

**TECNADIS SELFCLEAN PV**

Nanotechnology-based treatment to increase the energy efficiency of solar panels

**Product Description**

Surface treatment based on nanotechnology that **increases the energy efficiency of solar panels**. It also protects surfaces from dirt stains, **reducing their accumulation mainly due to its additional anti-dust property** (it reduces the adherence of particles of soil, sand, etc.). In addition, thanks to the action of the treatment that facilitates the formation of a thin layer of water (**hydrophilic and self-cleaning effect**), glass stays cleaner for longer favouring greater efficiency in the use of incident light, and economic savings by **reducing maintenance and cleaning costs**.

**Applications**

- Specially designed to be applied on photovoltaic panels (utility-scale/solar farms, industrial, commercial, residential).
- Also applicable to solar trackers.



**Features and advantages**

- **Tecnadis SELFCLEAN PV** increases the performance of solar panels by 8-10% due to:

**Transmittance improvement**

It reduces the reflectance of visible radiation by 19%, thus increasing the transmittance. This effect by itself results in an average yield increase of approximately **3%** (result and study carried out by **ITE, Technical Institute of Energy**).

**Self-cleaning capabilities** (self-cleaning and anti-dust effect)

It keeps the solar panel clean for longer, favouring a better use of incident light, which translates into superior electricity generation. With this associated improvement, it is possible to **increase the performance** of the panels to **8-10%** (results obtained in real self-consumption installations).

Its self-cleaning effect reduces the adhesion of particles of sand, soil, etc. and keeps glass surfaces clean for longer.



Untreated

Selfclean PV

*(Images taken after a sandstorm in Valencia - January 2021)*

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	<ul style="list-style-type: none"> <li>▪ <b>Totally transparent</b> coating, which does not modify the aesthetic appearance of the glass, and even improves the transmittance of the visible light through it.</li> <li>▪ <b>Easy application</b> by spraying with a spray gun or manually (cloth, cleaning cloth, etc.).</li> <li>▪ Coating tested under standard <b>UNE-EN 61215</b>. Specific standard for the approval of photovoltaic modules for terrestrial use suitable for long-term operation in outdoor environments.</li> <li>▪ It maintains functionality after aging tests based on <b>ultraviolet test</b> (at 96KWh / m<sup>2</sup>), and <b>temperature cycle test</b> (52 cycles between -40°C and 85°C with an atmosphere of 85% relative humidity).</li> <li>▪ <b>Durability of 10 years</b> under normal conditions of use.</li> <li>▪ <b>Total UV resistance</b>.</li> <li>▪ It can be <b>directly re applied</b> after just a surface cleaning.</li> <li>▪ High yield (<b>25-30 m<sup>2</sup>/L</b>).</li> </ul>
<p><b>Product information. Composition and Physico-chemical properties.</b></p>	<ul style="list-style-type: none"> <li>▪ <b>Colour:</b> Whitish transparent/translucent.</li> <li>▪ <b>Packaging:</b> 1L, 5L and 25L (higher volumes on request).</li> <li>▪ <b>Storage:</b> 12 months from date of manufacture in original airtight containers at temperatures between 5°C and 30°C.</li> <li>▪ <b>Active components:</b> &lt;5% wt</li> <li>▪ <b>Volatile Organic Content (VOC):</b>&gt;85% wt</li> <li>▪ <b>Boiling point:</b> 78 °C</li> <li>▪ <b>Ignition point:</b> ≤16,6 °C</li> <li>▪ <b>Density:</b> 0,81 g/ml</li> <li>▪ <b>Viscosity:</b> 1,2 cP</li> <li>▪ <b>Solvent:</b> Ethanol</li> </ul>
<p><b>Surface preparation</b></p>	<p>Before application, carefully clean the surfaces and remove all traces of detergents and cleaners. The surface must be completely clean and dry. In the case of surface with high level of dirt, a more thorough cleaning is recommended.</p>
<p><b>How to use</b></p>	<p><b><u>BY SPRAY GUN</u></b></p> <ul style="list-style-type: none"> <li>▪ THE CONTAINER MUST BE SHAKED VIGOROUSLY BEFORE ITS USE.</li> <li>▪ By spray gun (airless/paint gun), apply the product over the surface homogeneously either in one layer of higher quantity or in 2 thinner layers.</li> <li>▪ Apply with pressure higher than 4 bars.</li> </ul> <p><b><u>MANUALLY</u></b></p> <ul style="list-style-type: none"> <li>▪ THE CONTAINER MUST BE SHAKED VIGOROUSLY BEFORE ITS USE.</li> <li>▪ Apply the product on a cloth/cleaning cloth and spread over the entire surface until it is completely transparent.</li> </ul>
<p><b>Yields and storage</b></p>	<ul style="list-style-type: none"> <li>▪ Dilution: none</li> <li>▪ Approximate average yield: 25-30 m<sup>2</sup>/l.</li> <li>▪ Full drying time: The treated glass will have a hydrophilic effect immediately after application, achieving an optimal effect after 24 hours.</li> <li>▪ Optimal application temperature: between 5°C and 30°C.</li> <li>▪ Storage temperature: between 5°C and 30°C; protect from direct sunlight; store tightly closed in the original container.</li> </ul>

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### Handling precautions

The product safety information necessary for its safe use is not included in this document. Before using this product, read the material safety data sheets and the container labels for safe use and for information on physical and health hazards. The material safety data sheets are available and are supplied by TECNAN S.L. The application of the product must be carried out in a well-ventilated place. It contains volatile solvent (ethanol).

### Limited warranty information

**Please read carefully:**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should be used properly, verifying in preliminary tests that the product is suitable for its intended use. Suggestions of use shall not be taken as inducements to infringe any particular patent. The only guarantee of TECNAN S.L. is that the product will meet the sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Tecnan specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Tecnan disclaims liability for any damage caused accidentally.