

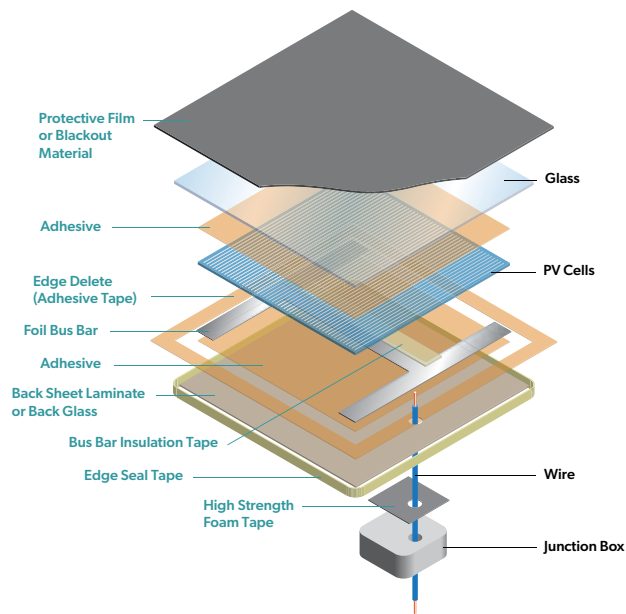


Flexible Materials for Solar Energy





There's a side of solar energy that few people see—the underside. That's where multiple layers of film, conductive foil, and sealing and insulation material combine with solar technology to convert the sun's rays into useable heat and power. It's also where product innovation and engineering skill can reap huge rewards for manufacturers who are trying to improve product performance while managing material and manufacturing cost.

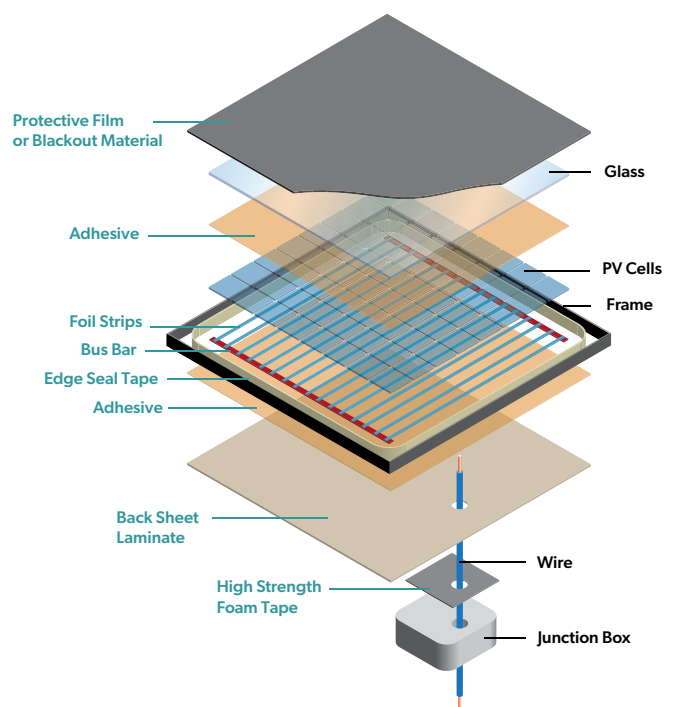


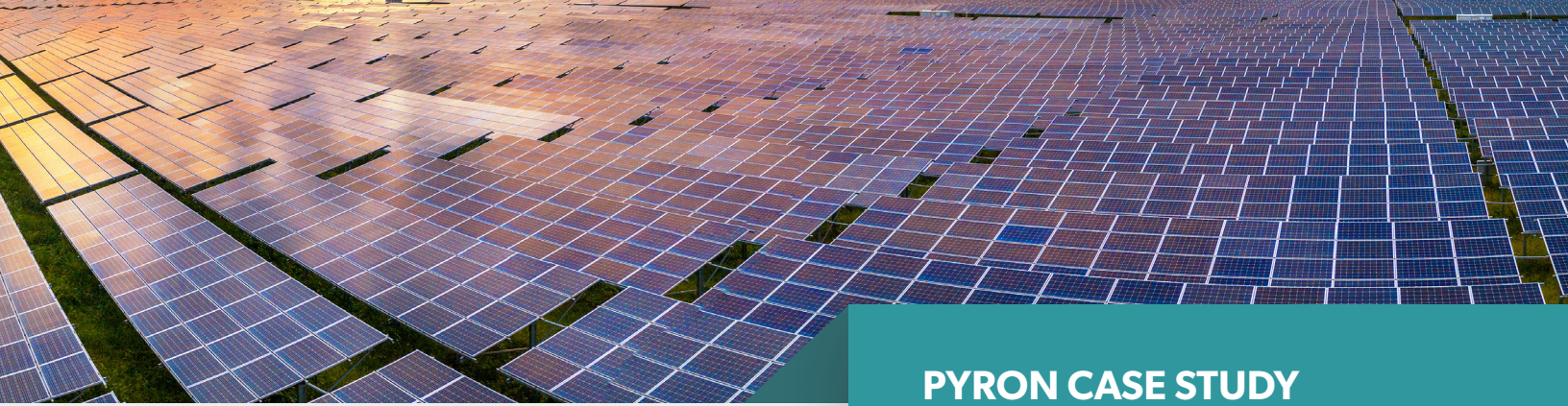
Thin Film

EIS provides a variety of flexible materials for thin film applications. Finished products include bus bar and bus bar materials, protective film or blackout materials, adhesives, edge seal materials, and 3M™ VHB™ foam tapes. In fact, EIS is highly respected for its understanding of bus bar applications and, as a result, converts more foil tape into bus bar than any other converter. EIS is also the leading supplier of blackout materials, which protect outer layers of solar panels from scratches, debris, and dirt, and keep the panel dormant until installed in the field.

