INSTALLER GUIDE

NANO GRAPHENE COATING (NGC) +

UFI: PPRD-MDSE-600V-RMKT

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SECTION 1: COATING THICKNESS

WARNING:
To maximise coating longevity, do not ignore optimal coating thickness, consumption, curing and dwell times.

COATING THICKNESS TABLE
(following Dwell Timetable in Section 4)

Average Coating Thickness (µm or micron)	Average Consumption (ml/m²)
2.5	2.8 - 3.0
4.0 (optimal)	4.3 - 4.5
10.0	10.3 - 10.5

SECTION 2: SURFACE COMPATIBILITY

Gloss/Matte Clear Coats	✓
Gloss/Matte Paints	✓
Gloss/Matte Plastics	✓
Gloss/Matte Vinyl Wraps, Decals, Liveries	✓
Gloss/Matte Paint Protection Film (PPF)	✓
Glass	✓
Rubber Parts	✓
Chrome Treated Parts	✓
Raw Carbon Fibre Parts	✓
Anodised Metal Parts	✓
Raw Metal Parts	✓
Synthetic Leather	✓
Fabric	✓ (May cause yellowing on white)
Natural Leather	✗

Colour tones may deepen or darken especially on matte surfaces, matte clear coat or matte vinyl wraps. Always test a small area and inform the vehicle owner first!

May stiffen fabric.

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

Product might not bond well to certain non-clear coated metallic surfaces like chrome or anodised surfaces as these are non-stick surfaces.

SECTION 3: CURING

CURING TABLE	Environmental temperature	Any method with wipe off	Any method with wipe off and infra-red (IR) assisted
Surface Dry	Above 30°C	2 hours	20 min. (IR assisted)
	21 - 29°C	6 hours	30 min. (IR assisted)
	15 - 20°C	12 hours	40 min. (IR assisted)
Full Curing	Above 30°C	3 days	3 days
	21 - 29°C	5 days	5 days
	15 - 20°C	7 days	7 days

Application Methods – **Artdeshine Saver Applicator, Applicator Pad.**
IR lamp set at constant between 40 - 60°C, 1.0 - 1.5 metres away from surface.

WARNING:
Curing process will be greatly affected if environmental temperature is below 15°C.

- Use IR to speed up the process of curing and allow coating to fully cure in a climate-controlled environment.
- Minimum of 2 hours IR assisted before full curing process of 14 days if climate-controlled curing is unavailable.
- Performance cannot be guaranteed if coating is left to cure at temperatures below 15°C, do this at your own risk!

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

SECTION 4: APPLICATION

Application Tips
- Shake the bottle for at least 1 minute prior to usage.
- Remove plastic insert at tip of bottle and make use of pipettes provided for optimal consumption according to Coating Thickness Table in Section 1.
- For first time users, create 2 test spots 30cm x 30cm each. On one spot, allow product to dwell 5 minutes before wiping. On another, allow product to dwell 15 minutes before wiping. This will help ascertain dwell time relative to the application environment.

Working Area
- 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 (below 3000K) and cool lighting (above 4000K) will help with a proper installation.
- Have appropriate ventilation systems to avoid inhaling of vapours/gas

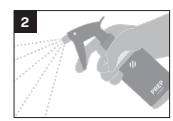
- No open flames, lighted cigarettes, running ovens or heating devices (blow torches, heat guns etc.)
- Optimal surface temperature 19-30°C.
- Optimal ambient temperature 21-32°C
- Do not apply on heated surface

Application Process:

1

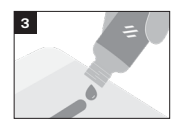
Make all necessary preparation like compounding, polishing, claying, decontamination, washing and cleaning before application process.

2



Utilise **Artdeshine Prep** to remove oil, fillers and polishing compounds.

3

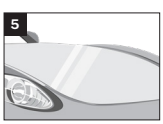


Drip required amount (refer to Coating Thickness Table in Section 1) of product by dragging tip of bottle in a straight line directly or use pipettes to drip on **Artdeshine Applicator Pad** or **Saver Applicator**.

4

Apply onto surface no larger than 1.0m x 1.0m in circular and crosshatch 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, depending on ambient temperatures allow product to dwell according to table below:

DWELL TIMETABLE

Dwell Time (minutes)	5	7	9	11	13
Ambient Temperature (°C)	Above 36	30-35	25-29	20-24	15-19

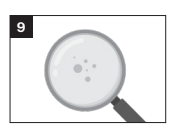
7

Starting from the edges of applied area, wipe off excess with a clean and dry **T2 Microfiber (MF) Towel**. (grabby feeling is normal for this step)

8

Using another clean and dry **T2 320GSM 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 with no residue.

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.

Last resort removal 1 hour after application can be done with **Artdeshine Prep** or IPA.

After surface dry (refer to Curing Table in Section 3), 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.

SECTION 5: MULTIPLE COATS/LAYERING

Multiple coats are 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.

NGC+ is enhanced with carbon nanotubes (CNT) for dirt repelling properties, it is best used as a standalone, applying a top coat using any other coating might "mask" this capability.

To apply multiple coats, allow surface dry (refer to Curing Table in Section 3) in between coats.

MULTIPLE COATS COMPATIBILITY TABLE

Base Coat	Top Coat
NGC+	NGC+
NGC+	Hybrid+ (only annually as booster coat)
NGC+	BX+ (only annually as booster coat)
NGC+ (if on wheels)	Wheel+ (only annually as booster coat)
NGC+ (if on windows)	Window+ (only annually as booster coat)

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

SECTION 6: COMMON ISSUES

Soft/Sticky Clear-Coats
- Known to "absorb" or dry out coatings quickly.
- High spots/uneven colour tones may happen.
- Work on small areas no larger than 50cm x 50cm.
- Reduce dwell times by at least half (refer to Dwell Timetable in Section 4).
- Use short lint/low pile towels like Artdeshine **T2 320GSM MF Towels**.
- Be extra careful during wipe-off at edges of applied areas, take note to "massage" and buff more.

