STOKKERMILLSOLAR

Solar Panel Recycling Solutions

Stokkermill Solar is the industrial range dedicated to recycling end-of-life, damaged, or decommissioned photovoltaic panels. Three complete lines are available:
the Entry-Level, for companies entering the sector with a controlled investment;
the Delamination Line, for high-purity mechanical separation of glass, EVA, and silicon;
and the Automatic Line, a continuous, fully automated plant for large-scale processing.
Individual machines are also available separately: the HMS Delaminator, the XRS Delaminator, the Aluminum Separator, and the OS1000 Optical Sorter. Scalable, efficient, and reliable, Stokkermill Solar solutions support the circular economy and the sustainable development of the renewable energy sector.

ONE STEP AHEAD IN THE SOLAR PANEL AND WEEE RECYCLING

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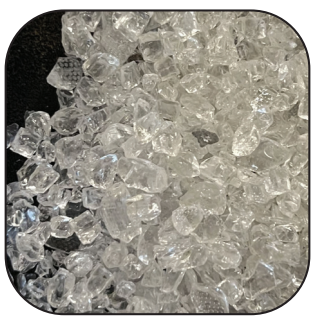
Entry-Level Line

Stokkermill Solar mod. Entry-Level

The SOLAR-EL Entry Level plant by Stokkermill represents an innovative and modular solution for photovoltaic panel recycling. Designed for companies looking to enter the sector with a controlled investment, the line processes between 800 and 1000 kg/h, ensuring a high recovery rate of materials. The process includes mechanical removal of the aluminum frame, intensive delamination, and refining of the fractions to obtain high-purity glass, aluminum, silicon, and copper. Thanks to its modular structure, the plant can be easily upgraded into a fully automatic line of the SOLAR series, increasing production capacity, automation, and operational efficiency without modifying the original installation.

Output Materials:



Glass

Silicon

Aluminum

EVA

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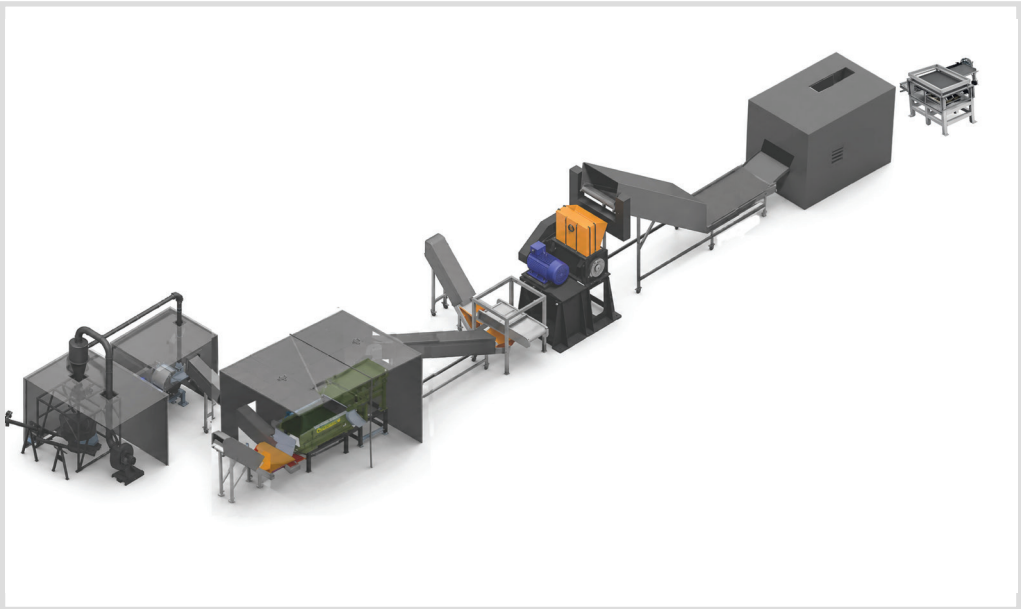
Delamination Line



Stokkermill Solar mod. Delamination

Circular Vibrating screen

Circular vibrating screens separate material flow into homogeneous, defined-size fractions, ensuring consistent output quality and optimized material recovery.

