

TESLAN® 2100 (ISO 20340)**EPOXY-CNT LOW VOC INTERMEDIATE****Product Description**

TESLAN® 2100 EPOXY-CNT LOW VOC INTERMEDIATE is a solvent-based, two-component, CNT-epoxy-polyamide intermediate designed for application over TESLAN® 11XX (Zn-CNT) or 15XX (AL-CNT) epoxy primers in offshore environments per ISO 20340. This product incorporates carbon nanotubes (CNTs) for enhanced durability, increased protection from impact and mechanical damage and maximum corrosion resistance. Use this product only in conjunction with recommended TESLAN® top-coat systems.

Recommended Uses

Use directly over TESLAN® 11XX or 15XX epoxy primers for the protection of steel surfaces exposed to offshore environments of corrosivity category C5-M (ISO 20340). Project applications include:

- Offshore Platforms and Related Structures
- Ships and Barges
- Locks and Dams

Product Characteristics (mixed)

Finish:	Mid-Gloss
Color:	Gray
Volume Solids:	58 ± 2% (unreduced) 55 ± 2% @ 5% reduction 53 ± 2% @ 10% reduction
Weight Solids:	73 ± 2% (unreduced)
Mix Ratio:	1:1 by Volume (Parts A: Parts B)
Wet Density:	11.0 lbs/gal (1.3 kg/l) (unreduced)
Dry Film Density:	13.9 lbs/gal (1.7 kg/l)
Pot Life:	2 hrs @ 100°F/38°C 4 hrs @ 77°F/25°C 6 hrs @ 50°F/10°C
VOC:	2.0 lbs/gal (240 g/l) (unreduced) 2.0 lbs/gal (240 g/l) @ 5% reduction* 2.1 lbs/gal (252 g/l) @ 10% reduction*
Viscosity @77°F(25°C):	83 Krebs Units (unreduced)
Sweat-in-Time:	Not Required

*with TESLAN® 0901 Type II Low VOC Epoxy Reducer

Application Guidelines

This product is designed for application directly to properly primed steel or other metal substrates using conventional air-spray and airless-spray techniques. Brush application is recommended for small areas and for stripe coating,

Recommended Film Thicknesses (unreduced)

For 3 coat system with total Nominal Dry Film Thickness (NDFT) of ≥ 11 mils (275 microns) per ISO 20340 C5-M (Zn (R)):

	Min.	Max.
Wet mils (microns) per coat	7 (175)	10 (250)
Dry mils (microns) per coat	4 (100)	6 (150)
Coverage in sq ft/gal (m²/l)	154 (3.8)	231 (5.7)

Coverage in sq ft/gal (m²/l) per dry mil (25 microns): 924 (22.6)

If reduced more than 5%, do not exceed 9 mils/225 microns wet film thickness or 5 mils/125 microns dry film thickness in a single coat.

Drying Schedule @ 10 mils wet (250 microns)

	@50°F(10°C)**	@77°F(25°C)**	@100°F(38°C)**
To Touch:	12 hrs	3 hrs	2 hrs
To Handle:	72 hrs	24 hrs	8 hrs
To Recoat w/ Epoxy:			
minimum:	1 hrs	0.5 hrs	0.5 hrs
maximum:	6 months	6 months	6 months
To Recoat w/ Urethane			
minimum:	24 hrs	16 hrs	16 hrs
maximum:	6 months	6 months	6 months
To cure:	10 days	7 days	7 days

**50% RH

If maximum recoat time is exceeded, abrade surface and power wash before recoating. Drying time is temperature, humidity, and film thickness dependent.

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.

Surface Preparation

For new or bare abrasive blasted metal surfaces: Prepare substrate and apply TESLAN® primer systems. Carefully follow all recommended surface preparation, application guidelines, and recoat schedules for the primer. Primed surface must be clean, dry and in sound condition.

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

Mixing Procedures & Thinning Recommendations

Use an air-driven power mixer and keep material under agitation (as needed to prevent settling or separation) while applying this product. Slowly mix 1-parts component A with 1-part component B by volume. Adjust mixer speed as needed to thoroughly blend the two components. Part A is a highly thixotropic material (may have a semi-solid appearance) which will become fluid upon agitation and when mixed with Part B. Strain through a 35 to 60 mesh (310 to 681 microns) screen before using. For extended spray application sessions, keep under low RPM agitation to prevent settling. For brush application, stir occasionally to prevent settling.

Do not use mixed material beyond pot life limits.

Do not mix previous catalyzed material with freshly prepared material.

If needed, thin material up to 10% by volume using only TESLAN® 0901 Type II Low VOC Epoxy Reducer.

Product Application & Equipment Recommendations

For optimum protection, stripe coat all crevices, welds, and sharp angles by brush application. Use a medium bristle brush and avoid re-brushing.

Airless Spray

Pressure: 1500-2400 psi (103-166 bar)
Hose: 1/4 or 3/8 inches (6.4 or 9.5 mm)
Tip: 0.009-0.015 inches (225-375 microns)
Filter: 60 mesh (250 microns)
Reduction: As needed up to 10% by volume
Equipment: Graco or similar

Conventional Air-Spray

Pressure: 40-50 psi (2.8-3.4 bar)
Hose: 3/8 inches (9.5 mm)
Tip: E
Filter: 60 mesh (250 microns)
Reduction: As needed up to 10% by volume
Equipment: Graco or similar

Cleanup

Immediately clean and flush all equipment with TESLAN® Epoxy Reducers or other solvents compatible with solvent based epoxy coatings (MEK, xylene, etc.)

Recommended Primer Systems

TESLAN® 11XX ZN-CNT EPOXY PRIMERS

--or--

TESLAN® 15XX AL-CNT EPOXY PRIMERS

Recommended Topcoat Systems

For moderate UV/weathering resistance

TESLAN® 3XXX EPOXY TOPCOATS

For highest UV/weathering resistance

TESLAN® 4XXX URETHANE TOPCOATS

--or--

TESLAN® 5XXX POLYASPARTIC-HYBRID TOPCOATS

Recommended Thinners/Reducers

TESLAN® 0901 TYPE II LOW VOC EPOXY REDUCER
[VOC content: 2.4 lbs/gal (288 g/l)]

Safety/Storage/Disposal

Refer to Safety Data Sheet (SDS) before use.

Shelf Life (Parts A and B): 24 months, unopened (under recommended conditions). Store indoors at 40°F (5°C) to 100°F (38°C).

Dispose of unused material following all laws and regulations.

Disclaimer and Warranty

Tesla NanoCoatings Inc warrants only that its coatings represented herein meet the formulation standards of Tesla NanoCoatings Inc. Technical and application information herein is provided for the purpose of providing general properties of the coating and recommended coating application procedures. As application and environmental factors can vary significantly, due care should be exercised in the selection and use of this and any coating system.