

\*PLANUM CONCRETE ROOF TILES

INTEGRATED SOLAR SYSTEMS

## **Crest \*Planum PV Solar Tile**

Engineered to fit quickly and easily with your roof tiles.

[www.crest-bst.co.uk](http://www.crest-bst.co.uk)

**crest**  
**NELSKAMP**  
ROOFING TILES



# Building Integrated PV Modules

(BIPV) A seamless and attractive finish to your completed roof.



Solar Tiles used with Crest  
\*Planum roof tiles in Onyx Black

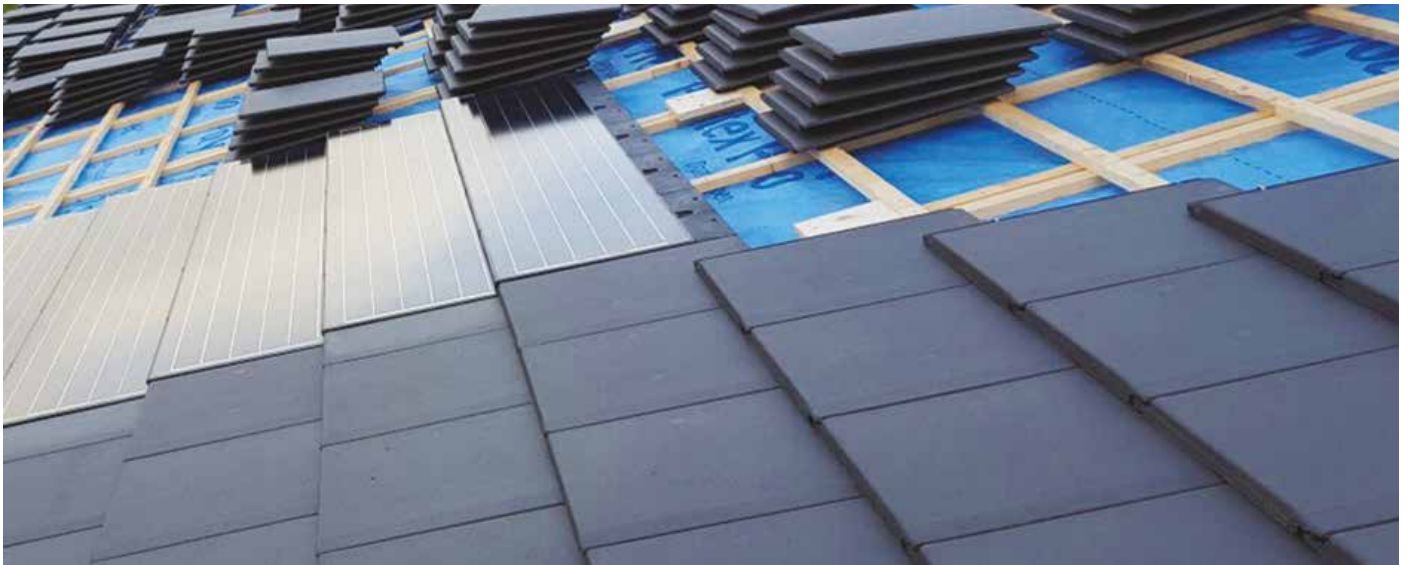
**QUICK  
AND EASY  
INSTALLATION  
WITH 2-3  
SCREWS.**

*“A quick & easy to fit system that works seamlessly with the Crest \*Planum flat concrete roof tiles offering a state of the art solution on the completed roof”*

## Warranty & Certification

The \*Planum PV solar roof tile has been tested to standard EN 7250: Solar energy systems - Integration in roofs and facades - engineer aspects.

UV testing according to double ECE R110 automotive test - sunlight exposure
Wind load test according to EN 14437: 2004
Snow load test according to EN 1991-1-3
Water resistance test according to EN 2778
Fire safety test according to EN 6063, see NPRCEN / TS 1187: 2012
Electric power generation guaranteed for 25 years from the date of installation; 80% initial performance according to IEC 61215: 2004
Construction and electrical safety guaranteed according to IEC 61730-1: 2007 and IEC 61730-2: 2004



## \*Planum PV Solar Panels

All in one continuous integration of solar energy and roof tiles. The \*Planum PV solar roof tiles fit seamlessly with our Crest \*Planum concrete flat roof tiles.

The solar panels interlock perfectly and are virtually invisible, with subtle attractive looks, created to meet the various requirements of the housing market.

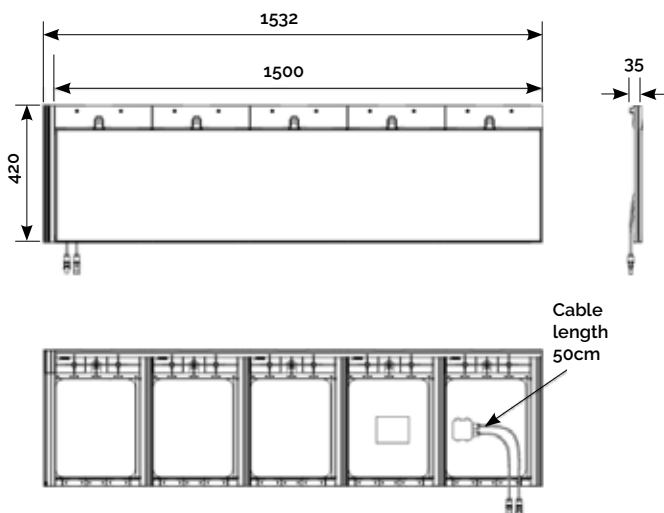
The \*Planum PV solar roof tiles are made from quality materials which have been specifically selected and tested.

