



# GIELLEPLAST



## GIELLEENERGY-TILE® & Ultra BUILDING INTEGRATED P.V.

IEC 61215 ed. II  
IEC 61730-2

MADE IN ITALY

OHSAS 18001 - ISO 9001 - ISO 14001

### www.gielleenergy-tile.eu

#### CHARACTERISTICS:



**GIELLEENERGY-TILE®** is a photovoltaic tile designed to offer better performance than first generation photovoltaic tiles, granting greater yield and total integration with the main types of terracotta tiles

Roof Surface needed for 1KWp: Less than 8,60 m<sup>2</sup>

N° of **GIELLEENERGY-TILE®** Standard needed for 1KWp (0,99): 110 Pcs

N° of **GIELLEENERGY-TILE® Ultra** needed for 1KWp (0,99): 55 Pcs

It's specially designed for installing on buildings in historic and special areas, thanks to its limited environmental and architectural impact. The dimensions and shape of the tile is the same to traditional roof tiles and integration between other roof elements is perfect. At the same time using Gielleenergy tiles you can generating electric energy together with high architectural quality. It is considered a B.I.P.V. (Building Integrated Photovoltaics). **GIELLEENERGY-TILE®** is made of thermoplastic resin able to resist heat up to approximately 175°C. The PV module is set inside the thermoplastic resin structure and is composed of two standard 156mm monocrystalline cells, encapsulated by EVA covered with textured and tempered low-iron high transmittance (>92%) glass.



#### TECHNOLOGY AND EFFICIENCY:

**GIELLEENERGY-TILE®** is designed to optimize solar light exposure: in facts the tiles are specifically shaped to prevent the chance of any shadow zone irrespectively of solar inclination. Every **GIELLEENERGY-TILE®** is equipped with a bypass diode that, in the event of failure, malfunctioning and accidental shadow, will exclude only the single tile affected, without blocking continuity of the whole system, thus preventing consequent HOT-SPOT, that would lead to irreparable tile damage. Moreover, **GIELLEENERGY-TILE®** is designed to maximize heat dissipation, to grant operating in the optimal functioning range; photovoltaic cells yield is in fact known to decrease as temperature rises. Ventilation tiles should advsably be set into the structure, according to an established building practice aimed at granting sub-tile area.



#### RESISTANCE:

**GIELLEENERGY-TILE®** mechanical and weather resistance is significantly higher than traditional terracotta tiles resistance, as it is able to resist uniform load on a **5.400 N/m<sup>2</sup>** surface and **Ø 25 mm** hailstones thrown at **83 km/h**.

## GIELLEENERGY-TILE® & GIELLEENERGY-TILE® Ultra

## ECO - SUSTAINABILITY:

**GIELLENERGY-TILE®** is a flat photovoltaic tile made in 100% recyclable resin granting complete architectural integration, especially designed for construction of extremely low visual impact photovoltaic roofs. It was thought for people who taking care the environment and the energy saving and in the same time maintain aesthetic features of buildings and safeguarding landscape.

At the end of the life cycle all **GIELLENERGY-TILE®** will be ready to undergo 95% recycling, after being separated from photovoltaic cells and electric cables, that need dedicated treatment of differentiating. The result will be minimize the production of polluting waste !



## INSTALLATION:

**GIELLENERGY-TILE®** installation follows the same rules of installation of common Marseilles tiles. A completely and effectively integrated photovoltaic roof is obtained using the same battens and the same method. Moreover, the easy-fix system is extremely effective, thanks to common parker screws impeding movements under any weather condition and minimizing, indeed eliminating, any chance of tiles being stolen. The installation reduces the presence of skilled electrical operators; In fact **GIELLENERGY-TILE®** can be installed by workers expert in traditional tile installation. The only difference is the connection of connectors and the tile fixing on common battens by a screw. Adopting ad hoc solutions, **GIELLENERGY-TILE®** can be inserted into any type of existing roof with the result of a significantly lightening of the whole structure because the weight of a single **GIELLENERGY-TILE®** is less than 50% of the terracotta tile.



**GIELLENERGY-TILE®** can be produced, on demand, in colors and tones almost identical to those of the context where tiles will be installed: for example in wildlife parks, fun fairs, playgrounds, schools and public buildings. The Tiles in thermoplastic self-extinguishing material are available on demand (in conformity with "UL 94 V0/V1").



## GUARANTEE:

**GIELLENERGY-TILE®** is guaranteed for 5 years. Yield: 90% for 10 years – 80% for 20 years.

WORLD INTELLECTUAL PROPERTY  
ORGANIZATION

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Tested by:  eurofins | Modulo Uno

**INTERNAT. MODEL REG.: DM/07340**

**PATENT N. 0001396768**

**Factory Inspection Certificate**

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