

Technical Data Sheet

Vecdor X-SC Clear Nanocoating

PRODUCT DESCRIPTION:

Vecdor X-SC solvent borne self-cleaning clear nanocoating was developed specifically for the high-end aerospace, marine, automotive wheels and industrial markets. X-SC provides extreme resistance to scratching, chemicals and weathering, excellent gloss retention and outstanding self-cleaning properties. The main applications for Vecdor Clear Nanocoatings include automotive aftermarket, automotive OEM wheels, aerospace aftermarket and military applications. *Vecdor should be tested on suitable test substrate prior to final application.*

BENEFITS

- 60% reduction in cleaning and maintenance
- Extreme scratch resistance, surface hardness, chip resistance, chemical & UV resistance
- Self-cleaning properties including brake-dust release, water, oil and ice repellency
- Convenient 1 : 1 mix ratio by volume. No additional additives are necessary.

PHYSICAL PERFORMANCE PROPERTIES

- Service Temperature: -65°F to 350°F (-54°C to 177°C) Conforms
- ASTM D3363 Pencil Hardness: 3H mark, 6H penetrate
- Low Temperature Flexibility - Conical mandrel: Conforms
- Impact Resistance 80 inch/pounds: Conforms
- Fluid Resistance - BMS 3-11 (LD-4), 30 Days @ 75°F (23.9°C): 2H Pencil
- Weather Resistance - QUV 4000 hours: 100% gloss retention
- Corrosion Resistance - 1000 hours salt spray: Conforms
- Rain Erosion Resistance – Whirling arm: Conforms
- ASTM D524 Gloss (20°/60°): 90.2
- ASTM D3359 adhesion test method B: 5B/100%
- ASTM D4060 abrasion resistance: 19.58g
- ASTM D4752 MEK resistance: >1,500+
- ASTM D1308 chemical spot resistance: Conforms
- ASTM D1308 skydrol immersion (7 days): Conforms
- ASTM D522 flexibility test: 0-T
- ASTM D2794 impact resistance direct: 140 pass
- ASTM B117 salt spray test method: 3000 hours
- ASTM D4585 humidity resistance: no effect
- ASTM D3170 chip resistance: 7A
- ASTM D968 falling sand abrasion (100 liters): Conforms
- Water contact degree angle: 90°
- Oil contact degree angle: 80°
- Amtec Kistler - Car Wash Test: 94% gloss retention
- Crockmeter at 60°: 97% gloss retention

Nanovere Technologies, LLC.
Product Safety & Regulatory Affairs
4023 S. Old US 23, Suite 101
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Information Phone: (810) 227-0077

TRANSPORTATION EMERGENCY
CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

APPLICATION PARAMETERS

Weight Solids at the gun: 55%
Air pressure at gun: <ul style="list-style-type: none">- HVLP/LVLP: 9-10 PSI at the cap. Air Pressure on HVLP gun 27-30 PSI- Gun recommendation: SATA RP 1.3MM or Iwata 1.4MM (W-400-142G)- Gun adjustment: 2.5 turns out for fluid and Full-Fan adjustment
Application: Spray Wet-on-Wet using 1 Full + 1 Medium Coat
Recommended Fluid Tips: 1.2, 1.3 or 1.4MM with full fan to ensure proper atomization
Recommended film build per coat: 1 Full + 1 Medium Coat
Recommended wet-film build thickness: 1.5 – 2.0 mils per coat Recommended final dry film thickness: 1.8 – 2.5 total mils
Flash time between wet coats: 2 – 10 minutes based on ambient conditions
Flash time before baking: 10-15 minutes
Viscosity: 16 seconds Zahn #2
Square Foot Coverage / 128 ounces: 700 sq. ft. (1 mil at 100% Transfer Efficiency)

SUBSTRATE INFORMATION: Must be sanded and cleaned before coating. Suitable over gel coat, sanded fiberglass, OEM enamels, Urethane Base Coat, Urethane Topcoats, Sanded Clears, Acrylic Enamel & Acrylic Lacquers.

IMPORTANT: Use in a ventilated area when temperature is between **68°F** and **77°F** and humidity is between 50% and 65%.

