

# TESLAN® 4000



# LOW VOC URETHANE TOPCOAT

## Product Description

**TESLAN® 4000 LOW VOC URETHANE TOPCOAT** is a solvent-based, two-component, urethane topcoat designed for the protection of steel and metallic substrates in harsh environments. This topcoat is recommended for atmospheric exposure conditions where excellent UV/weathering resistance is required. TESLAN® 4000 LOW VOC URETHANE TOPCOAT can be applied directly utilizing patent pending 2 x 1 WET EDGE process. Use only in conjunction with recommended TESLAN® Primer systems.

## Recommended Uses

Use directly over TESLAN® Primers or as recommended by Tesla NanoCoatings, Inc.

Typical recommended application include:

- Storage Tanks & Process Vessels
- Communication Structures
- Broadcast/Antennae Structures
- Power & Utility Infrastructure
- Pipelines
- Offshore Platforms and Related Structures
- Ships and Barges
- Marine Thrusters
- Bridges and Transportation Infrastructure
- Trucks and Trailers
- Structural Steel
- Handrails
- Steel Decking/Roofing

## Product Characteristics (mixed)

<b>Finish:</b>	Gloss
<b>Color:</b>	Wide array of colors available
<b>Volume Solids:</b>	61 ±4% (unreduced)
<b>Weight Solids:</b>	71 ±4% (unreduced)
<b>Mix Ratio:</b>	3:1 <u>by Volume</u> (Parts A: Parts B)
<b>Pot Life:</b>	2 hrs @ 100°F/38°C 3 hrs @ 77°F/25°C 4 hrs @ 50°F/10°C
<b>VOC:</b>	2.8 lbs/gal (336 g/l) (unreduced) 3.0 lbs/gal (359 g/l) @ 5% reduction* 3.2 lbs/gal (383 g/l) @10% reduction*
Note: These are nominal values and may vary with color	
<b>Viscosity @77°F(25°C):</b>	60 Krebs Units (unreduced)
<b>Sweat-in-Time:</b>	Not Required

\*Use only TESLAN® 0902 Type I Urethane Reducer

## Application Guidelines

This product is designed for application directly to properly primed substrates. Brush and roller application is recommended for areas where spray application is not feasible. For application over other metallic substrates or existing coatings in sound condition, contact Tesla NanoCoating's Sales Service for application recommendations.

### Recommended Film Thicknesses (unreduced)

	<u>Minimum</u>	<u>Maximum</u>
<b>Wet mils (microns) per coat*</b>	3 (75)	8 (200)
<b>Dry mils (microns) per coat*</b>	2 (50)	5 (125)

**Theoretical Coverage (@ 1.0 mils / 25 microns dft):** 978 ft<sup>2</sup>/gal  
(24 m<sup>2</sup>/l)

### Drying Schedule @ 50% RH and 5 mils wet (125 microns)

	<u>@50°F(10°C)</u>	<u>@77°F(25°C)</u>	<u>@100°F(38°C)</u>
To Touch:	8 hrs	3 hrs	2 hrs
To Handle:	24 hrs	12 hrs	8 hrs
To Recoat w/ Urethane:			
minimum:	24 hrs	12 hrs	8 hrs
maximum:	6 months	6 months	6 months
To cure:	10 days	7 days	7 days

Drying time is temperature, humidity, and film thickness dependent. If maximum recoat time is exceeded, abrade surface in accordance with SSPC SP 7 (NACE No. 4) or other Tesla NanoCoatings approved method before recoating. Remove any residues from abrading process to ensure a clean, dry, and contaminate free surface.

### Temperature/Humidity Requirements (air, surface, material)

Minimum:	50°F (10°C), 40% RH
Maximum:	100°F (38°C), 90% RH

The surface should be dry and at least 5°F (3°C) above the dew point.

## Application Guidelines (cont.)

### Surface Preparation

For new or bare abrasive blasted metal surfaces: Prepare substrate and apply TESLAN® PRIMER. Carefully follow all recommended surface preparation, application guidelines, and recoat schedules for the primer or intermediate coat. Surface must be clean, dry and contaminate free prior to applying TESLAN® 4000 LOW VOC URETHANE TOPCOAT.

**2x1 Wet Edge System** is a wet on wet application. In most instances, TESLAN® 4000 LOW VOC URETHANE TOPCOAT may be applied after a flash off period.  
Contact Tesla NanoCoatings, Inc. Sales Service for further information.

