## **Nanovere Coating Brands**



Nano-Clear Coatings significantly reduce costly repainting cycles of high-value painted assets by **2X-3X** (10+ Year Performance). Reduced repaint cycles means less paint usage, reduced down-time, reduced labor and significantly reduced corrosion and VOC released into the environment. Nano-Clear Coatings dramatically improve corrosion resistance, scratch, abrasion, chemical, and long-term UV resistance of painted assets.

Nano-Clear Coatings reduce surface maintenance of painted assets by 50%. Nano-Clear Coatings are designed to be applied as a clear top coatings directly over epoxy and polyurethanes paints. Nano-Clear Coating are designed to be used in conjunction with Nano-Clear Functional Additives including NCIM Matting Additive, NCFP Easy Clean Additive and NCA Accelerator to speed cure response..



Vecdor Nanocoatings were developed specifically for the automotive OEM, automotive aftermarket, high throughput components, aerospace and industrial markets. Vecdor Nanocoatings provide extreme resistance to scratching, chemicals, corrosion, weathering and gloss retention. Vecdor Nanocoatings are designed to be used in conjunction with Nano-Clear Functional Additives including NCIM Matting Additive, NCFP Easy Clean Additive and NCA Accelerator to speed cure response.

## Nano-Clear Coatings Brand / Portfolio

### Nano-Clear NCI for Industrial Coating

- Aboveground Storage Tanks, Pipeline, Bridges, Ships, Lifeboats
- Agriculture Equipment, Fleet Vehicles, Cranes, Aircraft, Buildings







### Nano-Clear NC 40 Automotive Coating

Automotive (full car), Semi-Trucks, Agriculture Equipment, Fleet Vehicles...





### Nano-Clear NC 15 Stone Coating

- o Ceramic, Porcelain, Granite, Travertine & Concrete Sealer
- Nano-Clear NCIF 400 High Gloss Waterproof Coating
  - Fleet Vehicles (UPS), Concrete Structures, Cement Trucks, Pools...





- Nano-Clear NCI UVX High Gloss, High Solids Clear
  - o Raytheon, Pultruded Composites, Military, Production Environments
- Nano-Clear NCI Matte Finish Coating (SuperCARC)
  - Global Military Assets (Tanks, Trucks, Fuel Storage Tanks, Ships, Aircraft, Building Structures, Concrete Flooring, Epoxy Flooring...





## Nano-Clear Functional Materials

Nano-Clear Functional Additives were specifically developed to expand the application potential of Nano-Clear Coatings. Nano-Clear Functional Additives can be mixed and blended together with Nano-Clear to create a multitude of new coating formulation combinations.

### Nano-Clear NCIM Functional Matting Additive

Used with Nano-Clear Coatings to flatten and impart scratch resistance.

#### Nano-Clear NCA Accelerator

Used within Nano-Clear Coatings to speed up cure time.

### Nano-Clear NCFP Easy Clean Additive

Used within Nano-Clear Coatings to provide water repellency, anti-ice and anti-graffiti properties.

#### Nano-Clear VV-200 Surface Treatment for Metal

Bonds directly to metals to provide a molecular bridge for Nano-Clear Coatings.



## **Vecdor Coatings Brand / Portfolio**

- Vecdor VV78 1K High Bake Gloss Clear
  - Auto OEM Finishes, Auto Parts, Components, Golf Club Heads,,,







- Vecdor VV78 1K High Bake Matte Finish Clear
  - Auto OEM Finishes, Auto Parts, Components, Golf Club Heads...
- Vecdor VV39 1K High or Low Bake / Gloss & Matte Finish Clears
  - Auto OEM Finishes, Auto Aftermarket Parts & Components...



- Vecdor VX-50 2K High Bake or Low Bake / Gloss & Matte Finish Clears
  - Auto OEM Finishes, Auto Aftermarket Parts, Components...
- Vecdor VX-50 2K High Bake or Low Bake Anti-Graffiti Gloss Clear
  - Auto OEM Wheels, Auto Aftermarket Wheels, Trains, Buildings...





## **Nanovere Developmental Pipeline**

- Nano-Clear Pigmented Top Coatings 1K
  - Automotive Aftermarket Panels, Fleet Vehicles, Components, Parts, Concrete Flooring, Epoxy Flooring, Agriculture Equipment, O&G Pipeline, Ships, Aircraft...
- Nano-Clear Graphene Based Coatings 1K
  - Low Surface Energy, High Hardness, Extreme Corrosion Resistance (20K+ hours)
- Vecdor Water Borne Coatings 1K (Green Technology)
  - Consumer (Aerosol Can), Concrete Structures & Flooring, Wood Decks...
- Vecdor Water Borne Coatings 2K (Green Technology)
  - Auto Aftermarket Car Panels, Components, Industrial Equipment, Flooring...
- Vecdor Powder Coatings 1K Bake
  - Automotive OEM Wheels, Components, Panels, Appliances, Furniture, Equipment...
- Vecdor UV Cure Wood Coatings 1K
  - Wood Flooring, Birch Plywood Panels, Wood Edge Seal...







# **Competitive Analysis**

Property	Method	Nano-Clear® NCI Coating	Axalta IMRON® 2.1 HG-C	Axalta IMRON® 3.5 HG-D	PPG Amercoat PSX® 700
Mfg. Recommended Use		Newly Painted or Sanded Oxidized	Newly Painted Only	Newly Painted Only	Newly Painted Only
Polymer Chemistry		Nanostructured Polyurethane / Polyurea Hybrid	Polyurethane Copolymer	Polyurethane	Epoxy Polysiloxane Hybrid
Mixing Ratio	Ratio	1K - no mixing	1K – no mixing	2:1 Mix Ratio	4:1 Mix Ratio
Recommended Dry Film Thickness (mils)	ASTM D5796	2 mil	3 mils	5 mils	5 mils
Pencil Hardness	ASTM D3363	4H - 7H	н	F	N/A
Pendulum Hardness (Persoz)	ASTM D4366	220	N/A	24	N/A
Abrasion Resistance (CS-17, 1 kg, 1000 cycles)	ASTM D4060	8.4 mg loss	N/A	N/A	53 mg loss
Impact Strength (kg-cm)	ASTM D2794	> 140	> 160	> 100	N/A
Water Immersion Test	ISO 2812-2	Pass	Pass	Pass	Pass
QUV Resistance (> 1500 hours)	ASTM D4587	100%	94%	90%	50%
Xenon WOM (> 2000 hours)	ASTM G155	99%	N/A	N/A	N/A
MEK Resistance	ASTM D4752	>1500	>200	>100	>100
Salt Spray (5000 hours)	ASTM B-117	No rust, no blisters.	No rust, no blisters.	No rust, no blisters.	No rust, no blisters.
DMTA – Crosslink Density	XLD (X103 mol/m3)	2.17	N/A	N/A	N/A
Competitive Commentary		Nano-Clear has been awarded the NACE Innovation of the Year Award for Corrosion, F&S Technology Leadership Award and PaintSquare Top Product Award for Steel.	NCI has 4X better scratch resistance, but similar UV resistance to Imron.	NCI has 5X better scratch resistance, similar UV resistance + 50% less DFT.	NCI has 6X better abrasion resistance, 50% better UV resistance + 50% less DFT.