

# Hydrophobic Coating for Solar Photovoltaic Modules



## SOLAR GLASS SHIELD: PROCESS OF APPLICATION

Thank you for your conscious decision of choosing the Solar Glass Shield Super Hydrophobic coating for your Solar Power Plant. We will give you step by step procedure to apply the same on your Solar Panels.

### **Purpose of the document:**

The document describes step by step process of application of the *Solar Glass Cleaning compound* and the *Solar Glass Shield Super Hydrophobic Solution*. The last section is Do's and Don'ts. It covers the precautions that one needs to take after the glass panels are coated with the super hydrophobic solution.

***You can get the best outcome from the Super Hydrophobic coating if you carefully follow the steps of application as well as the Do's and Don'ts Instructions at the end of this manual. In normal Tropical climatic conditions, the Super Hydrophobic coating can last for 2.5 to 3 years.***

**OLD KIT:** The kit intended for the Solar Panels which are old. This contains Glass Cleaning compound adequate for your requirement.

**NEW KIT:** The kit is intended for the Solar Panels which are new and without any deposition of dirt. The new kit does not require the Glass Cleaning compound as the Solar Panels are new.

## OLD KIT (FOR OLD SOLAR PANELS)

The old kit is intended for the use on Solar Panels which are installed (old) and has dirt on the surface. The Solar Panels have bonding on them. The old kit contains Glass Cleaning Compound which removes all the old bonding from the surface Glass surface. It cleans the surface to the brand new level. The next step is application of the Shield super hydrophobic solution for Glass. It is coated after you achieve clean surface of the Glass. This way it will keep the effect of cleaning to maximum duration.

## OLD KIT (FOR OLD SOLAR PANELS)



### Contents of the Old Kit:

1. Pre Cleaner
2. Shield Super Hydrophobic Solution for Glass
3. Applicator Cloth (Yellow\* non-woven microfiber cloth)
4. Wiping cloth (Yellow\* or Red\* Soft Microfiber cloth)
5. Glass Cleaning compound
6. Scotchbrite (Industrial grade)

***\*colors may vary as per availability***

## Process of Application for the Old Kit:

**Step 1:** Solar Glass Cleaning Compound Preparation and Application.

**Preparation of Slurry:**

- a) One Part of Glass cleaning compound + 10 Parts of water + 1 to 2 drops of Dish Wash Liquid.
- b) Mix above solution by Hand or Stirrer to make slurry

**Application Process:**

- a) Pour or spread the above slurry on the Glass Surface with the help of scotchbrite or similar material.
- b) Leave the surface to get semi dry condition.
- c) Dip Scotchbrite in water and start rubbing action in circular motion on so as to cover the entire surface.
- d) Pour or spray water and remove all slurry or left over from the surface.
- e) Expected Results: This will make the Glass surface as clean as brand new one

**Step 2:** Pre Cleaner solution:

**Material Supplied:** Pre Cleaner Solution, Applicator cloth 1 of 2 (Microfiber non-woven yellow\* cloth)

**Application Process:**

- a) Spray the Pre Cleaner using Spray bottle. Apply with the applicator cloth using the clockwise spreading action.
- b) Make sure all the corners get covered / are applied with the Pre cleaner solution.
- c) Result of the process: This step removes the fine dust from the surface of the Glass.

**Step 3:** Shield Super Hydrophobic solution for Glass:

**Material Supplied:** Shield Super Hydrophobic solution for Glass, Applicator cloth 2 of 2 (Microfiber non-woven yellow\* cloth)

**Application Process:**

- a) Spray the Shield solution for Glass using Spray bottle. Apply with the applicator cloth using the clockwise spreading action. (Do not use the cloth used for the earlier step. Use the second cloth provided)
- b) Make sure all the corners get covered / are applied with the Super Hydrophobic solution.

- c) Result of the process: This step completes the application of the Super Hydrophobic coating on the Glass surface.

