



Tongwei Solar PV Module Cleaning Instructions

01 General Note

1. It is strictly prohibited to touch or handle the surface of the module glass with bare hands. The use of cleaning gloves can avoid leaving fingerprints or other dirt on the glass.



3. Various soft foam materials, non-woven fabrics, brooms, soft sponges, soft brushes and brushes can be used.



NOTE: The blue hard side of the sponge shown in the illustration is only permitted to clean the aluminium frame of the module. Cleaning the glass with it will scratch the coated glass.

2. Metal tools such as blades, knives, steel wool and other abrasive materials are strictly prohibited.



4. As for the specifications of the brush, brush special wire material: nylon wire 1010; the diameter of the brush special wire requirements for cleaning coated glass: 0.1-0.06mm.

5. Only when the water can not be cleaned, it is recommended to use all kinds of commercial glass cleaner, alcohol, ethanol and methanol.

6. Abrasive powders, abrasive cleaners, detergent cleaners, polishers, sodium hydroxide, benzene, nitro thinner, acids or alkalis and other chemicals are prohibited.

7. Pressure of cleaning water should be less than 690KPa.

It is not recommended to use water with high mineral content, because the minerals will be sedimented on the glass surface when the water dries up. Most municipal water supply can meet these two conditions. The recommended quality of clean water is: PH in 6.5-8.5;

8. Steam or corrosive chemical reagents are strictly prohibited to accelerate the cleaning.

9. It is strictly prohibited to try to clean the glass or module when the wires are broken or damaged, which may result in electric shock.

10. It is strictly prohibited to step on the module when cleaning it.



02 Time

The cleaning of the module glass should be done in the early morning, evening, night or rainy days.

At the same time, when cleaning in the morning or evening, it is necessary to choose a period when sunlight is not strong.

Note: Avoid hot spots or even module burnout caused by manual shading when cleaning, and at the same time, ensure the safety of personnel and prevent leakage of electricity.

03 Periodicity and Frequency

In the case of large-scale photovoltaic power stations, due to the vast area occupied, the large number of modules, and the short period of time per day suitable for cleaning operations, the cleaning period should be planned and divided into areas according to the specifics of the electric field in order to complete the cleaning work with less manpower.

The division of sub-areas in module cleaning should be in accordance with the electrical structure of the PV plant, and it should be ensured that all modules connected to a number of converter boxes or inverters are covered by each cleaning operation.



01 Sweep

Use a dry duster or rag, etc., to remove adhesions such as dry dust, leaves, etc., from the surface of the module. If the surface of the module is free of other adherents and has been cleaned by this step, the following steps can be omitted. If the module is installed in a desert area where there is little water and a lot of sand and dust, it is recommended to blow the sand with air to remove most of the sand and dust from the surface of the module.

02 Wipe

If there are hard foreign objects such as soil, bird droppings, plant branches and leaves closely attached to the module, it is necessary to use a non-woven cloth or brush to wipe it, and not to use high-hardness artefacts to scrape it. Please also do not easily scrape areas that do not attach hard objects, simply do what is necessary to remove the foreign objects.

03 Wash

If the surface of the module has staining substances such as residues of bird droppings, plant sap, etc., or if there is a high level of humidity in the air of the area that prevents dust from being dusted off, it will need to be removed by washing. Generally, clean water is used to remove it. After spraying clean water onto the area with pollutants, remove it by wiping with a brush or soft sponge. In the case of oily substances, water mixed with alcohol can be used to apply to the stained area, and when the solution has penetrated the contaminant, remove it by wiping with a brush. If necessary, a commercial glass cleaner can be used along with a non-woven cloth or glass scraper for final cleaning of the module.

Snow Removal: Tongwei modules are designed with the consideration that they can withstand high snow pressure. However, if snow needs to be cleared to improve power output, please use a brush to gently remove snow, or blowing with air can also be used. But do not attempt to remove frozen snow or ice on the module.

NOTE: If you cannot clean up by any of the above methods, please consult professionals immediately.

1 Electricity Leakage Prevention

Before cleaning the module, it should be checked whether there is any abnormal record of electricity and analysed whether there is any hidden danger of electricity leakage. Moreover, it is necessary to test the module frame, bracket and glass surface with a electricity test pen to exclude the hidden danger of leakage. In addition, it is not recommended that customers directly wash the junction box. Considering the safety, it is recommended to operate without power when cleaning the back of double-glass module .

2 Injury Prevention

The corners of the module's frame and glass are sharp and acute, so personnel should wear protective clothing and helmets to avoid unnecessary cuts and scrapes when cleaning. At the same time, personnel should not wear clothing with hooks, locks and straps and other decorative items to avoid tripping when cleaning.

3 Glass Breakage Prevention

As mentioned earlier, sharp or hard tools should be avoided when cleaning, as this may result in scratching or even shattering of the glass surface.



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