



## Nano Graphene Coating V3

UFI : R200-U0CW-500K-QTRA

### Technical Specifications

Contains ingredients (General terms): dimethylsiloxane, bis[3-(triethoxysilyl)propyl]amine, naphtha petroleum, isopropanol, graphene oxide, sodium dodecylbenzenesulfonate

Solubility with water (in bottle): Not miscible

Appearance and odour (in bottle): Brown viscous solution, non-pungent odour

Capabilities listed are maximum approximates and based on a single coat application on automotive clear coat that has been cleaned, decontaminated, polished and appropriately prepared. More information for preferred after-care to maximise durability available.

Bonding durability (normal conditions): 7 Years

- 400 washes pH neutral
- Climate range -20°C to + 35°C

Bonding durability (extreme conditions): 7 Years

- 200 washes pH >13
- Climate range -40°C to + 40°C

Hydrophobic properties durability (normal conditions): 5 Years

- 350 washes pH neutral
- 180 washes pH >13

Average coating thickness: 1.0 – 1.2 µm (micrometre/micron)

Coating thickness effectiveness range: 0.3 – 0.5 µm (micrometre/micron)

Surface suitability: Gloss clear coats on automotive body, gloss or matte vinyl wraps, paint protection film (PPF) wraps, acrylic parts, gloss/matte plastic trims and fittings

*(Installing on glass windows and windshield will present application difficulties due to viscous state of product, may cause irregular wiper movement, durability not tested)*

*(Product does not bond well to certain non-clear coated metallic surfaces)*

Chemical resistance: pH2 – pH14

Thermal threshold on treated surface (onset of degradation): 300°C

Liquid substance repellence of treated surface:

- Distilled water droplet average contact angle – 110-120°
- Vegetable oil droplet average contact angle – 80-90°

Average Sliding Angle on coated clear coat surface: 20°

Average Contact Angle Hysteresis on coated clear coat surface: 17°

Hologram (swirls) reduction during application:

- Micro-mesh >6000
- FEPA sandpaper grade >P4000

## ARTDESHINE

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Consumption rate: 2-3 ml/m<sup>2</sup> or 15-20ml per mid-sized sedan

Curing time (recommended):

2 hours (tropical/humid) / 12 hours (temperate/dry) or 0.5 hour *Infrared assisted 40-50°C*  
- Surface dry (unaffected contact with water/rain)

4 days (tropical/humid) / 7 days (temperate/dry) with or without infrared assisted curing  
- Unaffected contact with cleaning solutions  
- Unaffected contact with contaminants (tree-sap/bird droppings etc.)  
- Exposure to harsh environmental conditions

*(Exposure before curing may result in diminished bonding, early deterioration of coating, occurrences of water-spotting, etching or corrosion)*

Appearance after curing: Optically transparent, visibly increased reflectivity

Solvent incompatibility:

*N-Methylpyrrolidone (NMP), Tetrahydrofuran (THF), Chloroform, Ether.*

*(the use of products containing these solvents during application causes swelling/gelation)*

Products containing solvents such as acetone, 1-propanol, methanol, water, 2-propanol (IPA) in small amounts can be used with no significant impact.

*(Contact Artdeshine to find out about product compatibility.)*

## **Application**

Before application of Nano Graphene Coating (NGC) product, ensure surface is stripped of all existing products (waxes, sealants and spray detailers etc.).

Working area should

- Minimise levels of dust, moisture, heat and environment contaminants for maximum bonding effectiveness.
- Have sufficient lighting for better visibility of both top facing surfaces and side facing surfaces. Combination of warm (<3000K) and cool lighting (>4000K) will help with a proper installation.
- Have appropriate ventilation systems to avoid inhaling of vapours/gas
- No open flames, lighted cigarettes, running ovens or heating devices (blow torches, heat guns etc.)

Do not apply product under direct sunlight or a heated surface.

- Optimal surface temperature < 25°C.
- Optimal ambient temperatures < 32°C

If natural sedimentation occurs, shake the bottle well to evenly disperse the product and wait 1 minute before unscrewing cap slowly to release gas build-up

1. Make all necessary preparation like compounding, polishing, claying, decontamination, washing and cleaning before application process.
2. Utilise panel wipes, isopropyl alcohol (IPA), silicone removers to remove oil, fillers and polishing compounds. (e.g. Artdeshine Silicone Remover/Prep)

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3. Drip 8-10 (16-20 if priming applicator) drops of product by dragging tip of bottle in a straight line to and fro on black applicator pad provided (any suede, microfiber applicator block or pads are suitable).
4. Apply onto surface no larger than 1.5m x 1.5m in circular motion and cross-hatch motion for even coverage.
5. Applied product should look like spreading liquid glue, not dripping wet.
6. Product will turn slightly cloudy after 15-20 seconds, wait at least 5 minutes up to a maximum of 15 minutes or less depending on ambient temperatures.
7. Starting from the edges of applied area, wipe off excess with a clean and dry microfiber (MF) towel. (grabby feeling MF towel is normal for this step)
8. Using another clean and dry MF towel, buff off all residue, hazing, high-spots and smears in circular motion.
9. Check for any remaining high-spots, smearing, uneven colour tones and streaking.
10. Ensure surface is clear and surface feels slick. (smoothness can be felt when buffing with MF towel)
11. Repeat step all steps for adjacent areas. Take extra care at edges where applied and un-applied surfaces meet. Always apply and buff over the edges to ensure smooth joining.