The simple and quick installation makes the solar roof tile ideal for both new build and renovation projects.

## Characteristics:

- ▶ Aesthetically pleasing
- ▶ Easy to connect MC4, simply plug and play.
- ▶ Harmonic esthetics: Black frame - black cells - black backsheet.
- ▶ Optimal solar return with highly efficient monocrystalline solar cells.
- ▶ Cell efficiency 21.5%.
- ▶ Product guarantee: 10 years
- ▶ Performance guarantee:  
10 years 90% of rated performance  
25 years 80% of rated performance

### Crest \*Planum PV Solar Roof



Tiles are supplied with standard MC4 connectors

## Compatible Crest Roof Tiles

The \*Planum PV solar roof tile is compatible with:

Crest Nelskamp Planum*	Concrete
Crest Nelskamp Planum* Duo	Concrete

\*As per European trademark Nr.7287956, filed on 2nd October 2008, the Trademark PLANUM belongs to La Escandella. It is Dachziegelwerke Nelskamp as authorised licensee of the owner allowed to use the mark PLANUM for its concrete product.



Simple to use MC4 connections



## Technical Data

Module *Planum Dimensions	1532 mm x 420 mm x 35 mm
Average working width	1500 mm
Module *Planum Covering width	Cover width 5 concrete roof tiles 1500 mm and cover length 325 mm - 340 mm
Effective thickness	26 mm
Minimum roof pitch with standard membranes	≥ 25° degrees
Maximum roof slope with standard membranes	≥ 90° degrees
Module Weight	8.5 kg
Plugs	MC4
Module cable	2 x 4,0 mm <sup>2</sup> by 500 mm long

At a gauge of less than 330 mm, the electrical output will decrease due to partial shading of solar cells. An average power reduction of 0.25% per mm overlap applies.



Rear view of the "Plug in" easy to fix MC4 connections

## Electrical Data

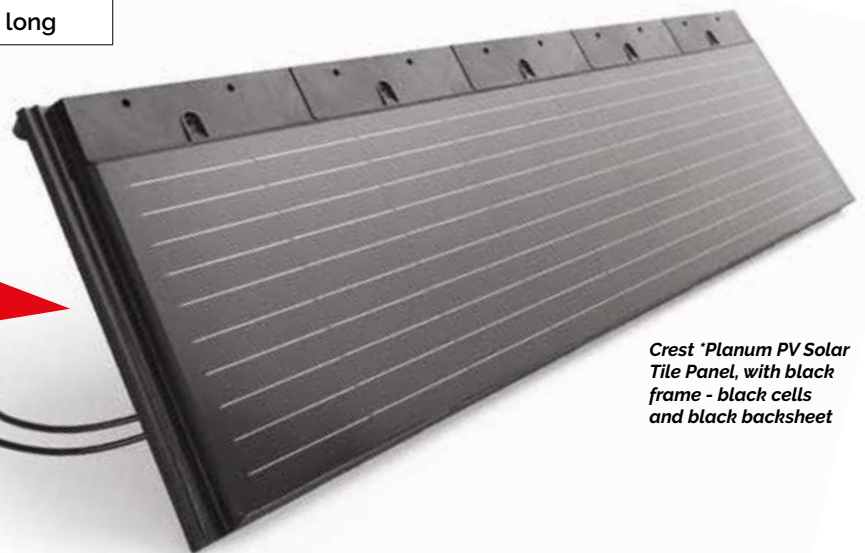
Technical Data	*Planum PV
Module performance	88 Wp
Open clamp voltage (Voc)	11,9 V
Voltage at maximum power (Vmp)	9,87 V
Short circuit current (Isc)	9,8 A
Current at maximum power (Imp)	8,97 A
Temperature co-efficient (Voc)	- 0,30 %/°C
Temperature co-efficient (Lsc)	+ 0,06 %/°C
Temperature co-efficient (Pmpp)	- 0,30 %/°C
Hail resistance	according to IEC 61215 + IEC 61730
Cell efficiency	21,5%

Despite good insulation values at 1000V, we recommend connecting a maximum of 50 \*Planum PV solar roof tiles in series (~ 4 kW).

**For larger powers, clusters of solar roof tiles are connected in parallel.**

All Crest \*Planum PV solar roof tiles must be screwed into the underlying roof tile batten via the screw holes and anchored with one tile clip.

**See installation manual for a detailed description.**



Crest \*Planum PV Solar Tile Panel, with black frame - black cells and black backsheet

**crest**  
NELSKAMP  
ROOFING TILES

Modules By Solinso B.V.  
**CE** solinso

STC: Intensity of radiation 1.000 W/m<sup>2</sup>,  
module temperature 25 °C, airmass 1.5  
June 2019 · technical information subject to change