITIONS

Temperature (air, surface):

10°C minimum, 43°C maximum

3°C above dew point

Material should be 21°C to 29°C for 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 cleanser/thinner. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

ThinnerNot recommended

CleanserNo 13

Airless Spray

Unit.....74:1 Pump, minimum

Pressure.....6000 psi minimum

Hose.....3/8" ID

Tip019" - .021"

Filter30 mesh

In order to avoid blockage of spray equipment and hose, flush equipment with Cleanser / Thinner No 13 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 BULLETIN

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. Due to aeration in the base that occurs during manufacture, fill level may appear greater than 14L. Do not adjust prior to mixing. Combine Part A with 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.

Always mix full pack size, units must not be split for part mixing.

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 microns	450	550	250	300
Dry microns	450	550	250	300
Total microns	450	550	500	600
Theoretical Coverage m ² /ltr	2.2	1.8	2	1.7

NOTE: Brush or roll application recommended for stripe coating and repair only.

Drying Schedule @ 250-550 microns wet:

	@ 13°C 50% RH	@ 25°C	@ 38°C
To touch:	12 hours	5 hours	3 hours
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maximum:	21 days	14 days	14 days
Cure to service:	10 days	4 days	24 hours
Heat Cure:	8 hours @ ambient, then 16 hrs @ 60°C*		

*Not NSF Approved. See Tips Section.

Pot Life:	30-40 minutes	30-40 minutes	20-30 minutes
Induction Time:	15 minutes	None	None

Note: Recommended application procedure direct to steel: Apply a 125-150 micron coat to the substrate. Allow material to "wet" the surface. Then apply additional material, to bring total film thickness to the recommended range.

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 cleanser No 13. Clean tools immediately after use with MEK. Follow manufacturer's safety recommendations when using any solvent.

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 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.

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 mixed 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 Cleanser / Thinner No 13. 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.

May be applied up to 1250-1500 microns dft in one coat if required.

When using the Duraplate UHS 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.

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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