5575 High Quality SiO_2 Coating for PV / Solar Panels

This easy to apply coating was specifically designed to create a super durable, non-stick (hydrophobic and oleophobic) nano scale layer on the external surfaces of PV / Solar panels.

The coating prevents full bonding of contaminants to the surface and as a result water, dust, bird lime and other contaminants from environmental pollution are easily removed from the surface.

The easy clean effect is very pronounced and as a result the surfaces can be cleaned, if necessary, without using aggressive or abrasive agents. In many instances the panels become clean after heavy rain. **The outcome being enhanced performance of the solar panel.**

AREA OF USE:

- Solar panels

PRODUCT CHARACTERISTICS

- Strong anti-stick properties
- Excellent easy-clean performance
- Highly durable
- Easy to maintain
- Prevents degradation of the solar panel surface
- Invisible to the human eye (coating thickness: 100-150nm)
- Permanent (UV-stable, enormous abrasion-resistance)
- Resistant to temperature change
- Breathable
- Simple application (do-it-yourself)
- Chemical-resistant (within the range pH value 1 to 13)

APPLICATION

Simple do-it-yourself application makes it suitable for end-users as well:

1. Manual application: Application with a suitable wiping cloth e.g., non-woven wipe of microfibre

2. Industrial application: Polish or spray coating systems

This SiO2 coating is functional after 30 minutes and completely bonded and hardened after 24 hours.

The easy-clean effect can only be tested after this hardening phase.

CCM GmbH | Diepenbroich 8 | 51491 Overath, Germany
Phone: +49 (0) 2206 938590-0 | Fax: -99 | Email: info@ccm-international.eu | www.ccm-international.eu

STORAGE STABILITY

Unopened original containers can be stored for at least 2 years.
Recommended storage- and transport temperature: -3 to 30°C

CONSUMPTION

Variance is due to the cloth or spray system used.

Manual: 5 to 10 ml / m^2
Industrial: 5 to 15 ml / m^2

COATING PROCEDURE FOR SOLAR PANELS

Preparation

It is essential that the target surface is completely clean before the application of the coating.

It is stressed that in many instances the end user considers that a surface is clean after wiping the surface with a cleaning agent until it looks clean. The preparation required before applying our coatings is much more thorough. On average it takes approximately 3-5 minutes to clean a solar panel.

1. We recommend that the surface is washed thoroughly with Biosativa® bio cleaner (supplied by CCM) mixed to a ratio of 1 to 15 (one part Biosativa®, 15 parts water). If you do not have access to Biosativa®; it is suggested that the surface is washed thoroughly with water and a micro-fibre cloth. If you do choose to use a cleaning agent other than Biosativa®, ensure that it does not leave any tensides on the surface as residues prevent the layer of SiO^2 (pure glass) from bonding. The layer formed is only 100nm thick (500 times thinner than a human hair). It is massively durable but as can be imagined this ultra-thin layer can only bond efficiently to a completely clean and dry surface.

2. This initial cleaning will remove heavy contamination such as insect residue, contaminants from vehicles etc. It should be noted that the use of Biosativa® will significantly enhance this initial cleaning process. We do not suggest using washing liquid as this places tenside residues on the surface.
3. Thoroughly rinse the surface with clean water.
4. Dry the target surface with a clean cloth or suitable kitchen roll/absorbent paper. Please note that the perimeter of the panel is often heavily soiled and also water drips remain in this area. Wipe the perimeter of the panel ensuring that any soling agents are not spread to the rest of the surface.
5. Deep cleaning with alcohol. All solar panels differ in the amount of contamination held within the micro scratches (all surfaces have such scratches). Wipe the surface with the supplied wipe or use a suitable alcohol cleaner. The cleaner must be free of any additional polishing agents. (eg. some glass cleaners contain silicone). Continue to wipe the surface until the screen is completely clean. Ensure correct safety controls are followed when using alcohol. Follow the MSDS guidelines. Test alcohol cleaners such as IPA on an inconspicuous area.
6. After cleaning with the alcohol-based wipe, allow the surface to dry for 30 seconds+/- and then buff the surface with a micro-fibre of similar clean cloth.

Application

7. Apply the coating on to the surface using either a pre-impregnated wipe or apply the coating liquid to a suitable lint free cloth or microfiber. Working quickly, ensure full coverage of the surface. Wipe with both vertical and horizontal action to ensure full coverage. It is recommended that the outer edge of the panel is wiped as the last action to avoid any possible contamination of the central area of the panel. The pre-impregnated wipe from CCM contains 6ml of coating. This is optimised for coating an area of approximately 1.5m². If you are using your own wipe, we recommend that 10ml is applied to a lint free wipe which is approximately 150 x 150 mm. (This increased amount is suggested as the wipe medium which is being used may not be optimized for the coating and so it is wise to use a little more coating liquid.)
8. Allow the coating to dry for approximately 5 to 30 minutes. (5 minutes in warm weather e.g., 25°C… 30 minutes in cool weather e.g., 5-10°C).
9. After application the surface may look slightly “cloudy”. Buff the surface with a clean micro-fibre to remove any residue which contributes to the cloudy appearance. The surface should look polished.
10. The coating takes 24 hours to fully cure but the coated surface can be exposed to rain one hour after application. Do not apply the coating in damp or very humid conditions.

Do not apply the coating in hot, direct sunlight.

Do not apply our SiO^2 based coating on to surfaces which are coated with other agents, such silicones, or similar agents as the SiO2 coating will not bond effectively to these surfaces.

Do not apply the coating to solar panels if the surface of the panel is greater than 30°C. (in hot regions of the world it is best to apply the coating early in the morning or in the evening, when it is cooler). The ideal temperature for coating is approximately 15 to 20°C.

Do wear gloves as a fingerprint can be 100 times thicker than the coating.

Important Notice

Our explanations correspond to our current knowledge and experience. We are passing it on, however, without obligation, also with regard to third party patent rights. In particular, a warranty of assured quality in the legal sense is not associated with it. The right to make alterations within the framework of technical advances and operational development is reserved. The customer is not released from careful quality examination. The mention of other company names is not a recommendation and does not exclude the use of similar products. We guarantee the quality of our products in accordance with our general sales conditions as a matter of course. The products are ready-to-use. Mixing with other substances or other charges is strictly forbidden.

CCM GmbH advises against filling up in aerosol-packaging.