For application over an existing coating other than those listed above:  
Contact Tesla NanoCoatings Sales Service for recommendations.

### Mixing Procedures & Thinning Recommendations

DO NOT MIX PARTIAL KITS. Mix component A individually until a smooth uniform consistency is achieved using a powered agitator with a clean all steel spiral ribbon mixer. Slowly mix component B into component A while component A is under agitation. Adjust mixing speed as needed to thoroughly blend the two components until a smooth and uniform consistency is achieved. If material will be left in the container for extended periods of time, occasional agitation may be needed to prevent settling. While typically not needed, if environmental conditions necessitate the need to add thinner, TESLAN® 4000 may be thinned (after mixing A & B components) up to 10% with TESLAN® 0902 Urethane thinner ONLY.

**Do not use material beyond its useful pot life limits.**

**Do not mix freshly prepared material with previous catalyzed material, as the new material will assume the properties of the previously mixed material.**

**If needed, thin material up to 10% by volume using only TESLAN® 0902 Type I Urethane Reducer.**

### Product Application & Equipment Recommendations

#### Airless Spray

Pressure: 3000-5000 psi (207-345 bar)  
Hose: 1/4 - 1/2 inches (6.4 - 13 mm)  
Tip: 0.013-0.017 inches (330-431 microns)  
Filter: Not Required  
Reduction: As needed up to 10% by volume

#### Conventional Air-Spray

Air Pressure: 40-50 psi (2.8-3.4 bar)  
Material Pressure: 30-40 psi (2.1-2.8 bar)  
Hose: Minimum 3/8 inches (9.5 mm)  
Tip Orifice: 0.047 - 0.056 inches (1.2 – 1.4 mm)  
Air Cap: Pressure Feed High Atomization Combination  
Filter: Not Required  
Reduction: As needed up to 10% by volume

Brush and Roller For areas where spray application is not feasible use of a natural bristle brush or a woven nap roller may be used. Contact Tesla NanoCoatings Sales Service for proper roller cover nap recommendations to optimize your specific project's finished appearance.

The above recommendations are for guidance only and settings may vary depending upon ambient conditions, actual equipment used, and project site specifics. Dry film thickness, hiding, and coverage will vary with surface conditions, environmental exposure, and application method. Contact Tesla NanoCoatings Sales Service for application recommendations.

### Cleanup

Immediately clean and flush equipment with TESLAN® 0902 Urethane Reducer or Tert Butyl Acetate. For use of other thinners not listed, contact Tesla NanoCoatings Sales Service.

## Safety/Storage/Disposal

### Safety

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate on the date of publication and is subject to change without prior notice. The user is directed to review the most current SDS information found on the company website. However, neither the Tesla NanoCoatings Company or any of its subsidiaries assume any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

### Storage

Shelf Life (Parts A and B): 36 months, unopened (under recommended conditions). Store indoors at 40°F (5°C) to 100°F (38°C).

**NOTE: Part B is moisture and temperature sensitive and must be stored to avoid moisture intrusion.**

### Disposal

Dispose of unused material following all laws and regulations.

## Contact Information

### For technical assistance:

Email: [technicalsupport@teslanano.com](mailto:technicalsupport@teslanano.com)  
Tel: +1-330-809-6700 Ext: 2  
Web: [www.teslanano.com](http://www.teslanano.com)

### For sales assistance:

Email: [sales@teslanano.com](mailto:sales@teslanano.com)  
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## Disclaimer and Warranty

Tesla NanoCoatings' products are manufactured to the highest quality standards and practices; we offer these products with the express understanding that the user assumes all risk and liability in connection therewith. As the use of the product is beyond our control, Tesla NanoCoatings Inc. makes no warranties regarding the products and all other warranties, express or implied, including warranties of merchantability or fitness for specific, intended, or particular use or purpose, are explicitly disclaimed.

Tesla NanoCoatings shall have no liability in contract or tort for any product liability concerning the products or for the omission of any warranty therefrom. Tesla NanoCoatings shall not be responsible for nor have liability for indirect, consequential, or incidental damages of any kind including, but not limited to, personal injury, property damage, loss of profits, loss of service, loss of business or service, business interruption or downtime, application or installation costs, liquidated damages, or other economic injury related to any defect in the products, use of the products, or breach by Tesla NanoCoatings, known or otherwise.