

**Low  
Carbon  
Building  
Products™**

solarcentury product code **C21E-M52D**

# Datasheet

solare**electric**rooftile

# C21e

## Building Integrated solar electric roof tile

High power output - 52Wp per tile, less than 8 square metres per kWp (kilowatt peak).

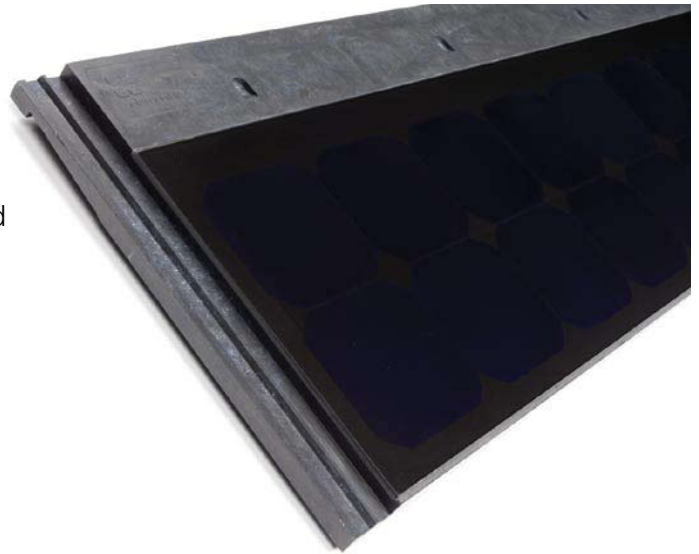
Discreet 'SunPower' PV laminate blends superbly with regular roof tiles offering an unrivalled aesthetic.

Back mounted contact strips increase active area and reduce surface glare, typical with standard solar cell technology.

Power output is guaranteed to 80% of generation performance for 25 years from date of commissioning.

Tiles arrive on site as complete units avoiding the need for on-roof assembly.

No complex electrical or mechanical work required on roof.

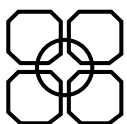


**No extra planning** - no need to alter roof lines, colour or pitch. C21 tiles sit flush with standard roof tiles.

**Simplicity of installation** - tiles fit with traditional roofing practice without the need to adjust battens. One solar tile takes the place of four standard tiles.

**No specialist skills** - all roofing work carried out by the roofing contractor, allowing electrical work to follow build programme.

**Fast to fit** - tiles are integrated in exactly the same way as interlocking concrete roof tiles.



**solarcentury**

**solarcentury** is the UK's leading solar solutions brand. We work with architects, housing developers and home owners to deliver renewable energy and carbon reduction solutions.

We are also the leading UK distributor for the world's best solar electric technologies and have helped more homes and businesses go solar than anyone else in Britain.

## Specification

<b>Photovoltaic technology</b>	Monocrystalline 125mm square
<b>Power*</b>	52Wp
<b>m<sup>2</sup> per kWp</b>	7.8 (90mm headlap)
<b>Laminate size (active area)</b>	1174mm x 318mm
<b>Cell efficiency</b>	20%
<b>Module efficiency</b>	14.9%
<b>Maximum power voltage*</b>	9.8V
<b>Maximum power current*</b>	5.3A
<b>Open circuit voltage*</b>	12.0V
<b>Short circuit current*</b>	5.6A
<b>Maximum system voltage</b>	600V DC
<b>Cables and connectors</b>	Class II double insulated 4mm cable Standard MC IP65 push fit connectors

## System sizing

No of Tiles	Tiled Area m <sup>2</sup>	Output kWp*
20	7.8	1.04
30	11.7	1.56
40	15.6	2.08
60	23.4	3.12
80	31.2	4.16

## Dimensions

<b>Tile size</b>	1220mm x 420mm overall 1180mm x 330mm exposed (recommended)
<b>Minimum pitch</b>	22.5° (90mm headlap)
<b>Headlap</b>	75mm (minimum) 90mm (maximum)
<b>Gauge (batten spacing)</b>	345mm (maximum) 330mm (minimum)
<b>Covering width</b>	1180mm
<b>Covering capacity (net.)</b>	3 PV tiles/m <sup>2</sup> (90mm headlap)
<b>Individual tile weight</b>	8kg
<b>Weight of tiling</b>	24kg/m <sup>2</sup> (90mm headlap)
<b>Batten size</b>	38mm x 25mm (minimum - for rafters not exceeding 450mm c/c nailed to BS 5534)
<b>Battens required</b>	3.1m/m <sup>2</sup> (90mm headlap)
<b>Screws and fixings</b>	4 No. 4.5mm x 40mm self tapping stainless steel screws (supplied with tile) edge clips may also be required

## Roof Tile Compatibility

**Cemex (Russell)**

Grampian, Highland

**CRH/Northstone (Scott)**

Stemish Mk 2

**Lagan**

Flat Tile

**Lafarge (Redland)**

Mini Stonewold

**Marley (Eternit)**

Modern, Duo Modern

**Quinn**

Western Slate

**Sandtoft**

Calderdale, Calderdale Dual

## Accreditations and Standards

NHBC case by case approval

External fire exposure test to **BS 476-3: 1975, AA rating**Designed & manufactured to **BS EN 490: 1994 where appropriate**

Weather-tightness tested by BRE to PIT Agreed Roofing Industry standards prEN15601

PV laminate manufactured to IEC 61215 and Class II

## Awards

**Best Exterior Product** - Interbuild 2004**Building Magazine's award for Innovation** in their 2005 sustainability awards.**Best Sustainable Product Award** - Construct 2006, Northern Ireland's major construction show.**Best Overall Product**, Interbuild New Product Awards 2006

## Warranties

Power output guaranteed for 25 years from date of commissioning (80% performance)

**SUNPOWERED**

C21e features SunPower solar cells

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C21@solarcentury.com\* Measured under Standard Test Conditions of 1000W/m<sup>2</sup> irradiance, AM1.5 spectrum, 25°C cell temperature. Values of current, voltage and power ± 10%.© Jul 2007 solarcentury. Specifications and design are subject to change without notice.  
For installations outside standard specification please contact solarcentury