

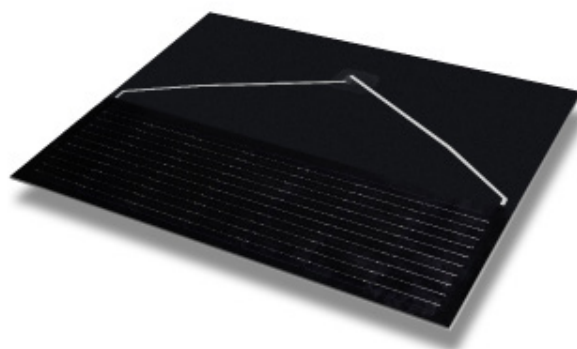


## TECHNICAL SPECIFICATIONS

### SOLARIS™ SUPERHC7 Classic

**Freesuns Solar Roof tiles are powerful, beautiful and sustainable.**

Every Freesuns roof generates carbon-emission-free solar power creating a return on investment for building owners and a stunning roof for their building.



**Suitable for new buildings and renovations with a contemporary architectural style.**

#### Powerful

Freesuns Solar Roof tiles contain photovoltaic cells that convert sunlight into clean energy. Our solar tiles provide maximum photovoltaic coverage for optimal energy production on all types of roofs.

#### Beautiful

Freesuns Solar Roof tiles are available in a wide range of colours and finishes, suitable for both modern and traditional architecture. This allows the production of solar energy without compromising the aesthetics of the building.

#### Flexible

Our small format tiles, pre-cut in different shapes, allow you to accommodate roof obstacles such as windows and chimneys, adapt to complex roof shapes and thus guarantee maximum coverage of photovoltaic cells.

#### Safe

The design of our tiles significantly reduces the risk of fire thanks to a diode present in each tile, a high thermal mass, and monitoring by power optimizers.

#### Return on Investment

By generating a portion of your energy needs for free, the Freesuns Solar Roof has a positive return on investment and will pay for itself over its lifetime - unlike a traditional roof.

#### Designed in Switzerland

Freesuns Solar Roof tiles are designed and developed in Switzerland.



#### Easy to install

The tiles are installed by traditional roofers on existing roof structures with existing fixtures.

#### Detailed Engineering

With its state-of-the-art software, Freesuns provides a detailed layout of each roof, showing how to install each tile with precision.



# TECHNICAL SPECIFICATIONS

## SOLARIS™ SUPERHC7 Classic

### Physical specifications

|                                        |                                                       |
|----------------------------------------|-------------------------------------------------------|
| Appearance                             | – Black with visible lines                            |
| Dimension of the tile (L x H mm)       | – 690 x 510 mm                                        |
| Surface of the visible area (L x H mm) | – 690 x 200 mm                                        |
| Thickness of the tile                  | – 8.5 mm                                              |
| Number of half cells per tile          | – 7                                                   |
| Number of tiles per m <sup>2</sup>     | – 7.14                                                |
| Power per m <sup>2</sup>               | – 168 Wp                                              |
| Unit weight                            | – 7.3 kg                                              |
| Weight per m <sup>2</sup>              | – 52.2 kg                                             |
| Cell Type                              | – Half-cut cell M10 PERC                              |
| Connector type (Stäubli)               | – MC4-Evo 2                                           |
| Type of glass                          | – Tempered solar glass<br>front/back                  |
| Hail resistance                        | – HW4                                                 |
| Maximum pressure load (IEC 61215)*     | – 13 333 Pa                                           |
| Maximum wind uplift load (EN 12179)*   | – 1600 Pa (standard hooks)<br>– 3600 Pa (storm hooks) |

\* Incl. safety factor of 1.5

### Warranties

- Product warranty: 10 years
- Performance warranty: 90% of initial power output after 10 years
- Weather resistance warranty: 40 years

### Certifications

- IEC 61215 certification
- IEC 61730 certification
- Fire classification (EN 13501-5): B-Roof(t1)
- Watertightness (CEN/TR 15601)

Specifications are subject to change without prior notice.

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### Electrical specifications

|                                  |             |
|----------------------------------|-------------|
| Bypass diode per tile            | – 1         |
| Power per tile (Pmpp)            | – 23.5 Wp   |
| Voltage (Umpv)                   | – 3.98 V    |
| Current (Impp)                   | – 5.92 A    |
| Open Circuit Voltage (Voc)       | – 4.88 V    |
| Short Circuit Current (Isc)      | – 6.26 A    |
| Tile efficiency                  | – 17.03%    |
| Electrical Measures              | – +/- 5%    |
| Max. system voltage              | – 1000 V    |
| Max. reverse current             | – 20 A      |
| Temperature coefficient (Voc)**  | – -0.36%/K  |
| Temperature coefficient (Isc)**  | – +0.07 %/K |
| Temperature coefficient (Pmpp)** | – -0.38%/K  |

\*\* Measured coefficients for the cells. Electrical performance characteristics under STC conditions (1000 W/m<sup>2</sup>, 25° C, AM 1.5).

