



## EXOCOAT Ceramic+

### General Information

EXOCOAT Ceramic+ is a high-performance coating resin that forms durable easy to clean and/or anti-graffiti coatings. This nano-resin binds strongly to substrates such as steel, aluminium, glass and plastics like PC, PMMA and ABS as well as new and existing coating layers.

EXOCOAT Ceramic+ can be applied in various ways; the protocol described is an example of a no-fail application method for testing EXOCOAT Ceramic+ as such, without any reformulation <sup>1</sup>.

### Application by Cloth/Wiping

Typically, the application of wiping by cloth generates very thin films, from 0.5 to 1.0µm.

#### Materials required

- Wiping/Application cloth: fine polyester microfiber for lenses
- Polishing cloth or pad: polyester microfiber



#### Substrate

- Not specific (Aluminium, painted metal, lacquered surfaces, glass, most plastics).

#### Operating instructions

- 1) Make sure the surface is dry and free from contamination (dust, oil). If required clean with, for example IPA, ethyl acetate or mineral spirits. Do not use cleaning agents or detergents prior to the application of EXOCOAT Ceramic+.
- 2) Use the coating material as supplied,
- 3) Pour a few drops on the wiping cloth. A quantity of 5-10 drops/m<sup>2</sup> is recommended,
- 4) Wipe on the surface with light pressure making linear movements,
- 5) Within 2 minutes, gently polish (buff) taking away any irregularities, for example a local excess of coating. Circular movements are preferred,
- 6) Repeat the operations 2) to 5) to cover the whole surface.

### Application by Spray

Perfect brilliant spray finishes can be obtained by either Conventional or Rotary bell spray. It is advised to work in a clean, low dust or dust free environment, yet a cleanroom would not be a necessity.

#### Materials required

Conventional spray guns find use in body shops for repair and precision jobs.

Automized Rotational Bell spray guns are typically used in OEM factories for paint spray.

<sup>1</sup> Guidance recipes with EXOCOAT Ceramic+ available on request



The information presented herein is true and accurate to the best of our knowledge, but without any guarantee unless explicitly given. Since the conditions of use are beyond our control, we disclaim any liability, including for patent infringement, incurred in connection with the use of these products, data or suggestions.

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**Instructions for Use**

*Operating instructions*

- 1) Make sure the surface is dry and free from contamination (dust, oil). If required clean with, for example IPA, ethyl acetate or mineral spirits. Do not use cleaning agents or detergents prior to the application of EXOCOAT Ceramic+
- 2) Use the coating material as supplied
- 3) Put the coating in the designated reservoir
- 4) Spray using below recommendation, try keeping the dust level to a minimum

*Substrate*

- Not specific (Aluminium, painted metal, lacquered surfaces, glass, most plastics).

Conventional Spray	Automized Rotational Bell Spray
<p>Commercial brands: Sata, Devilbiss, Iwata, Sames Kremlin, Graco</p>	<p>Commercial brands: Durr, Sames kremlin, Graco, Carlisle</p>
	
<p>Nozzle size: 0.8 to 1.0mm            Pressure: 0.6 to 1.0bar            Passes: 1 to 4 (cross)            Distance: 20 cm            DFT: 2.5 to 25µm            (dependent on speed of passes and number of passes)</p>	<p>Bell Rotation: 30000rpm            Bell (smooth/snotched): Smooth            Dress pressure: 2 bar            Vortex pressure: 0 bar            Distance: 20 cm            Speed: 0.2 to 0.4 m/s            Flow: 50 to 150 cm<sup>3</sup>/min            DFT: 4 to 16 µm (dependent on speed and flow rate)</p>
<p><i>Example DFT 6mu</i></p> <p>Nozzle size: 1.0mm            Pressure: 1.0bar            Passes: 2 (cross)            Distance: 20 cm</p>	<p><i>Example DFT 12mu</i></p> <p>Speed: 0.4m/s            Flow: 150 ml/min            Distance: 20cm</p>
<p><b>Advice:</b> The aspect improves using lower pressure and smaller nozzles</p>	



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## Spray cans

EXOCOAT Ceramic+ can also be applied by spray can. The standard spray can systems with for example propane-butane propellant can be used. Particular attention should be given to the moisture (water) content of the propellant and/or additive. Water may initiate curing inside the can.

To obtain a uniform and glossy coating some variations in nozzle size, spray distance and pressure would need to be tested. In this process the viscosity of EXOCOAT Ceramic+ may need to be adapted. An aprotic solvent such as lower alkylacetates (butylacetate) or cyclic aromatics (toluene) can be used.

## Curing conditions

- Temperature, between 15 and 30°C,
- Relative humidity, between 50 and 80%. As curing is enhanced by moisture in the air, a high humidity [within this range] is recommended,
- The surface should not be exposed to direct sunlight.

Allow the coating to cure for 8 hours before any other action is done on the surface (wash, bend, touch).

Note: full cure (full performance) is achieved after 1 week

## Advise

EXOCOAT Ceramic+ cures with humidity from the air. It is advised to use up the bottle completely on a coating job which should be within days.

If a bottle is planned to be re-used replace the air in the bottle with N<sub>2</sub> using and N<sub>2</sub> purge.

Clean the lid carefully to avoid crystal formation on the screw thread.



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