

# TECNADIS HEAT SHIELD

## Heat barrier treatment for glass surfaces

### Product description.

TECNADIS HEATSHIELD is a nanotechnology-based heat barrier treatment for glass surfaces, which blocks infrared solar radiation (IR) by more than 40%.

This protector has been designed to block the transmission of heat frequencies (infrared solar radiation) from the outside to the inside of the glass, thus avoiding an excessive increase in the temperature inside living spaces directly exposed to the sun.

### Applications.

TECNADIS HEATSHIELD can be applied on any **glass surface** that is directly exposed to solar radiation, being specially recommended for **glazed surfaces in buildings**.



### Features and advantages.

- **Blocking of the 45-50% approx. of the solar energy** (for a standard protection layer), enabling to modulate the blocking capacity -in terms of amount of radiation filtered- according to the number of layers applied.
- Blocking of **ultraviolet radiation by more than 25%**.
- Significant reduction of the energy consumption in cooling processes, **achieving savings of operating costs of air conditioning systems up to 60%**.
- **Easy application** with pressure air gun and compressor. It is also possible to use cleaning tools (articulated sponge, cloth, etc.).
- **Resistant to cleaning processes** with conventional cleaners/chemicals, keeping unaltered the IR blocking properties.
- Keeps the **glass appearance highly transparent**.
- Provides a **very light bluish tone**.
- High durability and re-applicable/repairable if necessary. It can be removed without using special techniques, if necessary.
- **Total resistance to UV radiation. Durability of 10 years** under appropriate conditions of use and application.
- Its **performance** (8.5 – 11.5 m<sup>2</sup>/L approx. for a standard protection layer) and highly competitive price make it one of the most effective solutions currently available in the market.

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### Product information. Composition and physic-chemical properties.

The product is based on a dispersion of nanoparticles treated with active agents, plus other additional compounds for the complete formulation, in a base of organic solvent (isopropanol and ethanol).

- Colour: Bluish.
- Standard packaging: 1L, 5L and 25L.
- Active ingredients: <35% wt
- Volatile Organic Content (VOC): >50% wt
- Density: 0,886 g/ml
- Viscosity: 7,34 cP
- Boiling point: 83°C
- Solvent: Isopropanol and 2-butoxiethanol

### How to use.

1. **SURFACE PREPARATION:** Surface must be **totally clean and dry** before application. For a proper preparation of the glass, it is essential to carry out a thorough cleaning using an abrasive-type polisher\* with microparticles, spreading it over the surface with the help of a scouring pad that does not scratch the glass or and industrial polishing-machine in the case of large surfaces. Once the polisher is spread, remove it with the help of a "T" type cleaning tool, spraying the surface with water to facilitate the process. Finally, clean the entire surface with ethanol and dry until it is completely transparent.

*\*Instead of an abrasive-type polisher, it is also possible to use a powerful detergent for surface preparation or other types of thorough cleaning. However, it is always recommended to finish the process by cleaning the surface with alcohol (ethanol or isopropanol).*

2. **PRODUCT APPLICATION:** Spray the product evenly over the glass, avoiding excesses or sagging of the product as much as possible. As a standard application, a light first coat working as a primer with high air pressure, followed by two coats of higher dosage of the product is recommended. For its application, it is also recommended to use a "**Trans-tech**" type paint gun with filter in the feed.

For recommendation of spray gun's application parameters refer to "instruction manual".

3. **SURFACE DRYING:** the drying/curing conditions are as follows:
  - **Drying time: 6 hours.** The product will be quite dry in case of rain weather incidents after 6 hours from application. If rainy conditions occur during the drying time, the treated surface must be protected.
  - **Curing time: 24 hours.** Do not subject to abrasion or cleaning of any kind during the following 24 hours after its application. From this time, the product is resistant to cleaning processes with conventional detergents/chemicals.

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<p><b>Yields and storage.</b></p>	<ul style="list-style-type: none"> <li>• Dilution: None</li> <li>• Yield: <b>8.5 – 11.5 m<sup>2</sup>/L</b> approx. for a standard protection layer. Recommended amount: <ul style="list-style-type: none"> <li>○ Yield for first layer (working as a primer): 14-15 ml/m<sup>2</sup></li> <li>○ Yield for final layer (dosage considering 2 coats): 60 - 100 ml/m<sup>2</sup></li> </ul> </li> <li>• Recommended application and storage temperature: between 5 ° C and 30 ° C; Protect from direct sunlight; Store tightly closed in the original container. Keep away from heat and open flames and avoid freezing. The material contained may settle slowly, so adequate agitation is recommended before use. Once opened, make sure to keep it in its original container, properly closed to guarantee its properties.</li> </ul>
<p><b>Handling precautions.</b></p>	<p>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 hazards and health. 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 a volatile solvent (Isopropanol and ethanol).</p>
<p><b>Limitations.</b></p>	<p>This product is not suitable for medical or pharmaceutical uses.</p>
<p><b>Limited warranty.</b></p>	<p><b>Limited warranty information – Please read carefully</b></p> <p>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, in preliminary tests to verify 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 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 this warranty is limited to the purchase price or replacement of any product that is not warranted. TECNAN S.L. specifically disclaims any express or implied warranty of fitness for a particular purpose or marketing. TECNAN S.L. disclaims responsibility for any damage caused accidentally.</p>