XRS Delaminator

The XRS delaminator mechanically delaminates the EVA fraction, releasing residual glass and silicon particles and improving the quality of the recovered materials.

Screening

The screening unit efficiently separates materials by particle size, ensuring accurate classification of glass, silicon, and other recovered fractions.

Magnetic Separator

Magnetic separation removes residual ferrous materials from photovoltaic waste streams, improving the purity of recovered glass, silicon, aluminum, and copper fractions during PV recycling processes.

Primary Delamination

Primary delamination precisely removes the aluminum frame and external components from the panel, preparing the module for delamination and optimizing metal recovery.

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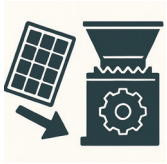
Automatic Line

Automatic line for recycling end-of-life photovoltaic modules.
The highly engineered, continuous process allows for the recovery of the main fractions of glass, silicon powder, aluminum, plastic, and metal elements, reducing manual intervention and optimizing energy consumption.

Loading

Feeding of photovoltaic panels, with or without aluminum frames, into the system. Automatic dosing to the primary shredding stage.

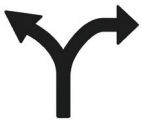


Size Reduction

Crushing and shredding reduce size, liberate materials, and optimize downstream separation efficiency.

Delamination

Mechanical delamination of glass–EVA–cell layers enables release of metals and generation of fractions: coarse and fine glass, aluminum.



Separation

Separation of heavy fractions (glass) from light fractions (EVA, fine glass, silicon-rich powder) through mechanical processes.

Final Output

Recovered fractions suitable for valorization: aluminum (ready for furnace), coarse and fine glass, EVA fraction, silicon-rich powder, and copper.

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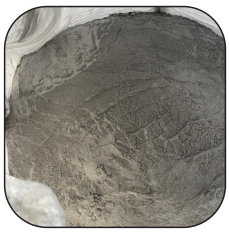
Stokkermill Solar mod. Automatic

Output Materials:

Glass



Silicon

Aluminum

EVA

Glass

The glass obtained from the treatment process is separated into different grain sizes and quality levels.
The coarser fraction is very clean, while the finer fraction can be reused in applications such as the ceramics industry.

Silicon

The finest fraction, containing silicon along with traces of silver, is already utilized in various industrial sectors.
It also represents a valuable opportunity for further recovery and valorization.

Aluminum

The Stokkermill system eliminates the need to remove the aluminum frame, significantly speeding up processing.
The recovered aluminum is clean, ready for furnace use, and compliant with End-of-Waste standards.

EVA

Polymer fractions, including back-sheet and EVA, are recovered free of glass and contaminants.
Thanks to their calorific value, these materials can be reused as alternative fuels.

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Circular Vibrating screen

Circular vibrating screens separate material flow into homogeneous, defined-size fractions, ensuring consistent output quality and optimized material recovery.

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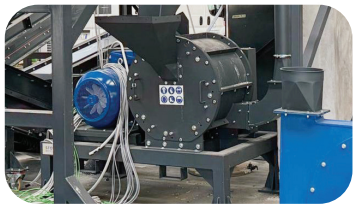

XRS Delaminator

The XRS delaminator mechanically delaminates the EVA fraction, releasing residual glass and silicon particles and improving the quality of the recovered materials.

