Anhui Tianfu new material Co., LTD

Building a creative more innovative world.

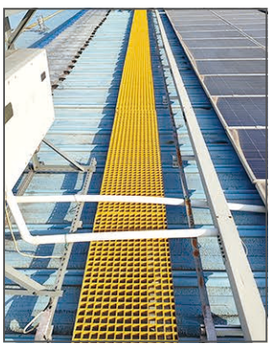
Project Specification

Location : Guangxi Province
Application: Roof walkway between solar panels
Product: Square mesh molded grating

Project Overview

The project is located in Guangxi Province, with a building area of about 2658m². The main body is a reinforced concrete frame structure, the roof cover is cast-in-place reinforced concrete beams and slabs, and the roof is a flat-roofed roof (with a glass roof for the local patio). It is necessary to install photovoltaic equipment on the roof, using photovoltaic power generation as the main renewable energy source, combined with rainwater collection, water recycling and other recycling measures, to realize the sustainable use of environmental resources.

In August 2023, as a result of a previous successful project with TFN, we were contacted by the company in charge of this project and invited to participate in this project, which consists of walkways on the roof. These walkways will be used to maintain the roof on the recently installed solar panels. The laying of the photovoltaic panels requires an access walkway with a width of 50 centimeters, which needs to meet the requirements of resistance to corrosion, non-slip, high durability, lightweight, environmentally friendly, insulated, and high load-bearing capacity.



Problem

There were two main requirements for the materials to be used in this project, the safety of maintenance personnel and cost effectiveness.
Safety of maintenance personnel and cost-effectiveness. We have organized the customer's requirements as follows:

-- Non-conductive and non-thermal: To ensure the safety of the staff while maintaining the solar panels, the material must be non-conductive and have low thermal conductivity.

-- Corrosion Resistant: Since this application is located on the roof of a building, it will be exposed to years of wind and sun, as well as damage to the building.

Years of exposure to wind and sun, as well as the chemicals that may be used to maintain the solar panels, means that the material must be able to withstand the damage that these substances can cause to the PV walkway panels.

-- Lightweight: The ability to move the solar panels is key. As we have mentioned in this document, the walkways between the panels provide access to different areas of the roof for maintenance, so the walkway components must be easily removable for maintenance.

-- Non-slip: Windy and rainy weather can be slippery. Since sidewalks need to be used in rainy weather, they need to provide a safe, non-slip surface for those who use them.

-- Low Maintenance and Long Life: The customer specifically requested a product that would not cause inconvenience during use.

Solution

Fiberglass reinforced plastic (FRP) molded grating products are ideal for this type of application. For this project, we used a standard square mesh molded grating to line the walkway between the solar panels. Molded steel grating was chosen for its unmatched combination of corrosion resistance, strength, long service life and safety.

Tianfu profiles use brand name resins to manufacture the molded grating. Brand name polyester resins are superior in performance quality to many comparable fiberglass and metal products and meet the corrosion resistance requirements of the industrial, chemical, metallurgical, food, pharmaceutical, food packaging, and food processing industries.

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