



Graphene Maintenance Coating

Technical Specifications

Main ingredients (General terms): Silica (SiO₂), Siloxane Surfactant, Aliphatic Hydrocarbon Solvent, Reduced Graphene Oxide

None of the materials listed in this product are considered carcinogens in NTP, IARC or OSHA. Material Safety Data Sheet available upon request for more specific information on composition.

Solubility with water (in bottle): Not miscible

Appearance and odour (in bottle): Brown 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. This is not an indicator of performance when using on a surface pre-treated with Artdeshine coating products. More information for preferred after-care to maximise durability available.

Bonding durability (normal conditions): 4 Months

- 25 washes pH neutral or < pH 12
- Climate range -20°C to + 35°C

Bonding durability (extreme conditions): 4 Months

- 10 washes pH >12
- Climate range -40°C to + 40°C

Hydrophobic properties durability (normal conditions): 4 Months

- 25 washes pH neutral
- 10 washes pH >12

Average coating thickness: 0.15 - 0.3 µm (micrometre/micron)

Coating thickness effectiveness range: 0.1 – 0.2 µm (micrometre/micron)

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

(installing on windshield may cause irregular wiper movement, durability not tested)

(installing on wheel may affect durability)

Chemical resistance: < pH11, > pH 5

Thermal threshold on treated surface (onset of degradation): 250°C

Liquid substance repellence of treated surface:

- Distilled water droplet average contact angle – 105-115°
- Vegetable oil droplet average contact angle – 75-80°

Hologram (swirls) reduction during application:

- Micro-mesh >9000
- FEPA sandpaper grade >P6000



Abrasion resistance:

Cured sample of 5mm thick – grade 5H pencil (no damage visible)

Fully cured treated surface coating thickness 0.8 μm – grade 5H pencil (no damage visible)

Force of friction on treated surface: $F = 0.033\text{N}$ (0.006g foam applicator block sliding off treated surface)

- Coefficient of static friction $\mu = 0.625$
(based on inclination 32° when applicator block starts sliding off)
- Normal force $N = 0.053\text{N}$
(based on inclination 32° when applicator block starts sliding off)

Consumption rate: 3-4 ml/m² or 20-25ml per mid-sized sedan

Curing time (recommended):

Infrared assisted 40-50°C

3 hours or 1 hours infrared assisted - Surface dry (unaffected contact with water/rain)

4 days or 12 hours infrared assisted - Full curing

4 days (tropical/humid) / 8 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 and early deterioration of coating)

Appearance after curing: Optically transparent and increased reflectivity/gloss.

Solvent incompatibility:

None identified.

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 Graphene Maintenance Coating, ensure surface is stripped of all existing products except coatings (e.g. 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.

1. Make all necessary preparation like compounding, polishing, claying, decontamination, washing and cleaning before application process.
(skip compounding/polishing if using as part of coating maintenance regime)
2. Utilise panel wipes, isopropyl alcohol (IPA), silicone removers to remove oil, fillers and other products (e.g. Artdeshine Silicone Remover)
3. Drip 8-10 (16-20 if priming applicator) drops of product by dragging tip of bottle in a straight line to and fro using Artdeshine Black MF Applicator Pad or Artdeshine MF Towel Application (any suede or microfiber applicator block and pads, MF towel are suitable).
4. Apply onto surface no larger than 1m x 1m in circular motion and cross-hatch motion for even coverage.
5. Product will display rainbow like colors under lighting after 15-20 seconds.
6. Starting from the edges of applied area, wipe off excess with a clean and dry microfiber (MF) towel.
7. Using another clean and dry MF towel, buff off all residue, hazing, high-spots and smears in circular motion.
8. Ensure surface is clear and surface feels slick. (smoothness can be felt when buffing with MF towel)
9. Repeat 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 during application. Graphene Maintenance Coating is formulated to be highly repellent and additional coats will be repelled and not have effective bonding nor will it increase durability and protection.

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

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 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)

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Before 1 hours (infrared assisted) or 3 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 4 days (tropical/humid) / 8 days (temperate/dry) 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. 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 and Bio Nano Pro or any water soluble spray detailers in higher dilution with fresh water.

Recommended After-Care (After Full Curing)

Every 1-2 weeks:

- Washing should be done with pH neutral shampoo. (e.g. Artdeshine Organic Cleaner or Citrus Cleaner)

Every 1-2 months (user preference):

- Washing can be done with Alkali shampoo (e.g. Artdeshine Organic Cleaner) 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 water soluble spray detailers. (e.g. Artdeshine Bio Nano Pro or Graphene Detailer)

Use this product every 4-6 months:

If applied as part of the maintenance regime of coating products (e.g. Nano Graphene Coating, Ceramic Metal Oxide Coating, Ayicon Coating or Graphene Beading Express Coating)

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 Graphene Maintenance Coating. Water soluble products like spray detailers 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

Storage and Warnings

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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
- Cool and dry storage
- Do not store under direct sunlight
- Product is heat sensitive and gelation may occur if exposed to heat
- Do not store near open flames, ovens, heaters or flammable items

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

Keep out of reach from children.

Always wear solvent resistant gloves when using. (Face and eye protection recommended)

Harmful if swallowed or ingested.

Irritant to eyes if contacted.

May cause skin irritation with prolonged un-protected use.

If swallowed: Rinse mouth. Do not induce vomiting. Call a doctor/physician.

If on skin . Rinse skin with soap and water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If inhaled: Move to well ventilated fresh air.

Warning symbols:

Do not inhale vapour and gas of product.

Use in well ventilated areas.



Flash Point : 65°C

Extinguishing Media : Water, dry extinguishing material

Special Fire Fighting Procedures : Normal caution when dealing with chemicals

Unusual Fire and Explosion Hazards : None