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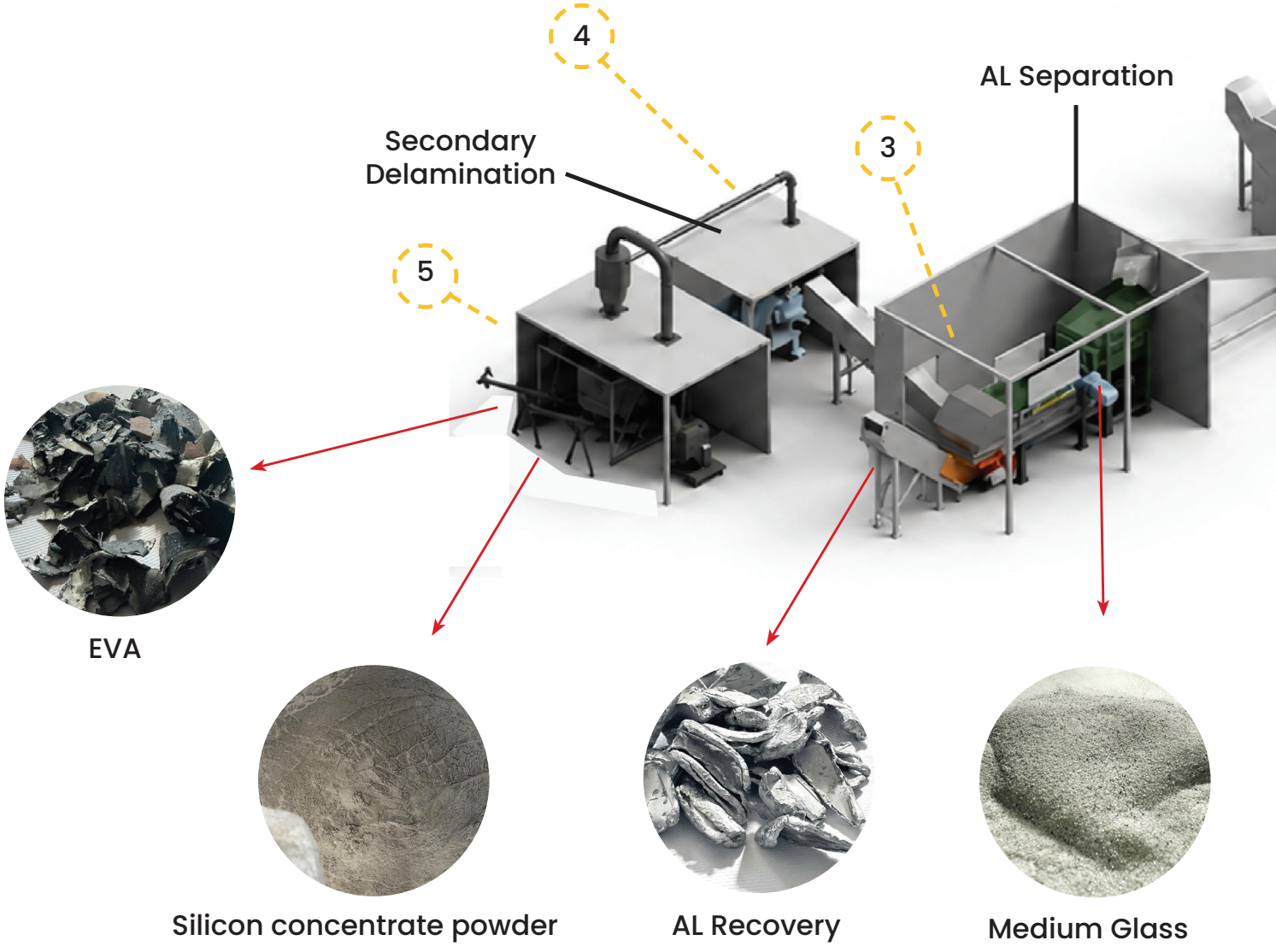
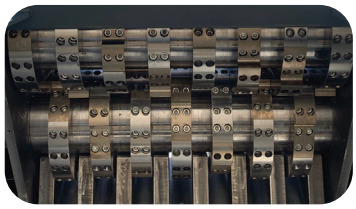
Aluminum Separator

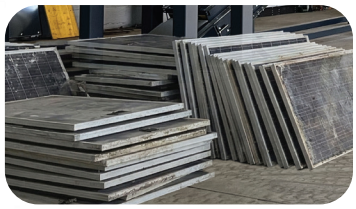
The alluminum Separator recovers non-ferrous metals with high efficiency, purity, and operational continuity in the photovoltaic recycling industry.



