

Nano-Clear VV-300 HSC Clear Hardcoat

Nano-Clear® VV-300 HSC is a high gloss, multi-functional direct-to-PC polycarbonate and glass coating. VV-300 HSC provides a permanent covalent bond to polycarbonate, TPO, ABS plastics and glass. VV-300 HSC improves optical clarity and provides remarkable scratch resistance, water, dirt, oil and ice repellency, chemical resistance, UV and heat resistance.

Nano-Clear VV-300 HSC is designed to dramatically extend the surface life of glass and plastic components while significantly reducing surface maintenance by 75%. VV-300 HSC is a 3D nano-structured polymeric coating.



10 YEAR PERFORMANCE WARRANTY

TECHNICAL ADVANTAGES OF VV-300 HSC High Gloss Clear Coating



- **Multi-Functional Properties:** Test results on pg. 3
 - Hydrophobic, Oleophobic & Ice Phobic
 - Stain and Graffiti Resistance
 - Optically Crystal Clear - no distortion
 - Highly Chip & Abrasion Resistant
 - Highly UV & Weather Resistant
- **Additional Benefits**
 - One-step application process - easy wipe-on or spray application
 - Extreme Scratch Resistance: 8H pencil over glass / 4H over PC
 - Extreme Solvent Resistance: (>1500 MEK rubs) and cleaner resistance
 - Green Technology - no odor or VOC



APPLICATION POTENTIAL

- Polycarbonate Windshields
- Polycarbonate Headlight Lenses
- Polycarbonate Parts
- Glass Windshields
- Glass Light Fixtures
- Solar Panels



SURFACE PREPARATION

- New polycarbonate requires surface cleaning with a suitable non-etching cleaner.
- Glass requires cleaning with a suitable glass cleaner to remove surface contaminants.
- VV-300 HSC can be **wiped-on** using the provided **Suede Microfiber Block applicator**.
- Ensure the applicator edge is fully **saturated** to ensure a smooth and even **wet** application.
- Apply 1 wet coat while using a **side-to-side** motion while being careful to avoid streaking. Gently remove any excess wet material from surface with applicator to achieve an even-finish.
- VV-300 HSC can be **sprayed-on** using an HVLP spray gun with 1 wet coat @ 2 mil WFT.

Suede Block Applicator



- Dust-free time is 5 min. @ 72°F and 50% R.H.
- Tack-free time is 20 min. @ 72° and 50% R.H.
- Full cure is 6 hr. @ 72° and 50% R.H. (may also be baked @ 140°F for 10 min.)
- Coverage: 802 sq.ft. (74 m2) per gal. @ 1 wet coat applied at 12.5 µm DFT



EQUIPMENT CLEAN-UP



- Clean application equipment immediately after use with Acetone or MEK.
- **DO NOT** clean application equip with water or alcohol.

STORAGE AND SHELF LIFE INFORMATION



- **UNOPENED:** 12 months, tightly capped and in original container.
- **OPENED:** 2 months, tightly capped and in original container.
NOTE: Container must be closed and capped immediately after product dispensing to prevent and reduce solvent evaporation.



- **TEMPERATURES:** Store opened and un-opened **VV-300 HSC** in a dry and low light area at temperatures between 40°F / 4°C and 72°F / 22°C. Higher temperatures will decrease shelf life.

HEALTH AND SAFETY



Nano-Clear VV-300 HSC is not to be used for purposes other than those specified. The information within this TDS is based on past, present, and ongoing scientific and technical knowledge, and it is the responsibility of the user to take all necessary steps in order to ensure the suitability of the products for the intended purpose. For Health and Safety information, please refer to the material **Safety Data Sheets (SDS)**.

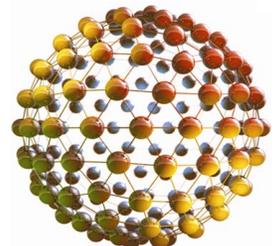
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Nano-Clear 3D Polymer





VV-300 HSC Hard Coating - Test Results

| SINo | Characteristics | Test Results | Method of Tests |
|------|--|--|-----------------|
| 1 | Gloss at 60° | 92.0 - Excellent | SASO 2833 |
| 2 | Scratch Hardness | 8H Pencil Hardness (over glass) | ASTM D3363 |
| 3 | Abrasion Resistance (Loss in weight) | 8.5mg – Excellent | ASTM D4060 |
| 4 | Impact Strength | 1kg – 160cm - Excellent | ASTM D2794 |
| 5 | Mar Resistance | 5.0 kg - Excellent | ASTM D5178 |
| 6 | Alkali Resistance | Excellent | SASO 2833 |
| 7 | Acid Resistance | Excellent | SASO 2833 |
| 8 | MEK Resistance | > 1500 cycles (No effect on gloss - Excellent) | ASTM D4752 |
| 9 | Flexibility | Passed 1mm mandrel test - Excellent | SASO 2833 |
| 10 | Adhesion (Metal Surface) | 3 Mpa (Very Good) | ASTM D4541 |
| 11 | Cross Cut Adhesion | Excellent - Rating 10 | SASO ISO 2409 |
| 12 | Flexibility Cylindrical Mandrel | 3 mm Passed (Excellent) | SASO ISO 1519 |
| 13 | Flammability: Retardant / Flame Spread | Class 1 / Class A (Excellent) | ASTM E84 |
| 14 | Temperature Resistance | -40°F to 500°F (-40°C to 260°C) | ASTM D2485 |
| 15 | Accelerated Weathering (4000 hours) | Excellent (Change in color and gloss <1%) | ASTM G155 |

Nano-Clear 3D Polymer

