



# NEPTUNE

## MATTE / SEMI-GLOSS URETHANE

### TECHNICAL DATA SHEET

(May 2023)

#### Product Description

Neptune 10 Matte and Neptune 50 Semi Gloss are our premium two component, low VOC, low odor, high performance, water-based, water reducible, non-yellowing aliphatic acrylic polyester urethane coatings. Available in a matte or satin finish with excellent UV, chemical and abrasion resistance, very flexible and can be used for interior and exterior applications.

- Matte & Satin Finish – Clear & Colors
- Low VOCs – Less than 50 g/l
- Upon mixing Parts A & B – mixture has no free monomers

Direct to most surfaces without the need of a primer, including:

- o Concrete
- o Tile & Grout
- o Terrazzo
- o Steel & Metal
- o Wood
- o VCT, Vinyl Sheeting & LVT
- o Fiberglass
- o Previously Painted Surfaces

#### Recommended Markets for Interior & Exterior Use:

- |   |                             |
|---|-----------------------------|
| Airports / Transportation                     | Industrial Equipment        |
| Amusement / Theme Parks                       | Marine Industry             |
| Anti-Graffiti Systems                         | Power Plants                |
| Auto Dealerships                              | Pulp & Paper                |
| Chemical & Petrochemical                      | Railcar / Transport Vehicle |
| Commercial Buildings                          | Restaurant / Food Service   |
| Education                                     | Storage Tanks               |
| Food & Beverage Industry                      | Transmission Pipelines      |
| Healthcare / Pharmaceutical                   | Warehouse / Manufacturing   |
| Hospitality                                   | Waste Water / Municipal     |
| Suitable for use in USDA Inspected Facilities |                             |

#### Additional Information

Visit our website for additional literature and information, including, marketing literature, pictures, training tools, ROIs and videos. [www.premiersurfacesinc.com](http://www.premiersurfacesinc.com)

#### Product Characteristics

- Finish:** Matte: ~ 15° Gloss (60° Angle)  
Satin: ~55° Gloss (60° Angle)
- Color:** Clear & Colors (see color card)
- Weight Solids (Clear):** 51% ± 3% before reduced
- Weight Solids (Color):** 55-65% ± 3% before reduced
- Volume Solids (Clear):** 49% ± 3% before reduced
- Volume Solids (Color):** 47-58% ± 3% before reduced
- VOCs (Clear):** <50 g/l
- VOCs (Color):** <50 g/l (note 2)
- HDI Monomer Content:** <0.04
- Recommended Spreading Rate Per Coat:**
- Vertical Surfaces Wet mils: 3.0 – 5.0  
Dry mils: 2.0 – 3.25
  - Horizontal Surfaces Wet mils: 3.0 – 6.0  
Dry mils: 2.0 – 3.0
  - Actual Spread Rate: 200 – 400 sq. ft. per gallon
- Application Viscosity:** 65-75 KU catalyzed & reduced
- Drying Schedule at 75° F:**
- To Touch: 5-6 Hours (Note 3)
  - To Handle: 8-10 Hours
  - To Walk On: 10-12 Hours
  - Full Cure: 2 Days
- Pot Life at 75° F:** 1 Hour (60 minutes)
- Sweat-In/Induction Time:** 2 Minutes
- Shelf Life:** 12 Months @ 75° F
- Flashpoint:** > 185 ° F
- Recoat Times at 75° F:** Within 24 hours lightly abrade with 160 mesh screen. After 24 hours, sand with 120 mesh screen.

Note 1: Depends on the color

Note 2: Excludes the colorant and depends on the color

Note 3: By using Accelerator, dry times can be reduced by half or more, depending on interior or exterior application and temperature

