

TESLAN® 1105

Nano Non-Skid



Product Description

TESLAN® 1105 Nano Non-Skid is a solvent-based, three-component epoxy coating designed for the protection of steel and metallic substrates. This product incorporates carbon nanotubes (CNTs) together with sacrificial zinc and non-slip aggregate to provide enhanced durability, maximized corrosion inhibition, and anti-slip properties. TESLAN® 1105 Nano Non-Skid is a single coat applied solution or when colors or markings are needed, can be directly top-coated with various accent colors utilizing patent pending 2 x 1 WET EDGE application process. Use only in conjunction with recommended TESLAN® Topcoat systems.

Recommended Uses

For use in atmospheric and immersion environments. Use directly on properly cleaned and prepared substrates. For optimal results, follow the application of the primer with TESLAN® Topcoat systems. Project applications include:

- Oil & Gas Platform Decks and Walkways
- Marine Vessel Decks and Walkways
- Ship and Barge Decks and Walkways
- High Traffic Low Slip Areas

Product Characteristics (mixed)

Finish:	Flat
Color:	RAL 7046 Gray
Volume Solids:	75 ± 2% (unreduced)
Weight Solids:	91 ± 2% (unreduced)
Zn Content:	62% by Weight in Dry Film
Mix Ratio:	4:1:16# <u>by Volume</u> (Part A: Part B: Part C Agg)
Pot Life:	2 hrs @ 100°F/38°C 4 hrs @ 77°F/25°C
VOC:	1.40 lbs/gal (168 g/l) (unreduced)
Coefficient of Friction	0.84 Average of 3 Tests
Sweat-in-Time:	Not Required

Application Guidelines

This product is designed for application directly to properly cleaned and/or blasted steel substrates using a GRACO M680 Mortar Pump. Other methods such as core rolling or troweling may be used for areas where spray application is not feasible. For application over other metallic substrates or existing coatings in sound condition, contact Tesla NanoCoatings Sales Service for application recommendations.

Recommended Film Thickness (unreduced)

	<u>Minimum</u>	<u>Maximum</u>
Wet mils (microns) per coat	40 (1,016)	60 (1,525)
Dry mils (microns) per coat	30 (762)	45 (1143)

Theoretical Coverage: 40 ft²/gal (0.75 m²/l) at nominal 30 mil (762 micron) DFT

Drying Schedule @ 50% RH and 40 mils wet (1016 microns)

	<u>@77°F(25°C)</u>	<u>@100°F(38°C)</u>
To Touch:	3 hrs	2 hrs
To Handle:	8 hrs	4 hrs
Foot Traffic:	16 hrs	12 hrs
Heavy Traffic:	24 hrs	16 hrs
Rain Exposure:	8 hrs	8 hrs
To Recoat w/ Epoxy:		
minimum:	30 Min	30 Min
maximum:	30 Days	30 Days
Recoat w/ Urethane		
minimum:	2 Hrs	2 Hrs
maximum:	7 Days	7 Days
To cure:	7 Days	7 Days

Drying and recoat times are temperature, humidity, and film thickness dependent. If maximum recoat time is exceeded or white corrosion is present on the surface, abrade surface in accordance with SSPC SP 7/NACE 4 or other TESLA approved method before topcoating. Remove any residues from abrading process ensuring a clean, dry and contaminate free surface is achieved before topcoating.

Application Guidelines (cont.)

Temperature (Air, Surface, Material) / Humidity Requirements

Minimum: 60°F(15°C), 40% RH Maximum: 122°F(50°C), 90% RH

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

Surface Preparation

This product is designed for direct application to properly prepared bare metal substrates. All surfaces should be clean, dry, contaminate free and in sound condition.

Minimum Surface Preparation Requirements:

For Steel

SSPC SP10/NACE 2 Near-White Blast Cleaning

ISO8501-1: Sa 2.5

Surface Profile: 2-4 mil (50-100 micron)

(NOTE: Where blasting is not practical and conditions allow, prepare surface per SSPC SP11 Power Tool Cleaning to Bare Metal, achieving a minimum 2 mil (50 micron) profile).

For application over other substrates or existing coatings in sound condition, contact Tesla NanoCoatings technical support for surface preparation recommendations.

Mixing Procedures

DO NOT MIX PARTIAL KITS.

