Nano-Clear VV-300 Hard Coating

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

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

10 YEAR PERFORMANCE

TECHNICAL ADVANTAGES OF VV-300 High Gloss Clear Coating

- **Multi-Functional Properties:** Test results on pg. 3
  - Hydrophobic, Oleophobic & Ice Phobic
  - Optically Crystal Clear - Improves Visibility
  - Highly Chip & Abrasion Resistant
  - Highly UV & Weather Resistant
  - Heat Resistance up to 600°F / 315°C
- **Additional Benefits**
  - One-step application process - easy wipe-on or spray application
  - Extreme Scratch Resistance: 9H pencil over glass / 2H over PC
  - Extreme Solvent Resistance: (>1500 MEK rubs) and cleaner resistance
  - Green Technology - low odor and no VOC

APPLICATION POTENTIAL

- New PC Headlight Lenses
- Manufactured PC Parts
- Manufactured PC Windshields
- Manufactured PC Light Fixtures
- Manufactured Glass Solar Panels

SURFACE PREPARATION

Polycarbonate Prep: New PC requires surface cleaning with a suitable non-etching plastics cleaner.
Glass Prep: Requires use of a suitable cerium oxide glass polishing paste (*CarPro Ceriglass Kit recommended*). Remove polishing residue with IPA rubbing alcohol or ammonia based glass cleaner.

Application Parameters:

Nano-Clear VV-300 is designed to be wiped-on using a Suede Microfiber Cloth covered over a Soft Black Foam Applicator or sprayed using an HVLP gun.

- ***Wipe-On:*** Ensure the suede cloth / foam applicator edge is fully saturated to ensure a smooth and even wet application. Apply 1 wet coat using a **side-to-side** motion while avoiding streaking. Gently remove any excess wet material from surface with the applicator to achieve an even-finish.
- ***Spray-On:*** Apply 1 wet coat @ 1 mil WFT (.10 DFT mil) with an HVLP spray gun with a 1.4 mm tip.

SET TIME

- Dust-free time in 10 min. @ 72F° and 50% R.H.
- Tack-free time in 30 min. @ 72° and 50% R.H.
- Full cure in 48 hr. @ 72° and 50% R.H. May also be baked @ 140°F for 30 min.
- Coverage: 320 sq.ft. (30 m2) per gal. when sprayed @ 1 wet coat (5 micron 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** 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.

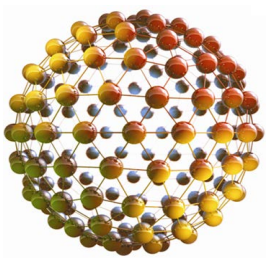
HEALTH AND SAFETY

Nano-Clear VV-300 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**).

NANOVERE TECHNOLOGIES, LLC
4023 S. Old US 23, Suite 101
Brighton, MI USA 48114

Telephone: (810) 227-0077
https://www.nanocoatings.com
info@nanocoatings.com

Nano-Clear 3D Polymer



VV-300 Hard Coating - Test Results

SINo	Characteristics	Test Results	Method of Tests
1	**Gloss at 60°**	92.0 - Excellent	**SASO 2833**
2	**Scratch Hardness w/ Mitsubishi Pencil**	8H-9H 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**	-40ºF to 500ºF (-40ºC to 260ºC)	**ASTM D2485**

Nano-Clear 3D Polymer