Stokkermill Solar mod. Automatic



Size Reduction



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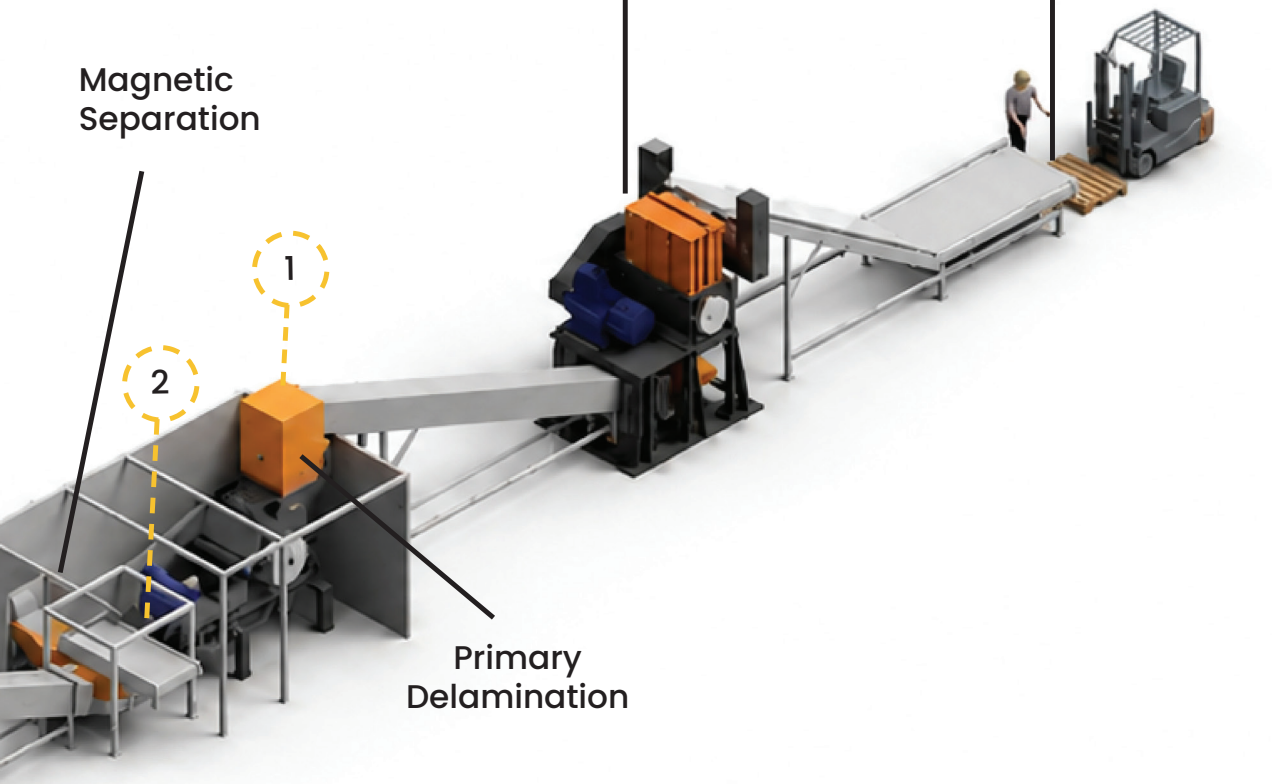

Coarse Glass

2

Magnetic Separator

Magnetic separation removes residual ferrous materials from photo-voltaic waste streams, improving the purity of recovered glass, silicon, aluminum, and cop-per fractions during PV recycling processes.

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HMS Delaminator

Primary delamination precisely removes the aluminum frame and external components from the panel, preparing the module for delamination and optimizing metal recovery.

