SPECIFICATION TEXT – SUNPARK OMEGA SYSTEM
27.31.20 – Self-Supporting Roof Structures with Integrated PV Panels

0. Description

Supply and installation of a self-supporting canopy system, Sunpark Omega System, consisting of a load-bearing structure with integrated photovoltaic (PV) panels as roof covering.

The system includes all necessary components for a complete canopy with a high level of watertightness and controlled drainage, and ensures structural safety, including the supporting structure, fasteners, and rainwater drainage.

Note: For applications outside the standard Dutch wind and snow zones, or with non-standard roof and bay dimensions, the structure must be verified by a locally certified structural engineer.

1. Materials

1.1 General

The system consists of:

- Load-bearing gutters (aluminium)
- Roof rails (aluminium profiles)
- Ridge construction
- Fasteners
- Integrated PV panels

1.2 Gutters

- Material: aluminium
- Function: load-bearing and water-carrying
- Suitable for free spans: approx. 5.0 m
- Includes high-quality seals for high level of watertightness

1.3 PV Panels

- Type: standard photovoltaic panels
- Application: integrated as roof covering
- Orientation: portrait
- Dimensions and power ratings (indicative):

Roof span	Panel size	Power
3.40 m	1762 × 1134 × 30 mm	± 460 Wp
3.75 m	1961 × 1134 × 30 mm	± 510 Wp
4.00 m	2094 × 1134 × 30 mm	± 545 Wp (less common)
4.30 m	2278 × 1134 × 30 mm	± 600 Wp
4.50 m	2382 × 1134 × 30 mm	± 625 Wp
4.65 m	2465 × 1134 × 30 mm	± 650 Wp

Final selection according to supplier specifications and project calculation.

2. Execution

2.1 General

Installation according to the system supplier's instructions.

2.2 Structure

- PV panels form a V-shaped pitched roof together with roof rails and ridge elements
- Gutters serve as the primary load-bearing structure
- Gutters mounted on a horizontal, level substructure (beams)
- Column spacing and profiles according to structural calculation by a locally certified structural engineer
- Verification of wind and snow loads, gutter height, and consequence class according to Dutch standards (Wind Region I, CC2, gutter height 9 m)

2.3 PV Panels

- Installed between gutter and ridge
- Laterally connected via roof rails
- High level of watertightness and controlled drainage ensured by system detailing

2.4 Roof Pitch

- Approx. 21°

3. Requirements and Performance

3.1 General

The system must comply with the Dutch *Besluit bouwwerken leefomgeving* (Bbl).

3.2 Structural Safety

- Design and calculation according to NEN-EN 1990–1999 (Eurocodes)
- Loads according to NEN-EN 1991 (wind and snow loads)

3.3 Specific Applications

- Greenhouses and garden centers: NEN-EN 13031
- Other applications: Eurocodes applicable

3.4 Dimensioning

- Profiles adapted to:
  - Snow load
  - Wind load
  - Consequence class according to project

3.5 Watertightness

- Roof structure must drain rainwater via gutters in a controlled manner
- High-quality seals integrated in the system

3.6 Durability

- Materials must be low-maintenance and corrosion-resistant

3.7 Use

- Suitable for unheated canopies
- Not suitable for thermally insulated or heated spaces

4. Applications

Applicable for:

- Carports
- Parking canopies
- Entrance canopies
- Stables
- Storage sheds
- Barns

5. Measurement and Payment

5.1 Unit of Measurement

- m² of projected roof area

5.2 Included in Price

- Supply and installation of complete system
- Fasteners
- Rainwater drainage via gutters
- Coordination with substructure

5.3 Not Included

- Main supporting structure (columns/beams), unless otherwise specified
- Electrical installation and inverters