



**Protective
&
Marine
Coatings**

**NOVA-PLATE® UHS PRIMER
WITH OPTI-CHECK OAP TECHNOLOGY**

PART A
PART A
PART B
PART B

B62H220
B62L220
B62V220
B62V221

BUFF
BLUE OAP
FAST CURE HARDENER
STANDARD HARDENER

Revised: July 18, 2019

PRODUCT INFORMATION

TRM.37

PRODUCT DESCRIPTION

NOVA-PLATE UHS PRIMER is an ultra high solids epoxy novolac amine formulated specifically for use under Nova-Plate UHS Topcoat. For use in immersion service in ballast tanks, oil tanks, refined fuel storage tanks, and for well deck overheads. Nova-Plate UHS Primer provides excellent surface wetting and adhesion properties, especially over rust pitted steel surfaces.

- Airless Spray or Plural Component Application
- Low odor
- High flash point, >200°F (93°C)
- Fast cure hardener available

PRODUCT CHARACTERISTICS

Finish: Gloss
Color: Buff, Blue OAP
Volume Solids: 98% ± 2%, mixed
Weight Solids: 98% ± 2%, mixed
VOC (EPA Method 24): <100 g/L; 0.83 lb/gal mixed with B62V220
Mix Ratio: 4:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	6.0 (150)	12.0 (300)
Dry mils (microns)	6.0 (150)	12.0 (300)
Total mils (microns)	6.0 (150)	12.0 (300)
~Coverage sq ft/gal (m²/L)	133 (3.2)	262 (6.4)
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1568 (38.4)	

Drying Schedule @ 8.0 mils wet (200 microns):

	With B62V220* @ 55°F/13°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	9 hours	3 hours	1-1/4 hours
To handle:	24 hours	12 hours	4-1/4 hours
To recoat:			
minimum:	24 hours	12 hours	4-1/4 hours
maximum:	21 days	21 days	14 days
Cure to service:	7 days	5 days	5 days
Pot Life:	50 minutes	25 minutes	10 minutes
Sweat-in-time:	Not required		

*Fast Cure Hardener must be applied by Plural Component Airless only.

	With B62V221 @ 55°F/13°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
To touch:	15 hours	4 hours	2 hours
To handle:	36 hours	14 hours	6 hours
To recoat:			
minimum:	36 hours	14 hours	6 hours
maximum:	21 days	21 days	14 days
Cure to service:	7 days	5 days	5 days

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

Pot Life: 90 minutes 40 minutes 20 minutes

Note: Pot life will be shorter with higher temperatures and larger volume of material.

Sweat-in-time: Not required

PRODUCT CHARACTERISTICS (CONT'D)

Shelf Life:	24 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	230°F (110°C), PMCC, mixed
Reduction:	Not recommended
Clean Up:	MEK (R6K10) or R7K104

RECOMMENDED USES

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

- Meets MIL-PRF-23236, Type VII, Class 5, 7, 13, 19, Grade C
- Ballast tank interiors
- Well deck overheads
- Oil storage tank interiors
- Refined fuel storage tank interiors
- Acceptable for use under thermal insulation
- CHT Tanks and containment areas
- Blue OAP contains fluorescent pigment

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10/NACE 2

System Tested*:

1 ct. Nova-Plate UHS Primer @ 6.0-12.0 mils (150-300 microns) dft

1 ct. Nova-Plate UHS Topcoat @ 10.0-16.0 mils (250-400 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	55 mg loss
Adhesion	ASTM D4541; ASTM D3359	1380 psi, minimum (ASTM D4541); 5A (ASTM D3359)
Corrosion Weathering	ASTM D5894, 6 cycles, 2016 hours	Rating 10 per ASTM D610 for rusting; Rating 10 per ASTM D714 for blistering
Direct Impact Resistance	ASTM D2794	40 in. lb.
Dry Heat Resistance	ASTM D2485	450°F (232°C), discolors
Pencil Hardness	ASTM D3363	H

Epoxy coatings may darken or yellow following application and curing.



