

Nanotech Surface Solutions™ Si-Carbide Plus

Product Information

Description

- Si-Carbide Plus consists of silanes, nitrogen, hydrogen and organic compounds such as carbon. This additionally implemented thermoplastic component forms an incredible hydrophobic, flexible and cross-linked matrix which gives outstanding hardness and durability.
- A unique one-pack, white spirit based coating designed to give effective protection against weathering and chemicals providing excellent corrosion protection and easy-to-clean properties.
- Depending on the number of applied layers of Si-Carbide Plus, the thickness of the coating may vary; each coat being 10 micrometers thick on average. The coating thickness, combined with the sophisticated structural nature of the Si-Carbide Plus matrix, make the coatings resistant to abrasion caused by frequent washing and most chemical substances.
- For automobiles: unlike traditional coatings such as car wax and conventional polymer coatings, where the protection efficiency decreases with time/ from using alkaline detergents or mechanical removal, Si-Carbide Plus exhibits outstanding durability due to its molecular bonding properties.
- Si-Carbide Plus is a permanent not a sacrificial system, allowing for repeated cleaning without affecting its performance.

Suitable Substrates

- Si-Carbide Plus is suitable for a wide variety of non-porous surfaces.
- Si-Carbide Plus can be used on ferrous and non-ferrous metals, car paint, chrome and alloy wheels, powder coated surfaces and other painted materials.

Other Data

- Spread rate: Approximately 100- 160 square metres/ liter; with one coat.
- The drying time: 2-4 hours to touching and 24 hours, depending on conditions, to cure completely.
- Application temperature: Minimum 5^oC.
- Working time: approximately 120 to 240 minutes. Due to the moisture curing nature of the product do not leave containers open.
- Equipment: Make sure to clean equipment immediately after use, however cloths may need to be disposed.
- Shelf Life: 12 months in unopened container.
- UV Resistance: Excellent.

Uses

- Military industry (battle ships, airplanes, tanks, etc.)
- Steel industry (bridges, constructions, machines, etc.)
- Oil industry (pipe lines, platforms, coupling units, etc.)
- Ship industry
- Food industry (kitchens, ovens, metal countertops, etc.)
- Car industry (engines, paint top coat, etc.)

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- Train industry (engines, train frames, paint top coat, etc.)
- Airplane industry (engines, paint top coat, etc.)

Application

NSS Si-Carbide Plus is used undiluted. The amount to be applied (6-10ml/m²) depends to a large extent on the texture of the substrates surface and the application method and should be tested in advance.

The surfaces to be treated needs to be absolutely clean, degreased, dry and free from loose particles and separating substances before treatment.

During application the outside temperature and the temperature of the substrate should be within the range of +5 °C to +35 °C. **Si-Carbide Plus** should not be in contact with water before or during application and should not be applied if it's raining or there's high air humidity.

NSS Si-Carbide Plus can be applied by spraying or by hand. In order to achieve the best result we recommend the following process:

1. Cleaning

Ultrasonic cleaning or any highly effective de-greasing process.

2. Application

- Can be applied by hand, through polishing/wiping with a soft pad (or soft cotton cloth, etc.)
- By spraying. Apply until a thin layer is visible.

Spraying parameters

Spraying with compressed air at ca. 2 bar

Blast pipe < 1 mm

Several thin layers with measured material feeding

Application on car paint:

NSS Si-Carbide Plus can be applied to almost any car paint. To attain optimum performance it is essential that the target surface is completely clean; it must be completely free from waxes, silicone coatings, etc., otherwise the coating will not be able to bond to the surface.

Prior to application, please always carry out a test on an inconspicuous location (eg. in the engine compartment or the car). Do not apply the coating to freshly painted surfaces as the paint must completely cured before application.

Cleaning and surface preparation.

This product is a product for professionals, therefore it is recommended to practice the application to get used to the application process. In addition the polishing process should be practiced so that the desired level of gloss finish is attained. First, meticulously pre-clean the car paint; for this you may use common cleaner. After completion of the general cleaning process, deep clean the surface with alcohol (e.g. at least 70% isopropyl or ethanol alcohol) so that all contaminants are removed. The use of a clay bar cleaning process is also suitable. The coating should only be applied to surfaces which are free of contamination. The better you perform the pre-cleaning, the better the adhesion and subsequent longevity of the coating.

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The application process.

Please ensure that the application is performed in a well ventilated and dust-free area. We recommend that you use a protective mask during application as the liquid has a strong odor. Wearing protective gloves is also recommended. Please read the SDS information.

The surface to be coated should be not too hot; so do not coat the car paint if the car was located directly under the sun before, otherwise the liquid will “flash off” and initial curing will be too rapid, and the polishing will be considerably more difficult. Ideally the process should be conducted at an ambient temperature of 25°C. (+/-5°C). Plan your work. Apply the coating in small sections eg. one body panel at a time. We recommend that you work in a team, e.g. one person applies the finishing, and the other person polishes it promptly.

Step by step instructions:

1) Prepare the surface as already described.

2) Use a thin and smooth microfiber cloth to apply the finish (a cloth of approximately 25 x 25cm is recommended). Completely moisten the cloth with **NSS Si-Carbide Plus**. Apply the finish swiftly and evenly by wiping (always in one direction).

3) Next, (after 1-2 minutes) polish the coated surface, without excessive pressure, using a smooth cotton or microfiber cloth (ensure that a lint free fabric is used). Do not wait longer than 2 minutes before this first buffing action. You must ensure not to aggressively remove too much of the finish. Ensure that all blemishes are removed. If for some reason you delayed the polishing process, and dense spots remain, immediately apply another layer of the finish; this will soften the layer below, and you may polish anew. Finish the buffing with a fine soft peach skin texture microfiber.

4) In warm conditions the coating becomes dust dry after 2 hours and touch dry after 5 hours. After this, the finishing will be dry enough that you may use the vehicle again but if the coating is still far from being fully cured, avoid brushing against the surface with bags or keys.

The coating will cure faster if the surface is hot and so it will be advantageous to place the car in direct sunlight after the first 2 hours of curing. Within the following 10 days the vehicle should not be cleaned as complete curing takes at least 8 days (depends on the temperature and the humidity), otherwise the finish may be damaged, especially if a drive through car wash is used.

Functionality

NSS Si-Carbide Plus reacts with the substrate’s surface and forms a mechanic abrasion resistant coating with very high bonding properties on metal. It generates very thin, transparent coatings with high impact strength and is resistant to alkali and corrosion.

The treatment with **NSS Si-Carbide Plus** does not require a chromate conversion coating of the substrate and is completely free from chrome and lead according to the Ordinance on Hazardous Substances.

To determine the exact amount to be applied it is recommended to do a small test patch first.

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Product safety

Before considering the use of any chemical read its Material Safety Data Sheet thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use.

Handling and storage

NSS Si-Carbide Plus should not be in contact with moisture.

Material should be stored at temperatures < 20 °C.

NSS Si-Carbide Plus has a shelf life of 12 months when stored in sealed original containers.

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