#### Performance Characteristics

- Substrate Tested:** Steel
- Surface Preparation:** Wash with water-based Biodegradable neutral cleaner Direct to Surface (no primer) 1,600-1,800 psi
- Application:** Direct to Surface (no primer)
- Tensile Adhesion:** 1,600-1,800 psi  
(ASTM D4541)
- Abrasion Resistance:** < 20 mg loss  
(ASTM D4060)
- Condensing Humidity 1000 Hours:** Rusting: None  
(ASTM D2247) Blistering: None
- Impact Resistance:** 160 in-lbs. (direct & in-direct)  
(ASTM D2794)
- Flexibility – Conical Bend:** % Elongation: >32%  
(ASTM D522) Resistance to Cracking: <1/8" diameter
- Pencil Hardness:** Scratch: 2H  
(ASTM D3363) Gouge: 3H
- MEK Double Rubs** 1,000+  
(Internal Testing)
- Salt Fog 1,000 Hours:** Rusting: 10 (None)  
(ASTM B117) Scribe Undercutting: <0.5 mm
- Water Vapor Transmission:** 2.4 perms  
(ASTM E96)
- QUV 1,000 Hours:** Passed SSPC Paint 36 Standard of:  
(ASTM D4587)
- Color Change: Less than 2.0 Delta E Change
  - Gloss Change: Less than 30° Gloss Change
- Flame Developed:** 10 – Class A  
(ASTM 84)
- Smoke Spread:** 5 – Class A  
(ASTM 84)
- Static Dissipative:** Coatings are insulative – insulate electricity won't get better or worse, like rubber over wires.

## Recommended Systems for Neptune 10 Matte and Neptune 50 Semi Gloss

<b>Vertical Structure:</b>	1 coat of MT/ST at 4.0–5.0 mils WFT – Depending on porosity or profile of structure a second coat may be required.
<b>Anti-Graffiti System:</b>	1 coat of MT/ST Pigmented followed by 1 coat of MT/ST Clear. Alternative System is 2 coats of MT/ST Clear.
<b>Horizontal Surfaces:</b>	1 coat of MT/ST at 6.0 – 8.0 mils WFT – Depending on porosity and profile a second coat may be required.
<b>Concrete:</b>	1 coat of MT/ST Pigmented or 1 coat of MT/ST Clear. Alternative System is 2 coats of MT/ST Clear.
<b>Rough/ Uneven Concrete:</b>	1 coat of Hi-Build (100% Solids) Epoxy followed by 1 coat of MT/ST Clear or Pigmented.
<b>New Wood:</b>	1 coat of wood sealer then lightly sand followed by 1 coat of MT/ST Clear. Alternative System is 2 coats of MT/ST Clear.
<b>Finished Wood:</b>	Sand first then 1 or 2 coats of the MT/ST Clear depending on desired appearance.
<b>Steel:</b>	1 coat of MT/ST Clear or Pigmented. For extra corrosion protection, first apply 1 coat of an Epoxy Primer.
<b>Galvanized:</b>	1 coat of MT/ST Clear or Pigmented.
<b>Aluminum:</b>	1 coat of MT/ST Clear or Pigmented.
<b>Inorganic Zinc Primers:</b>	1 coat of MT/ST Clear or Pigmented.

The product can be applied direct to most surfaces. If applying over a solvent-borne primer, allow the primer to adequately cure in order for all solvents to evaporate according to manufacturer recommendations for recoat times for water-based urethanes. **Recoat Note:** When applying multiple coats of the Neptune 10 Matte and Neptune 50 Semi Gloss, lightly abrade between coats using a 160-mesh screen within 24 hours. After 24 hours, sand between coats with a 120-mesh screen. Abrading and sanding is done to ensure successful adhesion between coats.

### Application / Storage Conditions

Conditions	Material	Surface / Ambient	Humidity	Pot Life / Dry Time	Product Storage
Normal	65° – 85°F	65° – 85°F	35 – 65%	None	75° F
Minimum	40° F	40° F	0%	These temps increase dry to touch and full cure times	40° F
Maximum	85° F	100° F	90%	These temps decrease working pot life	90° F
Do not apply the products when the substrate temperature is less than 5° F above the dew point.					

### Equipment

Airless Spray: **Unit:** 2,000 – 2,400 psi **Tip:** 0.015 – 0.017  
**Hose:** 1/4” or 3/8” **Note:** Do not use over 50 ft. hose  
 Air-Assist Sprayer: **Unit:** 500 – 600 psi **Tip:** 0.015 – 0.017  
**Tip Pressure:** As needed for proper atomization  
 Conventional: DeVilbiss pressure pot with ± GA 503 gun and FF needle assembly with 777 air cap.  
 Roller: Vertical surfaces use 1/4” woven nap, phenolic core. Horizontal surfaces use 3/8” woven nap, phenolic core.  
 Brush: Nylon polyester blend

### Mixing Instructions

**DO NOT SHAKE.** Separately stir each component thoroughly. The flattening agents in the Part A resin may settle to the bottom of the can and cause a clumpy appearance; even more so in the Matte. Stir the Part A for 2 minutes or until the flattening agent suspends into the mixture and no clumps are present. Then mix the premeasured Part B with the Part A. Mix combined Parts A & B thoroughly by hand or slow speed drill to ensure they are blended together, but avoid incorporating air during mixing. **DO NOT MIX THE PRODUCT WITH A HIGH SPEED MIXER.** Allow a 2 minute “induction time” for the mixture of Parts A & B. After the 2 minutes, the mixture of Parts A & B should be poured into a larger container for water reduction and to maximize pot life.

