

SPECIFICATION TEXT – BiTile SYSTEM

27.31.30 – ROOF-INTEGRATED PV SYSTEMS FOR PITCHED ROOFS

0. Description

Supply and installation of a roof-integrated PV system, type BiTile System, where solar panels replace traditional roof tiles.

The system consists of a supporting substructure with horizontal rails, onto which overlapping solar panels are installed to form a high-quality, aesthetically pleasing, and highly watertight roof covering.

The system includes all necessary components for a complete, highly watertight and structurally safe roof solution, including fasteners and connection details.

1. Materials

1.1 General

The BiTile System consists of:

- Horizontal rails
- Roof hooks
- Intermediate profiles
- Glass hooks
- Edge finishes (side caps, roof edges, dummy panels)
- Sealing profiles and rubber gaskets
- Fasteners
- Solar panels (integral part of the system)

1.2 Rails

- Material: corrosion-resistant metal
- Function: load-bearing substructure
- Installation: mounted on battens using roof hooks
- Properties: adjustable, suitable for pitched roofs and overlapping panel installation

1.3 Seals

- Material: elastomers (EPDM or equivalent)
- Application: between panels and at edge connections
- Function: primary sealing and secondary water drainage
- Feature: integrated in the system for reliable water management

1.4 Solar Panels

- Type: Full Black PV panels
- Application: tile-style roof covering
- Dimensions (indicative):
Working Panel Size Power
approx. 1500 × 800 mm as per product specification
- Construction: 4 mm tempered glass
- Finish: matte to minimize reflection



2. Installation

2.1 General

Installation according to the system supplier's instructions and in compliance with applicable building regulations.

2.2 Substructure

- Mounting rails on battens with roof hooks
- Precise alignment of rails to ensure correct dimensions and flatness
- Substructure suitable for overlapping panel installation

2.3 Solar Panels

- Overlapping installation (tile-style)
- Top edge of panels inserted into rails
- Bottom edge placed and secured with glass hooks
- Ventilation openings at overlaps to ensure cooling and optimal performance

2.4 Connections and Seals

- Lateral connection using intermediate profiles with rubber seals
- Secondary water drainage integrated
- All connections finished watertight and durable

2.5 Edge Finishes

- Application of side caps, roof edges, and dummy panels
- Connections adapted to roof edges and detailing
- Custom solutions available for roof penetrations, skylights, chimneys, and dormers

3. Requirements and Performance

3.1 General

The system must comply with the Dutch Buildings Decree (Bbl) and other relevant regulations.

3.2 Structural Safety

- Fastenings coordinated with the substructure
- Loads according to NEN-EN 1991 (wind and snow)

3.3 High Watertightness

- Roof covering designed for **high water resistance**
- Overlapping panel installation ensures reliable drainage
- Secondary water drainage integrated



3.4 Ventilation

- Natural ventilation through overlapping panel structure
- Ensures cooling and optimal PV performance

3.5 Fire Safety

- Use only on fire-safe roof constructions
- Not suitable for combination with flammable insulation or vapor barriers
- Any additional fire protection measures in accordance with project specifications

3.6 Aesthetics

- Tile-style appearance
- Uniform and consistent roof surface
- Concealed panel fasteners, no visible clamps

3.7 Use

- Suitable for residential buildings (new construction and renovation)
- Can replace traditional roof tiles

4. Application

Suitable for:

- Private residential buildings
- New construction projects
- Roof renovation projects
- Pitched roofs with batten substructure

5. Measurement and Pricing

5.1 Unit of Measurement

- m² of roof area covered with BiTile System

5.2 Included in Price

- Supply and installation of the complete system
- Substructure (rails, hooks, profiles)
- Seals and edge finishes
- Solar panels as integral part of the system

5.3 Not Included

- Electrical installation and inverters
- Existing roof structure (rafters, battens, insulation)
- Any additional fire protection measures
- Roof details outside the BiTile system