Weston and Associates, LLC – is a complete storage solutions provider for liquid & dry bulk storage systems worldwide with a combined 150 years of experience in the tank industry. Whether You Need A New Storage Application or A Custom Solution – We Can Help.

TANKS. DOMES. LINERS.

**Liquid & Dry Bulk Storage Tanks.**
From Epoxy-Coated, Glass-Fused-to-Steel, Weston NanoCoat or Stainless Steel bolted tanks we’ve got you covered, no matter the application.

**Al Geodesic Domes & Sur-Seal Covers™**
Al Geodesic Domes, Fixed Steel Roofs and flexible membrane cover are the perfect blend of corrosion resistance and customization.

**Custom & Unique Drop-In Liners**
Our Sur-Seal Liners™ are the only solution of its type on the market today, with a unique drop-in design that protect against corrosion.
THE FUTURE OF INDUSTRIAL COATINGS HAS ARRIVED

The Weston NanoCoat (WNC) is a two-coat system featuring low VOC epoxy primer and topcoat with significant advantages not only in corrosion protection, but also in application time and effort. The WNC can be applied to replace conventional three-coat systems traditionally used to protect steel surfaces in any environment.

WHY CHOOSE NANOCOATING?

The WNC’s difference is that it is formulated with carbon nanotubes that assemble into ropelike structures that make them tough and flexible. “Tough” translates into durability advantages over foes like weather, UV light, abrasion, and other wear and tear. “Flexible” means Weston-coated surfaces can be formed before or after coating and still remain intact because the carbon nanotubes can be stretched without breaking. CNTs have a tensile strength approximately 100 times stronger than steel and more than 10 times stronger than diamond.

- Engineered to protect steel substrates.
- Low to no future maintenance costs.
- 2x the life of traditional coating systems.
- Industries lowest up-front installation cost.
- Wet on Wet Application for 100% complete tank protection.
- Superior adhesion to steel more than any other coating system.
- Simple & Fast application that acts & protects like plating.

STANDARD COLOR OPTIONS

Note: All colors shown are printed representations only. Custom color are available upon request.

- White: 9010
- Gray: 7040
- Tan: 1011
- Blue: 5013
WHAT EXACTLY IS A CARBON NANOTUBE?

Carbon nanotubes (CNTs) are cylindrical molecules that consist of rolled-up sheets of single-layer carbon atoms (graphene). They can be single-walled (SWCNT) with a diameter of less than 1 nanometer (nm) or multi-walled (MWCNT), consisting of several concentrically interlinked nanotubes, with diameters reaching more than 100 nm. Their length can reach several micrometers or even millimeters.

Like their building block graphene, CNTs are chemically bonded with sp² bonds, an extremely strong form of molecular interaction. This feature combined with carbon nanotubes’ natural inclination to rope together via van der Waals forces, provide the opportunity to develop ultra-high strength, low-weight materials that possess highly conductive electrical and thermal properties. This makes the WNC highly attractive for industrial applications and is only available from Weston and Associates.
<table>
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<th><strong>Data Comparison</strong></th>
<th><strong>Lab Testing</strong></th>
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**Between the Westen NanoCoat (WNC) and Glass-fused-to-steel/Vitreous Enamel (GFS).**

* Production panels were utilized for testing, no bolt panels.

**Bolted sidewall panel protection**
- **WNC**
  - Excellent
  - *(50x greater tensile strength than steel alone)*
- **Glass/Vitreous Enamel**
  - Excellent
  - *(with exception of sheet edge and bolt holes)*

**Edge Protection**
- **WNC**
  - Excellent
  - *(9-12x greater bond to steel)*
- **Glass/Vitreous Enamel**
  - Historically poor
  - *(due to minimal glass coverage, with mastic)*
  - Improved protection may be provided with stainless steel edge coating.

**Bolt holes**
- **WNC**
  - Excellent
- **Glass/Vitreous Enamel**
  - Poor, as shipped from factory
  - *(covered with mastic sealant in the field)*

**Coating Thickness**
- **WNC**
  - 10-16 mils
- **Glass/Vitreous Enamel**
  - 8-13 mils
  - *(must be verified due to high shop defect rate)*

**pH**
- **WNC**
  - 3-14
  - *(depending on product and temperature)*
- **Glass/Vitreous Enamel**
  - 3-11
  - *(depending on product and temperature)*

**Corrosion Resistance ASTM B117**
- **WNC**
  - Excellent
- **Glass/Vitreous Enamel**
  - Excellent

**Temperature Tolerance**
- **WNC**
  - 200°F, water, Dry 200°F
- **Glass/Vitreous Enamel**
  - 140°F, water, Dry N/A

**Coating to substrate**
- **WNC**
  - Carbon Nanotube epoxy (Cycloaliphatic modified epoxy polyamide)
- **Glass/Vitreous Enamel**
  - Glass/vitreous enamel technology

**Flexibility**
- **WNC**
  - 1/8" mandrel test pass
- **Glass/Vitreous Enamel**
  - None
  - *(cannot be field repaired)*

**Impact**
- **WNC**
  - 160 in/lbs
- **Glass/Vitreous Enamel**
  - 4 in/lbs

**History**
- **WNC**
  - New technology
  - *(with 15+ years of testing)*
- **Glass/Vitreous Enamel**
  - Old technology
  - *(with history of spalling)*

**Salt Spray**
- **WNC**
  - 5000+ hrs pass
  - *(Anti-corrosion tests/cyclic aging ISO 12944-8: NO FURTHER TESTING REQUIRED)*
- **Glass/Vitreous Enamel**
  - 7500 hrs pass
  - *(Salt spray ASTM B117)*

**Liquids**
- **WNC**
  - Submerged structural components are coated with WNC carbon nanotube epoxy
- **Glass/Vitreous Enamel**
  - Submerged structural components are galvanized

**Holiday Free Coating**
- **WNC**
  - Yes
- **Glass/Vitreous Enamel**
  - No

**Cathodic protection**
- **WNC**
  - Not required
  - *(optional)*
- **Glass/Vitreous Enamel**
  - Required
  - *(due to coating discontinuities, coating damage & uncoated bolt holes)*

**Sealant**
- **WNC**
  - Mastic
- **Glass/Vitreous Enamel**
  - Mastic

**Panel Size**
- **WNC**
  - ~5' tall x 10' long
- **Glass/Vitreous Enamel**
  - ~4.5' tall x 9' long

**Construction Type**
- **WNC**
  - Horizontal RTP
  - *(rolled, tapered panels)*
- **Glass/Vitreous Enamel**
  - Horizontal RTP
  - *(rolled, tapered panels)*
1.0 PURPOSE AND SCOPE

This Work Instruction sets forth the requirements for the Tesla NanoCoatings Project including pre-preparation, surface preparation, and lining applications, for the interior and exterior metal components for the Weston Assoc. bolted tank panel applications.