



TESLAN[®] 1105L Zn-CNT

Single Coat Epoxy

Product Description

TESLAN[®] 1105L Zinc CNT Single Coat Epoxy is a solvent-based, two-component epoxy coating designed for the protection of steel and metallic substrates. This product incorporates carbon nanotubes (CNTs) together with sacrificial zinc to provide enhanced durability, maximized corrosion inhibition, and abrasion resistance properties. TESLAN[®] 1105L 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 Deck Skidpans
- Oil & Gas Platform Risers
- Saltwater / Ballast Tank Lining
- Holding primer under 1105 Nano Non-Skid
- Metal Grating
- Pipe Support Structures
- High Impact Areas
- Lay Down Areas
- Staging/Receiving Areas

Product Characteristics (mixed)

Finish:	Flat
Color:	RAL 7046 Gray
Volume Solids:	71 ± 2% (unreduced)
Weight Solids:	89 ± 2% (unreduced)
Zn Content:	62% by Weight in Dry Film
Mix Ratio:	4:1 <u>by Volume</u> (Parts A: Parts B)
Pot Life:	2 hrs @ 100°F/38°C 4 hrs @ 77°F/25°C
VOC:	1.60 lbs/gal (168 g/l) (unreduced)
Sweat-in-Time:	Not Required

Application Guidelines

This product is designed for application directly to properly cleaned and/or blasted steel substrates. Preferred application method is spraying however other methods such as brushing or rolling or 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	21 (533)	28 (711)
Dry mils (microns) per coat	15 (381)	20 (508)

Theoretical Coverage: 63 ft²/gal (3.1 m²/l) at nominal 18 mil (457 micron) DFT

Drying Schedule @ 50% RH and 21 mils wet (533 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.

2x1 Wet Edge System is a wet on wet application method. When TESLAN® 1105L is applied and the prescribed flash off period is achieved, the wet primer can be topcoated with TESLAN® Topcoats.

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 1105L Part A container to increase the pail wall height and reduce potential material loss. Using a powered reversable 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. After Part B has been incorporated into the Part A, set the reversable agitator to the FORWARD position and mix for 1 to 2 minutes until a HOMOGENOUS and uniform 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 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. 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.

Technical Service/R&D
technicalsupport@teslanano.com

Product Application and Equipment Recommendations

CONVENTIONAL SPRAY APPLICATION

Pot/Pump:	Binks Bottom Feed Pressure Tank
Air Pressure:	35 to 40 psi (2.4 to 2.8 bar)
Material Pressure:	40 to 50 psi (2.8 to 3.1 bar)
Material Hose:	1 inch (25.4 mm)
Gun:	Binks Model 7 Mastic Gun Setup
Nozzle:	¼ inch (6.4 mm)
Filter:	Not Required
Reduction:	Do Not Thin

AIRLESS SPRAY APPLICATION

Pump:	Graco King XL70 Pump (Hopper Fed)
Pressure:	4500 - 5500 psi (310 – 380 bar)
Material Hose:	1/2 to 3/4 inch (12 to 19 mm)
Applicator:	Graco XHF Gun
Tip:	.021 to .031 XHD Tip
Filter:	Not Required
Reduction:	Do Not Thin

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.

For roller OR brush applications, stir material occasionally to prevent settling.

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 1105L Zinc CNT Single Coat Epoxy

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.

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 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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