NOVA-PLATE 325
HIGH TEMPERATURE HIGH PRESSURE RESISTANT TANK LINING

Product Information

Product Description
NOVA-PLATE 325 is an amine cured, glass & ceramic filled tank lining that utilizes advanced novolac technology. It is engineered to protect cargo and steel tank and vessel interiors from aggressive chemicals stored and processed at high temperatures and high pressures. It provides quick return to service, high film build and can be used in applications where conventional, high-solids epoxies are not recommended.

- One coat protection
- Extremely high film build
- Low odor
- One coat protection
- Acceptable for use with cathodic protection systems
- Secondary containment
- Meets the requirements of the API 652 guideline as a thick film reinforced lining when applied in accordance with API 653 inspections.

Product Characteristics

<table>
<thead>
<tr>
<th>Finish:</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>White</td>
</tr>
<tr>
<td>Volume Solids:</td>
<td>100%, mixed</td>
</tr>
<tr>
<td>Weight Solids:</td>
<td>100%, mixed</td>
</tr>
<tr>
<td>VOC EPA Method 24:</td>
<td>&lt;100 g/L; 0.94 lb/gal, mixed</td>
</tr>
<tr>
<td>Mix Ratio:</td>
<td>2:1 by volume</td>
</tr>
</tbody>
</table>

Recommended Spreading Rate per coat:

| Wet mils (microns) | 20.0 (500) | 40.0 (1000) |
| Dry mils (microns) | 20.0 (500) | 40.0 (1000) |

Theoretical coverage sq ft/gal (m²/L) 1604 (39.4)

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 30.0 mils (750 microns):

<table>
<thead>
<tr>
<th>To touch</th>
<th>Dry hard</th>
<th>To recoat: minimum</th>
<th>maximum</th>
<th>Cure to service:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5 hours</td>
<td>26 hours</td>
<td>6.5 hours</td>
<td>21 days</td>
<td>5 days</td>
</tr>
<tr>
<td>2.5 hours</td>
<td>7 hours</td>
<td>2.5 hours</td>
<td>21 days</td>
<td>24 hours</td>
</tr>
<tr>
<td>1.5 hours</td>
<td>5 hours</td>
<td>1.5 hours</td>
<td>9 days</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

If maximum recoat time is exceeded, mechanically abrade film prior to applying additional coat.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life: 40 minutes
Sweat-in-Time: None required

Shelf Life: 24 months
Store indoors at 40°F (4.5°C) to 100°F (38°C)

Flash Point: 201°F (94°C), PMCC, mixed

Reducer: Not recommended
Clean Up: MEK (R6K10) or Reducer R7K104
In California: R7K111 or Acetone

Recommended Uses

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

- Oil storage tanks up to 300°F (149°C)
- Secondary containment
- Acceptable for use with cathodic protection systems
- Secondary containment
- Suitable for use in the Mining & Minerals Industry
- Oilfield Heater/Treaters
- frac tanks with high temperature and high chemical flowback service
- Internal & external pipeline coating
- Meets the requirements of the API 652 guideline as a thick film reinforced lining when applied in accordance with API 653 inspections.

Performance Characteristics

Substrate*: Steel
Surface Preparation*: SSPC-SP10
System Tested*: 1 ct. Nova-Plate 325 @ 30.0 mils (750 microns) dft

Test Name | Test Method | Results
--- | --- | ---
Abrasiv Resistance | ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load | 50 mg loss
Adhesion | ASTM D4541 | >2000 psi
Autoclave | NACE TM0185, 300°F (149°C) @ 2000 psi for 4 days | No effect
Cathodic Disbondment | ASTM G8 | 0 mm
Dry Heat Resistance | ASTM D2485 | 450°F (232°C)
Flexibility | NACE RP0394 | 1.25%
Immersion (in Ethanol) | NACE TM0174, 120°F (49°C) for 6 months | No effect
Immersion (in Sweet & Sour Crude) | NACE TM0174, 300°F (149°C) for 12 months | No effect
Immersion in Fresh Water or Sea Water | ASTM D6943 | No effect
Shore D Hardness | ASTM D2240 | 80 minimum