**NOTE: Once after you complete the step 3; wait for 30 to 40 minutes maximum before starting Step 4.**

#### **Step 4:** Final Wiping (Dry)

**Material Supplied:** Wiping cloth (Yellow\* or Red\* Soft Microfiber cloth)

**Application Process:**

- a) Take the Wiping cloth in kit. Wipe the panel gently using the cloth so that the extra material accumulated if any during Step 3 gets cleaned.
- b) Once done, kindly leave the panels for curing. Make sure that the coated surface does not come in contact with water or any liquid for next 24 hours.
- c) Results of the Process: The process of Super Hydrophobic coating is over at this point. Instantly the surface starts showing hydrophobic behavior. *(Allow curing: Please make sure that the coated surface doesn't come in contact with water or any other liquid for 24 hours after application.)*

## NEW KIT (FOR SOLAR PANELS BEFORE INSTALLATION)

The new kit is intended for using on the new Solar Panels. The surfaces are brand new and have no bonding or dirt on them. The new kit does not require Solar Glass Cleaning compound. Hence the process of application starts with the Glass Shield Pre Cleaner solution. The next step is application of the Shield super hydrophobic solution for Glass. It is coated after you achieve clean surface of Glass. This way it will keep the effect of cleaning to maximum duration.

## NEW KIT (FOR SOLAR PANELS BEFORE INSTALLATION)



### Contents of the New Kit:

1. Pre Cleaner
2. Shield Super Hydrophobic Solution for Glass
3. Applicator Cloth (Yellow\* non-woven microfiber cloth)
4. Wiping cloth (Yellow\* or Red\* Soft Microfiber cloth)

***\*colors may vary as per availability***

## Process of Application for the New Kit:

**Step 1:** Glass Cleaning Compound is not required hence switch to Step 2.

**Step 2:** Pre Cleaner solution:

**Material Supplied:** Pre Cleaner Solution, Applicator cloth 1 of 2 (Microfiber non-woven yellow\* cloth)

***Application Process:***

- a) Spray the Pre Cleaner using Spray bottle. Apply with the applicator cloth using the clockwise spreading action.
- b) Make sure all the corners get covered / are applied with the Pre cleaner solution.
- c) Result of the process: This step removes the fine dust from the surface of the Glass.

**Step 3:** Shield Super Hydrophobic solution for Glass:

**Material Supplied:** Shield Super Hydrophobic solution for Glass, Applicator 2 of 2 (Microfiber non-woven yellow\* cloth)

***Application Process:***

- a) Spray the Shield Super Hydrophobic solution for Glass using Spray bottle. Apply with the applicator cloth using the clockwise spreading action. (Do not use the cloth used for the earlier step. Use the second cloth provided)
- b) Make sure all the corners get covered / are applied with the Super Hydrophobic solution.
- c) Result of the process: This step completes the application of the Super Hydrophobic coating on the surface.

***NOTE: Once after you complete the step 3; wait for 30 to 40 minutes maximum before starting Step 4.***

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**Step 4:** Final Wiping (Dry)

**Material Supplied:** Wiping cloth (Yellow\* or Red\* Soft Microfiber cloth)

***Application Process:***

- a) Take the Wiping cloth in kit. Wipe the surface gently using the cloth so that the extra material accumulated if any during Step 3 gets cleaned.
- b) Once done, kindly leave the surface for curing. Make sure that the coated surface does not come in contact with water or any liquid for next 24 hours.
- c) Results of the Process: The process of Super Hydrophobic coating is over at this point. Instantly the surface starts showing hydrophobic behavior. *(Allow curing: Please make sure that the coated surface doesn't come in contact with water or any other liquid for 24 hours after application.)*



### DO's and DON'T's for the Coated Panels

You can get the best result of the Super Hydrophobic coating if you follow the instructions below.

#### **DON'T S**

1. We do not recommend the use of a Rubber Wiper / Rubber washer to clean the Glass surfaces once after they are coated with the Shield super hydrophobic solution for Glass.
2. We do not recommend using any Chemical, detergent, soap or any other material to clean the surface after coating with the Shield Super Hydrophobic solution.

#### **DO'S**

1. **Immediately after your surface is coated with the Shield super hydrophobic solution, please make sure that you are giving curing time of 24 hours. During this time the coated surface should not come in contact of any liquid like water.**
2. **Use minimum amount of water to clean the glass panes/ surfaces and washer with microfiber sleeve or microfiber wipe to clean the dirt or dust particles.**

#### *Microfiber Sleeve with Washer for glass panes*



**Simple Method  
of cleaning using  
Washer with  
Microfiber Sleeve  
and Water**