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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
Steel:		
1 ct. Nova-Plate UHS Primer	6.0-12.0	(150-300)
1 ct. Nova-Plate UHS Topcoat	10.0-16.0	(250-400)
Concrete/Masonry:		
1 ct. Corobond 100 Epoxy Primer/Sealer; apply primer to achieve uniform hiding, appearance, and complete wetting of the concrete surface. Coating will be partially absorbed into the concrete. Roll out any puddles.	4.0-6.0	(100-150)
1 ct. Nova-Plate UHS Primer	6.0-12.0	(150-300)
1 ct. Nova-Plate UHS Topcoat	10.0-16.0	(250-400)

Note:

For Well Deck Overhead Preservation:

Per Task Group Instruction (TGI), after primer application, a stripe coat of an identified, contrasting color of the finish coat may be required at 8.0 to 12.0 mils (200 - 300 microns) dft, followed by the finish coat at 10.0 to 12.0 mils (250 - 300 microns) dft.

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

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/SC-2
Immersion:	SSPC-SP10/NACE 2, 2-3 mil (50-75 micron) profile or *SPC- SP12/NACE No. 5, WJ-2/SC-2 *marine exterior hull only
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	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted D St 3	D St 3	SP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:
air, surface: 50°F (10°C) minimum, 110°F (43°C) maximum
At least 5°F (2.8°C) above dew point

Material should be 77°F (25°C) to 100°F (38°C) for optimal application.

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: 11.99 ± 0.2 lb/gal; 1.44 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.

DISCLAIMER

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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/SC2. Preexisting 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 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/SC-2 standards (marine exterior hull only). 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 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: 50°F (10°C) minimum, 110°F (43°C) maximum
At least 5°F (2.8°C) above dew point

Material should be 77°F (25°C) to 100°F (38°C) for optimal application.

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

**Plural Component Airless
for use with B62V220, Fast Cure Hardener or
B62V221, Standard Hardener**

Unit.....WIWA Model 333 or equal
Pressure.....4000 psi
Hose.....3/8" ID
Tip0.17" - .019"
Pump heater settings.....120°F - 150°F (49°C - 66°C)
Fluid temperature at tip..90°F - 95°F (32°C - 35°C)

**Airless Spray—Standard
for use with B62V221, Standard Hardener**

Unit.....68:1 Pump, minimum
Pressure.....6000 psi
Hose.....3/8" ID
Tip0.19" - .021"
Filter.....30 mesh

In order to avoid blockage of airless spray equipment and hose, flush equipment at least once every hour and before periods of extended downtime with MEK, R6K10; or R7K104.

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:

	Minimum	Maximum
Wet mils (microns)	6.0 (150)	12.0 (300)
Dry mils (microns)	6.0 (150)	12.0 (300)
Total mils (microns)	6.0 (150)	12.0 (300)
~Coverage sq ft/gal (m²/L)	133 (3.2)	262 (6.4)
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1568 (38.4)	

Drying Schedule @ 8.0 mils wet (200 microns):

	@ 55°F/13°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
With B62V220*			
To touch:	9 hours	3 hours	1-1/4 hours
To handle:	24 hours	12 hours	4-1/4 hours
To recoat:			
minimum:	24 hours	12 hours	4-1/4 hours
maximum:	21 days	21 days	14 days
Cure to service:	7 days	5 days	5 days
Pot Life:	50 minutes	25 minutes	10 minutes
Sweat-in-time:		Not required	

*Fast Cure Hardener must be applied by Plural Component Airless only.

	@ 55°F/13°C	@ 77°F/25°C 50% RH	@ 100°F/38°C
With B62V221			
To touch:	15 hours	4 hours	2 hours
To handle:	36 hours	14 hours	6 hours
To recoat:			
minimum:	36 hours	14 hours	6 hours
maximum:	21 days	21 days	14 days
Cure to service:	7 days	5 days	5 days

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

Pot Life: 90 minutes 40 minutes 20 minutes

Note: Pot life will be shorter with higher temperatures and larger volume of material.

Sweat-in-time: Not required

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 MEK, R6K10; or R7K104. Clean tools immediately after use with MEK, R6K10; or R7K104. 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 Nova-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 Nova-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.

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-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 airless spray equipment and hose, flush equipment at least once every hour and before periods of extended downtime with MEK, R6K10; or R7K104.

For Plural Component Airless application, use B62V220, Fast Cure Hardener. For standard Airless Spray application, use B62V221, Standard Hardener

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

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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