Multiple coats is not necessary and can be a wastage of product. A maximum of 2 coats will be more than sufficient and to cover any missed out areas and enhance coating mechanical strength, additional layers do not represent increased durability.

To apply multiple coats of NGC, allow 2 hours (tropical/humid) or 12 hours (temperate/dry) in between coats.

Do not apply other coating, sealant, wax and spray detailer products immediately before and after application as this will affect the performance and bonding of NGC.

Any issues should be resolved using above methods in the first 15 minutes after application as the coating will not have started curing.

Last resort removal 1 hour after application can be done with Artdeshine Silicone Remover/Prep or any panel wipes and IPA.

After 24 hours, any issues will have to be resolved by removal of the coating and re-applying. This can be done with a polishing machine using fine pads and compounds.

### **Recommended After-Care (Before Full Curing)**

Before 0.5 hour (infrared assisted) or 2 hours:

- Do not allow surface to be exposed to rain or water.
- Do not allow surface to come into contact with harsh substances (bird droppings, plant sap, bug splatter, cleaners, shampoos etc.).
- If contact occurs, gently clean with damp MF towel or soft napkin using fresh water. Wipe dry with another dry MF towel or soft napkin.

Before 7 days with or without infrared assisted curing:

- Do not allow surface to come into contact with harsh substances (bird droppings, plant sap, bug splatter, cleaners, shampoos etc.).
- If contact occurs, wipe gently with damp MF towel or soft napkin using fresh water.

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If substance has dried, place slightly wet MF towel or wet napkin to soften before wiping off gently.

- Exposure to rainwater will not affect curing process.
- However, ensure that rainwater is not on the surface for prolonged periods by drying with MF towel when weather permits.
- Any harsh substances or rainwater on surface exposed to sunlight and heat may cause stains, marks and spotting on uncured coating.
- Cleaning can be done with a damp MF towel using fresh water. Wipe and dry gently.
- Cleaning can also be done with Artdeshine Graphene Detailer/GrapheneSeal and Bio Nano in higher dilution (1:19) with fresh water.

### **Recommended After-Care (After Full Curing)**

Every 1-2 weeks:

- Washing should be done with pH neutral or paint compatible shampoo. (e.g. Artdeshine Organic Cleaner/AlkClean or Citrus Cleaner/CitrusClean)

Every 1-2 months (user preference):

- Washing can be done with Alkali shampoo (e.g. Artdeshine Organic Cleaner/AlkClean) no more than pH 12 for deeper cleansing and removal of oils/traffic film. Oil trapped in the pores or on the surface will affect the water repellence performance.

Every 2-4 months:

- Application of ceramic spray sealants. (e.g. Artdeshine Bio Nano or Graphene Detailer/GrapheneSeal)

Every 4-6 months:

- Removal of embedded contaminants using fine grade clay bars or cloth. This is important in keeping the surface smooth and slick. A rough surface will affect the water repellence performance.
- Application of ceramic spray sealants. (e.g. Artdeshine Bio Nano or Graphene Detailer/GrapheneSeal) for slickness, gloss and water repellent properties.
- Application of Artdeshine Graphene Maintenance/Boost Coating for better water repellent effect and self-cleaning properties.

Every 1 or 2 years:

- Application of Artdeshine Graphene BX/Boost Coating if initial water repellent effect or slickness has deteriorated.

Do not apply any other coating, wax or sealant products as additional or top coats unless recommended by Artdeshine as it may affect or alter the performance of NGC. Water soluble products like spray sealants are milder and more suitable. More information on product compatibility or other Artdeshine products for after-care is available through your distributors or contact Artdeshine directly for more information

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## Storage and Warning

This serves as basic and commonly needed information for safe handling and use of products. Material Safety Data Sheet available upon request for more specific information.

### Shelf-life:

- 2 years unopened
- 6 months after unscrewing cap

### Storage environment:

- < 30°C ambient temperature or gelation may occur.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Segregate from alcohol, water.
- No smoking, naked lights, heat or ignition sources.
- Do NOT store near acids, or oxidising agents.

### Sedimentation:

- May occur if stored still for more than 1 month
- Shake well until product is evenly dispersed or before use
- Always uncap carefully to release gas build-up after shaking bottle

## DANGER.

### Hazard Statements:

H290: May be corrosive to metals.

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H336: May cause drowsiness or dizziness.

H314: Causes severe skin burns and eye damage.

### Precautionary Statements

P260: Do not breathe mist/vapours/spray.

P264: Wash all exposed external body areas after handling.

P271: Use only outdoors or in well-ventilated areas.

P301+P310+P330+P331: IF SWALLOWED: Immediately call a POISON CENTER/doctor/first-aider.

Rinse mouth, do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Remove contaminated clothing. Rinse skin with water.

P405: Store locked up.

P403+P233: Store in a well-ventilated place. Keep containers tightly closed.

P501: Dispose of containers/content to authorised hazardous or special waste collection points in accordance with local regulations.

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