NOVA-PLATE 325 is an amine cured, glass & ceramic filled tank lining that utilises 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
- Low VOC
- Low odour
- Extremely high film build
- Resists thermal cracking
- Excellent chemical resistance
- High temperature immersion resistance
- Plural-component application

**PRODUCT CHARACTERISTICS**

**Finish:** Gloss

**Colour:** White

**Volume Solids:** 98%, ± 2%, mixed

**Weight Solids:** 98%, ± 2%, mixed

**VOC:** 91.2g/ltr, mixed

**Mix Ratio:** 2:1 by volume

**Recommended Spreading Rate per coat:**

<table>
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<th>Wet microns (mils)</th>
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**Theoretical Coverage** m²/ltr 1.96 (78) 0.98 (39)

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

**Drying Schedule @ 750 microns (30.0mils):**

- @ 10°C/(50°F) 500 (20) 1000 (40) 50% RH
- @ 25°C/(77°F) 500 (20) 1000 (40)
- @ 32°C/(90°F) 500 (20) 1000 (40)

**To touch:** 6.5 hours 2.5 hours 1.5 hours

**To handle:** 26 hours 7 hours 5 hours

**To recoat:** minimum: 6.5 hours 2.5 hours 1.5 hours
maximum: 21 days 21 days 10 days

**Cure to service:** 14 days 24 hours* 24 hours*

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

**Pot Life:** 40 minutes 20 minutes 15 minutes

**Induction Time:** None required

**Shelf Life:** 24 months

Store indoors at 4.5°C (40°F) to 38°C (100°F)

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

**Clean up:** No 13

**Recommended Uses**

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

- Oil storage tanks up to 149°C (300°F)
- Secondary containment
- Acceptable for use with cathodic protection systems
- Ethanol storage tanks
- Suitable for use in the Mining & Minerals Industry
- Oilfield Heater/Treaters
- Oil/Water Separators
- Frac tanks with high temperature and high chemical flowback service

**PERFORMANCE CHARACTERISTICS**

**Substrate:** Steel

**Surface Preparation:** SSPC-SP10, NACE2/Sa2½

**System Tested:**

1 ct. Nova-Plate 325 @ 750 microns (30.0 mils) dft

*unless otherwise noted below

**Test Name**

**Test Method**

**Results**

**Abrasion Resistance**

ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load

22.4 mg loss

**Adhesion**

ASTM D4541

>2000 psi

**Autoclave**

NACE TM0185, 149°C (300°F) @ 2000 psf for 4 days

No effect

**Cathodic Disbondment**

ASTM G8

ASTM G42

85°C (185°F)

0mm 10mm

**Dry Heat Resistance**

ASTM D2485

232°C (450°F)

**Flexibility**

NACE RP0394

1.25%

**Immersion in Ethanol**

NACE TM0174

49°C (120°F) for 6 months

No effect

**Immersion in Fresh Water of Sea Water**

ASTM D6943, 99°C (210°F) for 6 months

No effect

**Shore D Hardness**

ASTM D2240

80 minimum

*Report No. IM54.1476-10

**Immersion (ambient temperature) for the following:**

- 37% HCL .......................... Recommended
- Crude oil .......................... Recommended
- Fresh water .......................... Recommended
- Petrol .......................... Recommended
- Sea water ...................... Recommended
- Reformulated petrol .......... Recommended
- Kerosene ...................... Recommended
- Ethanol .......................... Recommended
- Methanol .......................... Not Recommended

Epoxy coatings may darken or yellow after application and curing.
SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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WARRANTY

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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:

Iron & Steel:
Immersion: SSPC-SP10/NACE 2/Sa2½
50-100 micron (2-4mils) profile

Concrete & Masonry:
Secondary Containment: SSPC-SP13/NACE2/6 4.3.1 or 4.3.2, or ICRI No. 310 sr, CSP2-3

Surface Preparation Standards

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>Swedish Std</th>
<th>SSPC NACE</th>
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<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>Sa 3</td>
<td>SP 5 1</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
<td>SP 10 2</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>SP 6 3</td>
</tr>
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<td>Brush-Off Blast</td>
<td>Sa 1</td>
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<td>SP 7 4</td>
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<td>D St 3</td>
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APPLICATION CONDITIONS

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

Relative Humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Base: 18ltr in 20ltr pail, 3ltr in 5ltr can
Hardener: 9ltr in 12ltr pail, 1.5ltr in 2.5ltr can

Weight: 1.4 Kg/L, (10.8±0.3 lbs/gal) mixed
**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-SP10/NACE 2, Sa2½ or SSPC-SP12/NACE 5. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (50-100 microns / 2-4 mils). Apply Nova-Plate 325 to any bare steel the same day as it is blasted or before flash rusting occurs.

**Concrete (Secondary Containment only):**
For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 1.3.2 or ICRI No. 310.2R, SCP 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 D1869 Standard Test Method for Measuring Moisture Vapour Emission Rate of Concrete.
SSPC-SP 13/NACE 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

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**Application Conditions**

- **Temperature:**
  - Air & surface: 10°C (50°F) minimum, 43°C (110°F) 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 cleanser. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

- **Thinner:** Not recommended
- **Clean Up:** No 13
- **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: 43°C - 54°C (110°F - 130°F) do not exceed 60°C (140°F)
  - Material temperature at gun tip: 43°C-54°C (110°F-130°F) (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.
**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 two parts by volume of Base with one part by volume of Hardener. 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:**

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**Theoretical Coverage** m²/ltr (sqft/gal)

1.92 (78) 0.96 (39)

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

**Drying Schedule @ 750 microns (30.0mils):**

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</tr>
<tr>
<td>@ 32°C/90°F</td>
<td>14 days</td>
<td>9 days</td>
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</table>

**Cure to service:** 14 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 Cleanser No. 13. Clean tools immediately after use with Cleanser No. 13.

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**PERFORMANCE TIPS**

**Repair of Pitted Tank Bottoms**

**Extensive, deep pitting:**

**Options:**

- **Option 1:** Apply a full wet coat, by spray application, of Nova-Plate 325. If necessary, follow with rubber squeegee to work material into and fill the pitted areas. After recommended drying time, apply a full coat of Nova-Plate 325 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:** 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 thinning of material is recommended as this can affect film build, appearance, and adhesion.

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

Do not mix previously mixed material with new.

Do not apply the material beyond recommended pot life.

Remove and solvent clean tip housing every 20-30 minutes.

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

Final cure must be confirmed in accordance with ASTM D5402, “Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs”. Test shall consist of 50 double rubs with MEK. Test shall confirm no loss of DFT, and no coating residue on rubbing cloth.

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

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