AUGER MIXING ATTACHMENT:

NOTE: Due to the high efficiency blending that the auger attachment creates, it is recommended that a bottomless plastic pail be inserted into the Teslan 1105 Part A container to increase the pail wall height and reduce potential material loss. Using a powered reversible agitator, set the switch to REVERSE and mix component A individually until a smooth uniform consistency is achieved. Mix component B into component A while component A is under agitation, scraping the Part B material out of the Part B container and fully incorporate into the Part A until a smooth and uniform consistency is achieved. Add TESLAN 1105 Part C Aggregate and blend until the Part C is thoroughly wetted out. Now set the reversible agitator to the FORWARD position and mix for 1 to 2 minutes until a HOMOGENOUS and uniform MORTAR LIKE consistency is achieved. Component A is a highly thixotropic material which will become more fluid upon the addition of component B and agitation. If material will be left in the container for extended periods of time, occasional agitation may be needed to prevent settling.

HELIX MIXING ATTACHMENT:

Using a powered reversible agitator, mix component A individually until a smooth uniform consistency is achieved. Mix component B into component A while component A is under agitation, scraping the Part B material out of the Part B container and fully incorporate into the Part A, adjusting the mixing speed as needed to thoroughly blend the two components until a smooth and uniform consistency is achieved. SLOWLY ADD TESLAN 1105 PART C AGGREGATE AND THOROUGHLY BLEND until a HOMOGENOUS and uniform MORTAR LIKE consistency is achieved. Component A is a highly thixotropic material which will become more fluid upon the addition of component B and agitation. If material will be left in the container for extended periods of time, occasional agitation may be needed to prevent settling.

Product Application and Equipment Recommendations

Prior to spraying TESLAN® 1105 Nano Non-Skid, condition and flush material lines using TESLAN® 0901 Reducer

SPRAY APPLICATION

Pump:	Graco ToughTek M680 Pump
Pressure:	80 - 100 psi (5.5 – 6.8 bar)
Material Hose:	1 inch (25.4 mm) with ¾ inch (19 mm) Whip
Applicator:	HTX 680
Venturi Nozzle:	6mm air-venturi fluid nozzle
Filter:	Not Required
Reduction:	Do Not Thin

CONVENTIONAL SPRAY APPLICATION

Pot/Pump:	Binks Bottom Feed Pressure Tank
Air Pressure:	35 to 50 psi (2.4 to 3.4 bar)
Material Pressures:	
Static Pressure:	50 – 60 psi (3.4 – 4.1 bar)
Dynamic Pressure:	40 to 50 psi (2.8 to 3.4 bar)
Material Hose:	1 inch (25.4 mm)
Gun:	Binks Model 7 Mastic Gun Setup
Air Nozzle:	¼ inch (6.4 mm)
Fluid Nozzle:	45SS
Filter:	Not Required
Reduction:	Do Not Thin

CORE ROLLER/TROWELL APPLICATION

Roller Acid baked phenolic core roller
Procedure: Pour a strip of material 4 to 8 inches long by 6 inches wide. Using slow strokes, pull in one direction towards you. Apply downward pressure on the roller to evenly distribute the material to uniformly expose the aggregate. Avoid puddling and overworking.

Trowel 4 x 6 inch steel flat finishing trowel
Procedure: Pour a pool of material 4 to 8 inches in diameter. While holding the trowel at approximately 45-degree angle to the surface, use a sweeping arc motion towards you to distribute the material. Reverse the angle of the trowel as you sweep in the opposite direction. Apply firm pressure on the trowel to evenly distribute the material and uniformly expose the aggregate. Avoid puddling and overworking the material when finishing.

For CORE roller OR TROWELL application, stir material occasionally to prevent settling if material sits for extended periods of time.

The above suggested parameters are for guidance only and settings may vary depending upon ambient conditions, actual equipment used, and project site specifics. Contact Tesla NanoCoatings Sales Service regarding the use or suitability of other proposed equipment.

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.

Do not reduce or thin TESLAN® 1105 Nano Non-Skid

Safety/Storage/Disposal

Cleanup

Immediately clean and flush equipment with TESLAN® 0901 Epoxy Reducer, Toluene, or Xylene. For use of other thinners not listed, contact Tesla NanoCoatings Sales Service. To lessen the potential for aggregate build-up in the pump packings while flushing, use of a strainer is recommended.

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 or 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).

Disposal

Dispose of unused material following all laws and regulations.

Contact Information

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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.

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