Wiper Noise/ Movement Issues
- Might cause wiper noise and movement issues due to incompatibility with hydrophilic windshield.
- Occurs randomly but usually happens to almost brand-new windshields.
- No permanent solution to prevent this, APPLY AT OWN RISK.
- Apply Artdeshine Bio Nano or GrapheneSeal every month to temporarily improve smoothness and reduce noise.
- Removal of coating must be done with abrasive polishing.

Oily Looking Smears
- High quality Artdeshine coatings are concentrated, viscous and thick, not solvent laden.
- Oily looking smears may appear when coating is not dry, or dwell time is too short.
- Increase dwell times (refer to Dwell Timetable in Section 4).
- Use short lint/low pile towels like Artdeshine **T2 320GSM MF Towels**.

- Change out to fresh towels frequently if unable to absorb.
- Allow to dry for 30 minutes or more, coating might self-level and smears will disappear. Smears will be much easily absorbed by towel.

High Spots/Uneven Colour Tones
- Can happen due to soft/sticky paint causing fast drying, missed out on areas during wipe-off or on damaged matte surface/wraps.
- Before surface dry (refer to Curing Table in Section 3), reactivate coating by applying more product and massage with slight pressure, immediately wipe-off till coating is levelled.
- After surface dry (refer to Curing Table in Section 3), polishing or abrasive methods will have to be used to remove coating.

Matte surfaces/wraps
- Colour tones may deepen or darken.
- Any prior damage to surface might become more obvious after application of coating, causing uneven colour tones.
- Matte wraps/PPF can be damaged during installation due to abrasion from squeegees used, this damage might be invisible before coating application.
- Known to "absorb" more coating.
- Work on small areas no larger than 50cm x 50cm.
- Reduce dwell times by at least half (refer to Dwell Timetable in Section 4).
- Use short lint/low pile towels like Artdeshine **T2 320GSM MF Towels**.
- Be extra careful during wipe-off at edges of applied areas, take note to "massage" and buff more.

WARNING!
It is not possible to rectify issues once coating is cured as these surfaces cannot be abrasively polished safely!

SECTION 7: AFTER CARE (BEFORE FULL CURING)

Before surface dry:
- ⊗ Do not allow surface to be exposed to rain or water.
- ⊗ Do not allow surface to encounter 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 full curing:
- ⊗ Do not allow surface to encounter 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 for 1min before wiping off gently.
- ✓ 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 GrapheneSeal** and **Bio Nano** in higher dilution (1:19 for Concentrate, 1:1 for Ready to Use-RTU) with fresh water.

SECTION 8: AFTER CARE (AFTER FULL CURING)

Every 1-2 weeks — Washing should be done with **Artdeshine AlkClean** or **CitrusClean**.

Every 1-2 months (user preference) — Washing can be done with **AlkClean** 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 **Artdeshine Bio Nano** or **GrapheneSeal**.

Every 4-6 months — Removal of embedded contaminants using **Artdeshine C1 Clay Cloth**. This is important in keeping the surface smooth and slick. A rough surface will affect the water repellence performance.

Application of **Bio Nano** or **GrapheneSeal** for slickness, gloss and water repellent properties.

Every 1 year — Application of **BX+** if initial water repellent effect or slickness has deteriorated.

SECTION 9: PRODUCT INCOMPATIBILITY

- ⊗ Do not apply any other coating, wax or sealant products unless recommended by Artdeshine as it may affect or alter the coating's performance.
- ⊗ Do not use water-spot removers, tar/glue removers, stain removers, iron/fall-out removers, degreasers, solvent cleaners or salt removers unless recommended by Artdeshine as it may damage the coatings due to chemical incompatibility.
- ⊗ Do not use shampoos containing polymers, waxes, silicones or those advertised to have hydrophobic properties as these may clog the coating or affect the already superb repellent performance.
- ✓ Use only water-based polishing pastes and compounds so that they can be thoroughly removed before application of Artdeshine coatings. Any polishing product residue left behind may interact with the coating and cause bonding, curing or application issues. Use Artdeshine Prep instead of IPA for more effective removal!

i More information on product compatibility or other Artdeshine products for after-care is available through your distributors or contact Artdeshine directly for more information.

SECTION 10: TECHNICAL INFORMATION

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.

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 pH3 - 13
- Climate range -40°C to + 40°C

Hydrophobic properties durability (normal conditions): 7 Years
- 400 washes pH neutral
- 200 washes pH3 - 13

Hardness (SHORE A Scale): 57
Dirt Pickup Resistance (ASTM-D3719): 48.2ΔL

Chemical resistance: pH2 – pH14

Thermal threshold on treated surface (onset of degradation): 350°C

Average Water Sliding Angle on coated clear coat surface: 23.3°

Hologram (swirls) reduction during application:
- Micro-mesh above 6000
- FEPA sandpaper grade above P4000

STORAGE

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

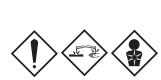
Storage environment:
- Below 30°C ambient temperature or gelation may occur.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Segregate from alcohol, water.
- No smoking, naked lights, heat or ignition sources.
- Do NOT store near acids, or oxidising agents.

WARNING

DANGER.

Hazard Statements:
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
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. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious)
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.



Scan QR to watch application.