Report No. IM54-1476.10

Immersion (ambient temperature) for the following:

- 37% HCl
- Crude oil
- Fresh water
- Gasoline
- Sea water
- Reformulated gasoline
- Kerosene
- Ethanol

Epoxy coatings may darken or yellow after application and curing.
**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:**
  - Immersion: SSPC-SP10/NACE2, 2-4 mil (50-100 micron) profile
- **Concrete & Masonry:**
  - Secondary Containment: SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R, CSP2-3

**Surface Preparation Standards**

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>SP 5</td>
<td>1</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>SP 10</td>
<td>3</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>SP 6</td>
<td>5</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>SP 7</td>
<td>4</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>C St 2</td>
<td>SP 2</td>
<td>-</td>
</tr>
<tr>
<td>Rusted</td>
<td>C St 3</td>
<td>SP 3</td>
<td>-</td>
</tr>
<tr>
<td>Pitted &amp; Rusted</td>
<td>C St 3</td>
<td>SP 3</td>
<td>-</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>D St 3</td>
<td>SP 3</td>
<td>-</td>
</tr>
</tbody>
</table>

**Tinting**

Do not tint.

**Application Conditions**

Temperature:
- Air & surface: 50°F (10°C) minimum, 110°F (43°C) maximum
- Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

**Ordering Information**

Packaging:
- Part A: 5 gallon (18.9L) containers and 50 gallon (189L) drums
- Part B: 5 gallon (18.9L) containers and 50 gallon (189L) drums

Weight: 10.80, ± 0.3 lb/gal; 1.29 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.

**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.

**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 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 (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. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-4 mils / 50-100 microns). Apply Nova-Plate 325 to any bare steel the same day as it is blasted or before flash rusting occurs.

Concrete:
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.

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.

Application Conditions

Temperature:
Air & surface: 50°F (10°C) minimum, 110°F (43°C)
maximum

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.

Reduction .................Not recommended

Clean Up ....................MEK (R6K10) or R7K104
VOC Restricted Areas ....R7K111 or Acetone

Plural Component Equipment

Pump.........................WIWA DUOMIX 2:1, Graco Extreme Mix, Graco XM, or Graco XP
Pressure.....................4000 psi
Hose.........................3/8" ID
Tip.............................0.021" - .025"
Pump heater setting......110°F-130°F, (43°C-54°C) do not exceed 140°F (60°C)
Material temperature at gun tip .....................110°F-130°F, (43°C-54°C) (vary as needed)

Brush .......................For stripe coating and repair only
Brush........................Nylon/Polyester or Natural Bristle

Roller .......................For stripe coating and repair only
Cover .......................3/8" woven with solvent resistant core

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

<table>
<thead>
<tr>
<th>Recommended Spreading Rate per coat:</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet mils (microns)</td>
<td>20.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>20.0</td>
<td>40.0</td>
</tr>
<tr>
<td>~Coverage sq ft/gal (m²/L)</td>
<td>40 (1.0)</td>
<td>80 (2.0)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal</td>
<td>1604</td>
<td>(39.4)</td>
</tr>
</tbody>
</table>

Mixing Instructions:

- Mixing Schedule @ 30.0 mils (750 microns):
  - Drying Schedule @ 30.0 mils (750 microns):
    - To touch: 6.5 hours
    - Dry hard: 26 hours
    - To recoat:
      - minimum: 6.5 hours
      - maximum: 21 days
    - Cure to service:
      - 5 days
      - 24 hours

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. Clean tools immediately after use with MEK, R6K10. In California, use R7K111 or Acetone for clean up. Follow manufacturer's safety recommendations when using any solvent.

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