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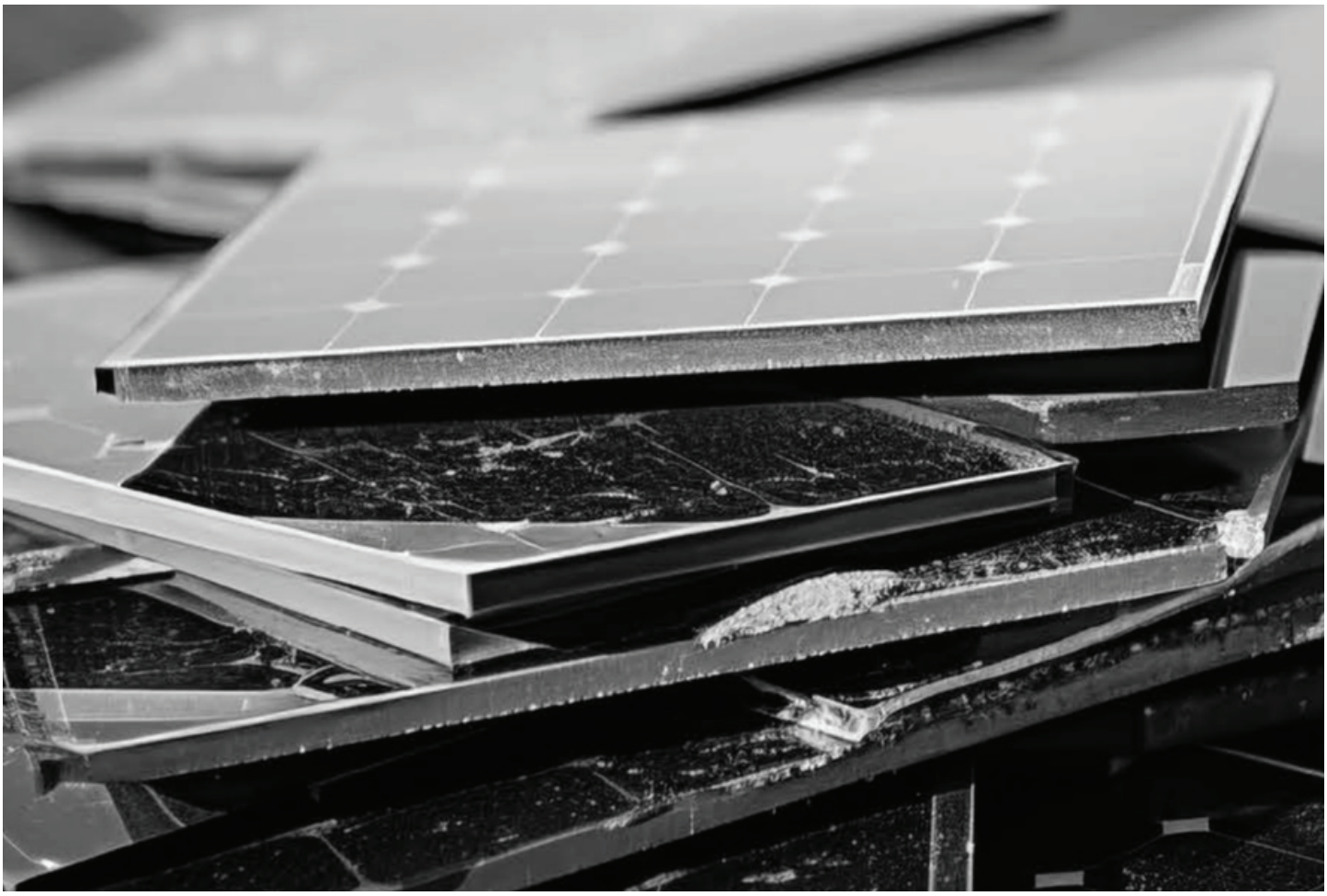
Solar Panel Recycling Solutions

With over thirty years of experience in recycling technologies, Stokkermill Solar designs plants and machinery to transform end-of-life photovoltaic panels into high-quality secondary raw materials. From Entry-Level installations to fully automatic lines, every solution combines high performance, operational flexibility, and reduced environmental impact. Glass, aluminum, silicon, EVA, and copper become valuable resources once again, reintroduced into the industrial production cycle in full compliance with End-of-Waste standards. Innovation, automation, and reliability make Stokkermill Solar the ideal partner for the future of photovoltaic recycling and the circular economy.



For inquiries, project consultations, or to request a personalized quote:

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