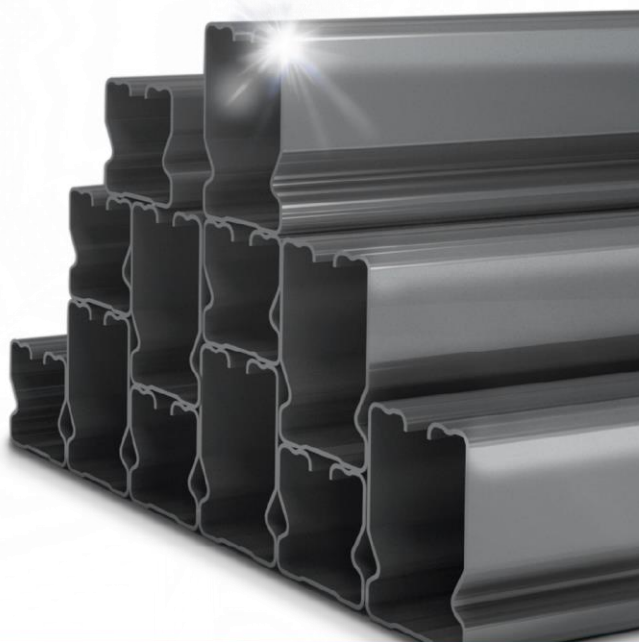




Philadelphia Solar

Warranty Against Corrosion for PV Solar Panels Mounting Structure

Relating to the quality of Magnelis® ZM310-type coated flat carbon steel. Subject to the conditions of this document.



Relating to the quality of Magnelis® ZM310-type coated flat carbon steel. Subject to the conditions of this document, this warranty covers the non-perforation non rupture due to corrosion, of Magnelis® steel sheet coated with 310g/m², used for solar applications, for a period of 20 years from date of purchase invoice.

- i. Philadelphia Solar Liability in pursuance of this warranty shall be exclusively limited at the choice of Philadelphia Solar, either to the cost of repairing the faulty parts or to supplying free of charge a sufficient part of material allowing the client to replace those deemed faulty.
- ii. Under no circumstances shall Philadelphia Solar be reliable for labor costs or other costs incurred due to the faulty of material, of for replacing direct or indirect damage caused by the faulty parts.
- iii. All warranty claims shall be sent on a writing as soon as possible after the damage occurs to Philadelphia Solar, which shall be allowed to inspect the items deemed to be faulty. The client shall detail in claim the precise identification of the material deemed to be noncompliant, including the invoice number, shipping and installation date.
- iv. The client shall do everything possible to facilitate the inspection of the materials and to limit building/structure reinstatement costs.
- v. Philadelphia Solar reserves the right to modify the terms of the warranty at any time, with the exception of materials already delivered or orders already placed.
- vi. It is agreed that the warranty shall not apply in the event of damage caused during transportation.

Application Conditions

This warranty applies to all supporting structure of all solar applications from corrosion such as:

- Sheets or other parts contributing to the roofing or cladding that will support the photovoltaic (PV) cells or panels.
 - Profiles between roofing and PV panels (connection parts).
 - Drawn sheets for water tight casting of thermal solar panels or casting to support PV panels.
 - Profiles for support of panels in solar energy generation plants.
1. Situated in locations with a normal atmospheric corrosivity category (C1...C4 as per EN ISO 12944-2), in other words excluding those in highly polluted areas or area less than 2,0 km from the seafront and/or subjected to permanent spraying with fresh water or salt water (corrosivity category C5-1 and C5-M as per EN ISO 12944-2). This warranty is also valid for 20 years when Magnelis® is used in areas more than 300 m up to 2,0 km from the seafront (C5-M as per EN ISO 12944-2), provided that the installation is not subjected to permanent spraying with fresh water or salt water.
 2. Exposed to moderate corrosive emissions, in other words excluding those subjects to the fallout of corrosive chemical products of any kind, smoke or rainwater containing carbon, deposits or particles of heavy metals such as iron or copper, alkaline products such as ash, cement dust or animal excrement.
 3. This warranty on Magnelis® isn't valid:
 - a) Assembled cold formed parts made with Magnelis®, from which water cannot drain off freely.
 - b) For assemblies with other parts, which may contribute keeping pollution, or moisture on the Magnelis® surface.
 - c) For assemblies where the Magnelis® surfaces are separated from each other or from surfaces made of other materials by only a narrow gap.
 - d) In welded assemblies, when the distance from the welds is lower than 50 mm and where the weld seams are not protected after welding and regularly inspected.
 - e) In assemblies which involve adhesive bonding of Magnelis® to itself or other materials.
 - f) Where the Magnelis® surface gets in contact with the soil.
 - g) For applications for the water circulating system of the solar equipment including the storage tank.

4. This warranty applies only to applications where the Magnelis® surface is left as bare metal, as it's supplied by Philadelphia Solar. Any Surface treatment, additional coating or painting results in the loss of this warranty.
5. The visual aspect of the cut edges and discoloration of the Magnelis® surface due to run off from cut edges or adjacent parts (made of any material) is not covered by this warranty.
6. This warranty against corrosion isn't valid for areas with high abrasion (desert zones with strong wind and sand abrasion).
7. Installations of Magnelis® are to be inspected annually by the client or its authorized representative. They are to be cleaned regularly and any accidental damage noted is to be repaired (scratches, dents etc.).

It may be agreed at the moment of inquiry and order that special precautions concerning inspection and maintenance have to be taken:

- a) All parts of the installation are to be inspected annually by the client or its authorized representative and any accidental damage noted is to be repaired (scratches, dents, bulges).
- b) An annual maintenance of the entire installation in order to remove any deposit or dirt, leaves and other debris that can hinder the free discharge of water, and an additional washing of the internal and external parts of the installation is to be done. The client or its authorized representative must check that the cleaning process and detergents used not to damage the Magnelis® coating.
- c) If agreed at the moment of inquiry and order. The client shall be able to provide evidence of such inspection and maintenance.

Constructions rules

To ensure the warranty applies, the following rules must be complied with :

1. The whole assembly shall be designed and placed so that there is no possibility of water or waste organic or otherwise stagnating on the Magnelis®, including right on the fixings and under the profile overlaps.
2. The slope of any surface shall be inclined at least 2 degrees in order to allow water drain off.
3. Magnelis® parts that have sustained damage of a mechanical or chemical nature during forming, transportation, storage, or assembly shall not be used. parts that sustain damage after assembly shall be placed.
4. All contact with wet insulation materials, impregnated wood and other corrosive products is to be avoided.
5. After fitting, all tools, debris and miscellaneous items must be removed. Pencil or Pen marks and any other type of marking must be removed.
6. Fasteners shall not contain any copper or lead parts in direct contact with the Magnelis® sheet, or any material liable to cause corrosive run-off onto the Magnelis® sheet. They shall be suitably shaped to prevent any local indentation of the Magnelis® sheets, which may prevent rainwater from draining off freely.
7. Earthing devices shall not be made of copper. One option is the use of zinc galvanized earthing devices.
8. Fasteners made of stainless steel shall be suitably isolated from the Magnelis® surface so as to avoid increased corrosion as a result of the formation of a corrosion cell. One option is to use plastic washers to separate the fasteners from the Magnelis® surface. The use of fasteners made of stainless steel, which contains less than 4 % of copper, is allowed for applications in locations with a normal atmospheric corrosivity category (C2 and C3 as per EN ISO 12944-2:2017).