Reduce the combined mixture of Parts A & B by slowly adding Clean Tap Water at 2% to 20% depending on application method and surface. Reduce less for vertical surfaces, high humidity and more porous substrates. Reduce more for horizontal surfaces, low humidity and smooth substrates. Do not mix more than 2 gallons of the MT/ST at a time in a 5-gallon container because the product is mass sensitive; increasing mass will reduce pot life.

To commence applying the product, once properly mixed per above instructions, the product should be poured off (increasing surface area) into a roller pan or other suitable containers in order to maintain the 60-minute pot life. If spraying the product from 5-gallon containers the pot life will be reduced to 20 minutes; therefore, it must be sprayed within 20 minutes. Do not mix product towards the end of or past its pot life with freshly catalyzed material; discard unused product at the end of pot life. Do not reseal containers once product is catalyzed. Clean up with Acetone or Xylene.

### Surface Preparation

**Steel:** Remove all loose rust, dirt, grease or other contaminants per SSPC-SP1, SSPC-SP2 and SSPC-SP3 (e.g., low or high pressure with cleaner).

**Aluminum:** Remove all oil, grease or soap film with a neutral biodegradable detergent or emulsion cleaner.

**Galvanized Metal:** Remove all oil, grease or soap film with a neutral biodegradable detergent or emulsion detergent.

**Concrete / Masonry / Concrete Blocks:** Clean masonry substrates with neutral biodegradable detergent or emulsion cleaner to remove laitance using low or high pressure washer. For high build systems, use Acrylic/Epoxy Primer for first coat (Note: Due to the vast differences in concrete substrates consult your sales representative for the proper coating system specifications).

**Wood:** Sand new wood to remove any surface contaminant and to lower grain. Previously finished wood should be sanded to provide good adhesion. Test patches are recommended.

**Previously Painted Surfaces:** Properly clean the surface of all dust, dirt, grease and foreign matter. Apply a test patch of the MT/ST to ensure adhesion of the MT/ST to the previously painted surface and also to ensure there will not be any delamination of the previously painted coating from the substrate.

**Note:** In order to ensure optimum performance, remove the previous coating to bare substrate and then apply the proper Neptune system as specified by your sales representative.

**Anti-Graffiti System:** Follow appropriate surface preparation as noted above. For optimum performance use two coats of the Matte / Satin.

**THIS PRODUCT IS TO BE USED BY THOSE KNOWLEDGEABLE ABOUT PROPER APPLICATION METHODS. THIS PRODUCT IS FOR INDUSTRIAL USE ONLY.** Read each component’s Safety Data Sheet (SDS) before use. Mixed materials may have the hazards of each individual component. Safety precautions must be strictly followed during storage, handling and use.

The seller warrants that this product conforms to label descriptions and is fit for purposes for which such goods are used. Since the use of this product is by others and additional factors affecting product performance are beyond the manufacturer’s control, the manufacturer, does not guarantee the results obtained. **SHOULD THIS PRODUCT FAIL TO MEET ITS SPECIFICATION MANUFACTURER WILL REPLACE THE PRODUCT OR, AT ITS OPTION, REFUND THE PURCHASE PRICE. THIS IS THE SOLE AND EXCLUSIVE REMEDY FOR ANY FAILURE OF THIS PRODUCT TO PERFORM AS WARRANTED AND SHALL ALSO CONSTITUTE LIQUIDATED DAMAGES IN CASE OF LOSS. UNDER NO CIRCUMSTANCES SHALL THE BUYER BE ENTITLED TO ANY OTHER REMEDY. REMEDIES FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE SPECIFICALLY EXCLUDED.** The seller does not authorize any person to assume any other liability in connection with the sale for use of this product unless specifically authorized by the manufacturer.