

Hanwha Q CELLS solar modules are known for a long operating life and minimal maintenance effort and expense. Dirt and grime are usually washed away by rain. If the module is fully or partially shaded by dirt or debris (e.g., plants, bird droppings), it needs to be cleaned to prevent a loss of performance.

### Maintenance

- ➔ The system should be inspected by an installer annually to check the following:
  - all system components sit securely and are corrosion free.
  - the connection is secure and all electrical components are clean and undamaged.

transfer resistances of the grounding

### Cleaning



#### WARNING!

**Risk of injury due to hot and live modules!**

- ➔ Only clean modules that have cooled down.
- ➔ Do not carry or wear any electrically conductive parts.



#### WARNING!

**Risk of falling due to unsecured access!**

- ➔ Never access the installation area alone or without taking adequate security precautions.
- ➔ Please commission a trade specialist.

Clean the modules as follows:



#### NOTE!

**Module surface damage may occur!**

- ➔ Remove snow and ice without force (e.g. with a very soft broom)
- ➔ Do not scratch off dirt.
- ➔ Rinse dirt off with lukewarm water (dust, leaves, etc.)
- ➔ Use a soft cellulose cloth (kitchen roll) or sponge to carefully wipe off stubborn dirt. Do not use micro fleece wool or cotton cloths.
- ➔ Use an alcohol based glass cleaner. Do not use abrasive detergents or tensides.

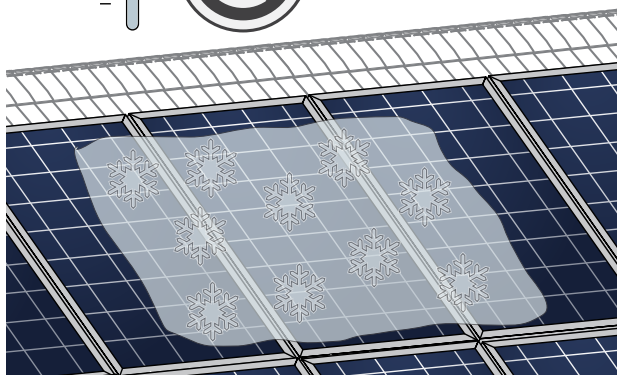
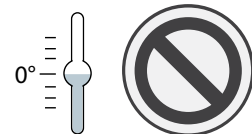
Isopropyl alcohol (IPA) can be used selectively to remove stubborn dirt and stains within one hour after emergence.

- ➔ Please follow the safety guidelines provided by the IPA manufacturer.
- ➔ Do not let IPA run down between the module and the frame or into the module edges.

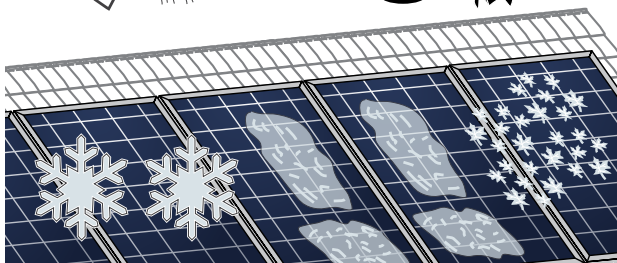
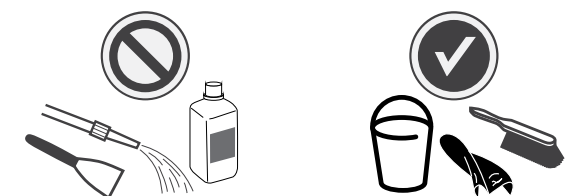


#### NOTE! Module damage may occur!

- ➔ Do not clean modules with water if there is a risk of frost.



- ➔ Remove dirt with lukewarm water, a broom, or a soft cloth.
- ➔ Do not use tensides, scrapers, or any high-pressure water cleaning equipment.



- ➔ Free the substructure from any dirt and debris (leaves, bird nests, etc.).

