

# Solar shingle production





## Overview

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How does freesuns make matrix shingle solar roof tiles?

The flexible, automated production allows Swiss project partner Freesuns to produce its newly developed matrix shingle roof tiles on a pilot scale before moving into mass production. The 450 x 510 mm Freesuns matrix shingle solar roof tile consists of a glass-glass module with TOPCon solar cells. Image: Fraunhofer ISE/Sophia Baechle.

How many solar roof tiles will freesuns produce?

The flexible, automated production allows Freesuns to produce its newly developed matrix shingle roof tiles on a pilot scale before moving into mass production. The production line will manufacture a total of 4,000 solar roof tiles using the matrix shingle technology.

How much power does a solar roof shingle produce?

The power output of each solar roof shingle varies greatly, from as little as 13 watts to as high as 114 watts. All solar roof shingles are designed to be lightweight and weatherproof. Output is affected by the direction of the sun facing the solar shingles.

How many solar roof tiles will be made in 2025?

The production line will manufacture a total of 4,000 solar roof tiles using the matrix shingle technology. Since March 2025, the company has produced the first 800 and is currently installing the roof systems into five existing buildings in Switzerland.



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Pilot production line for solar roof tiles with matrix shingle

May 6, 2025 · The flexible, automated production allows the project partner Freesuns, a Swiss solar roof manufacturer, to produce its newly developed matrix shingle roof tiles on a pilot ...

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Fraunhofer ISE and Freesuns launch PV roof tile pilot line

May 7, 2025 · The flexible, automated production allows Swiss project partner Freesuns to produce its newly developed matrix shingle roof tiles on a pilot scale before moving into mass ...

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New Era for BIPV: Matrix Shingle Solar Roof Tiles Enter Pilot

May 7, 2025 · Fraunhofer ISE and Freesuns have launched pilot production of advanced matrix shingle solar roof tiles in Freiburg, marking a key milestone in building-integrated photovoltaics ...

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Solar roof tiles: pilot project unveils shadow ...

May 19, 2025 · First pilot line for the new solar roof tiles To move from concept to production, the research institute partnered with manufacturer ...

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Pilot production begins at ISE for solar shingles from Freesuns

May 28, 2025 · The flexible, automated process is assisting Swiss partner Freesuns ahead of mass production of the new matrix shingle solar roof tiles. The industry-oriented production ...

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Fraunhofer ISE and Freesuns launch PV roof ...

May 7, 2025 · The flexible, automated production allows Swiss project partner Freesuns to produce its newly developed matrix shingle roof tiles ...

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Solar Shingle Manufacturing Plant Setup 2025: Industry

Apr 17, 2025 · A solar shingle manufacturing plant is a specialized industrial facility designed for the production of solar shingles, which are advanced photovoltaic materials integrated into ...

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Fraunhofer ISE Solar Roof Tile Pilot Production

May 13, 2025 · The solar roof tiles with cells arranged in a shingle matrix, developed by Fraunhofer ISE. These are being produced as part of the ...

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Pilot production line for solar roof tiles with ...

May 6, 2025 · The flexible, automated production allows the project partner Freesuns, a Swiss solar roof manufacturer, to produce its newly ...

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Solar Shingle Manufacturing Plant Report 2025: Setup Cost

IMARC Group's report on solar shingle manufacturing plant project provides detailed insights into business plan, setup, cost, layout, and requirements.

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## Fraunhofer ISE Solar Roof Tile Pilot Production

May 13, 2025 · The solar roof tiles with cells arranged in a shingle matrix, developed by Fraunhofer ISE. These are being produced as part of the SPHINX research project in ...

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## Pilot production begins at ISE for solar ...

May 28, 2025 · The flexible, automated process is assisting Swiss partner Freesuns ahead of mass production of the new matrix shingle solar roof ...

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## Solar roof tiles: pilot project unveils shadow-resistant tech

May 19, 2025 · First pilot line for the new solar roof tiles To move from concept to production, the research institute partnered with manufacturer Freesuns to build a pilot production line for ...

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## Solar shingles: What they are and advantages

Solar shingles, also known as photovoltaic shingles, are an innovative building material that fuses the characteristics of a traditional roof tile with ...

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## Matrix Launches Pilot Production of Shingle ...

Oct 18, 2025 · Matrix has launched pilot production of shingle-style BIPV solar roof tiles in Freiburg, Germany, in collaboration with Fraunhofer ISE ...

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## Advancements in Shingle Matrix Technology for High Volume Production

Jun 14, 2024 · Shingle matrix technology is an innovative approach to organize shingle cells in a brick-wall-like configuration, offering numerous advantages for photovoltaic modules. Although ...

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## Shingle solar modules: innovatively ...

Aug 2, 2022 · A new matrix shingle concept combines silicon solar cells and offers maximum yield on a limited area. With the manufacturing plant ...

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## Solar shingles: What they are and advantages

Solar shingles, also known as photovoltaic shingles, are an innovative building material that fuses the characteristics of a traditional roof tile with the ability to produce electricity from solar energy.

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## Shingle solar modules: innovatively interconnected and ...

Aug 2, 2022 · A new matrix shingle concept combines silicon solar cells and offers maximum yield on a limited area. With the manufacturing plant developed in parallel, matrix modules can be ...

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## New Era for BIPV: Matrix Shingle Solar Roof ...

May 7, 2025 · Fraunhofer ISE and Freesuns have launched pilot production of advanced matrix shingle solar roof tiles in Freiburg, marking a key ...

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