Rigid Silicon

EIS offers custom converting services for rigid silicon applications that include slitting, laminating, diecutting, and printing. Finished products include bus bar and bus bar materials, protective film or blackout materials, adhesives, edge seal materials, 3M™ VHB™ foam tapes, and electrical insulation tapes. For bus bar applications, EIS offers a variety of unique processes, including proprietary slitting techniques that yield sliver-free tapes in some of the narrowest widths available in the market.





PYRON CASE STUDY

SITUATION

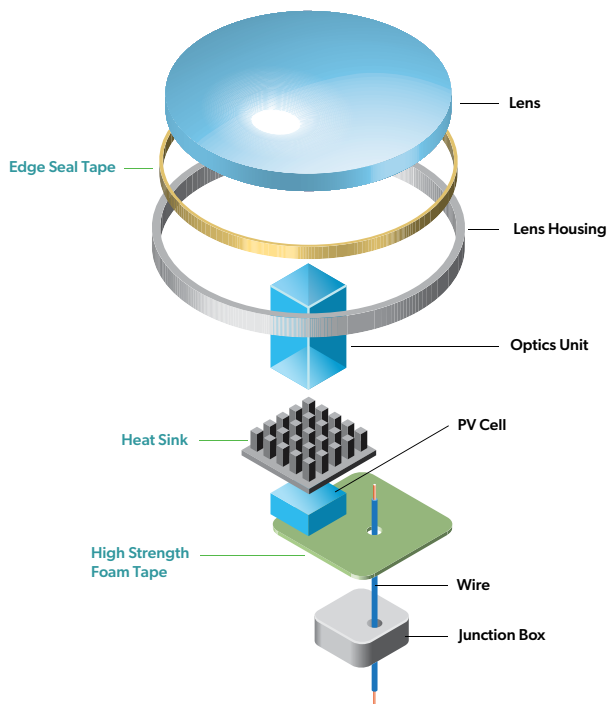
Pyron Solar, Inc. manufactures The Pyron Solar Triad, a patented and powerful solar concentrator that harnesses the sun's energy with high-energy conversion and unlimited scalability. In developing the unique and proprietary HE Optics System, Pyron Solar engineers have overcome some of the most challenging issues affecting the implementation of solar technology on a wide scale, including solar cell heat transfer, wind, shadow, and maintenance issues, and, of course, cost considerations.

SOLUTION

EIS has been working with Pyron to solve some of its more challenging materials requirements, such as heat sinks between the optics unit and the solar cell to extract excess heat, as well as foam panels to support one of the unique aspects of the Pyron solution—the fact that it floats on water to facilitate proper orientation to the sun's rays. The water also functions as a passive heat sink to decrease cell temperature and increase efficiency of the solar cell.

RESULT

Converted materials from EIS are enhancing the performance of Pyron's solar concentrator system and reducing manufacturing costs through intelligent sourcing and process strategies. EIS' ability to convert foam materials to a very tight specification allows Pyron's tracking system to maintain an accurate fix on the sun. Pyron technology is receiving careful scrutiny as utilities and commercial enterprises seek more efficient methods of converting the sun's energy into useable power.



Concentrator

EIS custom converts for numerous evolving solar strategies such as concentrator technology. EIS utilizes state-of-the-art machinery to custom convert materials such as 3M™ VHB™ tape to exact dimensions for edge sealing, thermal insulating materials, and thermal transfer materials for heat sinks between the optics unit and the solar cell. EIS has also developed unique conversion methods for high-strength foam tapes that are used to adhere the electronics package to concentrator structures.

Material Partners

EIS relies on engineering expertise and sourcing power to fully support customers' design engineers, helping them to select the best material for the intended use. All critical material properties are considered in any EIS project, including chemical, thermal, and moisture resistance. With more than 30 years of converting experience, EIS engineers also understand the effect of a material selection on the overall manufacturing process, and design material systems that optimize production efficiency and improve cost-effectiveness.

EIS converts a wide variety of substrates, including films, papers, foils, tapes, foams, and other flexible materials from such world-class suppliers as 3M, DuPont, Saint-Gobain, and Adhesives Research. Long standing relationships with world-class material manufacturers such as these aid in understanding material characteristics and position EIS for rapid material sourcing.



About EIS Fabrication Solutions

EIS is the market leader in the engineered conversion of flexible materials. By focusing on customers' needs, EIS has developed a track record of solving unique challenges and providing sound customer solutions.



eis-inc.com/fabrication