1. **Gun Pressure:** Use 27-30 PSI at the gun for HVLP/LVLP
2. **Fluid Tip:** 1.2, 1.3 or 1.4MM with Full-Fan pattern to ensure maximum atomization.
3. **Mixing:** 1:1 Ratio by Volume only
4. **Film Build:** Recommended **wet-film** build thickness: 1.5 – 2.0 mils per coat
 - a. Apply **wet-on-wet** spraying **1 Full**, then **1** continuous **Medium** coat.
 - b. Spray at a gun distance of 5-7 inches.
 - c. Allow 2 - 5 minutes based on ambient conditions wait **10-15 minutes before baking** to allow for leveling and solvent evaporation.
5. **Final dry film thickness:** 1.8 – 2.5 mils
6. **Flash time before baking:** Wait 10-15 minutes before baking to allow for leveling and solvent evaporation.
7. **Ambient Cure Time:** Pot life is 40-minutes @ 72°F
 - a. Dust-free: 45 minutes @ 72°F
 - b. Dry-to-touch: 2 hours @ 72°F
 - c. Tape Time: 5-6 hours @ 72°F
 - d. Sand & Buffing: 24-48 hours @ 72°F
8. **Heat Cure:**
 - a. To Buff: **50 minutes @ 165°F** or **30 minutes @ 220°F** (Metal Temperature).
 - b. Gel time is 40-minutes @ 72°F
9. **IMPORTANT:** Clean spray gun thoroughly IMMEDIATELY after use with Acetone or MEK. Avoid the use of mineral spirits.
10. **To ensure proper atomization**, it is critical to check air can measure with manufactures kit.
11. **Clean-up:** Acetone, Butyl Acetate or MEK. Avoid solvents like Xylene or Aromatics.

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CURING SCHEDULE:

Cure times are based on the recommended dry film thickness of 1.0-1.5 mils for basecoat color and 1.8-2.7 mils (total dry film build) for Vecdor clear nanocoating.

Buffing/Recoating:

1. Sanding & Buffing:

- a. Remove defects using 3M™ Hookit™ II Finishing Film discs, grade **P1500**.
- b. Refine sand scratches using 3M™ Trizact™ Hookit™ II foam discs, grade **P2000-P3000**.
- c. **Compound** using **Finesse-It™ Extra Cut** with a 3M™ wool compounding pad and an electric buffer at 1400 to 2000 RPM's.
- d. Work a two foot by two foot area using enough material to leave a thin wet on the painted surface for one to two passes with the buffer before it begins dry.
- e. **Polish** using 3M™ **Finesse-it™ SRC** with a 3M™ Perfect-It™ foam polishing pad and an air or electric buffer at 1400 to 2000 RPM's
- f. Work a two foot by two foot area using enough material to leave a thin wet on the painted surface for one to two passes with the buffer before it begins dry.
- g. Reduce pressure as polish begins to dry and buff to a high gloss.
- h. Remove any remaining residue using a 3M™ Perfect-It™ Detailing Cloth.

2. **Recoat:** To recoat, a fully cured Vecdor surface must be **COMPLETELY** sanded using P800-P1000 to ensure proper adhesion. *Any surface that is not sanded will cause fisheyes.*

Other Precautions: Do not apply on surfaces that you do not want effected. Paint will not adhere to a fully cured Vecdor surface (anti-graffiti effect), unless fully sanded. It is very important to mask surrounding areas and avoid over spray. Avoid allowing the 1st wet coat to harden before the 2nd coat is applied. Doing so will cause orange-peel and fish-eyes. Spray using a wet-on-wet application approach.

PERSONAL PROTECTION

Read all label directions before use. Refer to Vecdor MSDS for specific information. Wear a positive air respirator when spraying. Wear a NIOSH approved dust particulate mask when sanding. Wear safety glasses, shoe covers, coveralls and latex gloves, stretch hood when using this product.

Storage

Vecdor Clear Nanocoating should be stored in tightly sealed containers and **protected from heat, moisture, and foreign materials**. Recommended storage temperatures are 30° to 122°F (34° to 50°C). Vecdor has a storage life of approximately 12 months, provided the material is stored in sealed original containers between 65°F and 75°F.

Health and Safety Information

Appropriate literature has been assembled which provides information pertaining to the health and safety concerns that must be observed when handling Vecdor clear nanocoating. Before working with any product mentioned in this publication, you must read and become familiar with available information concerning its hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms such as material safety data sheets and product labels. For further information contact your Nanovere Technologies representative in Brighton, MI.

Warning! Extremely Flammable. Do not use near flame or while smoking. Avoid inhalation of vapor and spray mist. Use only as directed. Do not take internally. First Aid: In case of eye contact, flush with large amounts of water for 15 minutes and get medical attention. Avoid skin contact. Use rubber gloves while using. For skin contact or surface clean up, wash thoroughly with soap and water or rubbing alcohol. In case of respiratory difficulty, provide fresh air and seek immediate medical attention. Do not store at temperatures above 120° F. **Keep out of reach of children.** In case of an emergency call (800) 424-9300 Chemtrec USA Other

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