

Solar Films and Coatings

Advanced Film Component Solutions for Accelerating Solar Technology

Maintaining solar conversion efficiency and improving durability and reliability are among the biggest challenges facing thin film PV and CSP mirror technologies. Our mission is to provide high performance film component solutions that ensure maximum solar conversion efficiencies over longer module lifetimes, ultimately lowering the cost of energy generation and accelerating the rate of market adoption of these technologies. Flexvue™ leverages over 50 years of performance film manufacturing experience to deliver solutions that are uniquely suited to the requirements of the solar energy market.

PROVEN SOLUTIONS FOR THE SOLAR INDUSTRY

Transparent Conductive Films

Optically-clear Indium Tin Oxide (ITO) and alternative Transparent Conductive Oxides (TCO) are used in all energy applications that demand high levels of reliability, consistency, and mechanical integrity. Our industry leading range of resistivity include products that go down to 10 ohms while maintaining the high visible light transmission ideally suited for top contact layers in thin film PV applications.

Protective and Barrier Films

Protective and barrier films can maximize useful life and help maintain the solar conversion efficiency of thin-film PV modules by maintaining transparency and optical clarity while helping protect against the harmful effects of UV light, moisture intrusion, and weathering.

- UV absorbing films allow maximum light transmission while helping to guard the top substrate against color fading and yellowing and helping to protect organic PV cell materials from degradation.
- High barrier films have low MVTR, which helps defend the module against corrosion

and delamination caused by moisture and oxygen intrusion. With thickness as low as 1 mil (25 microns), these films can be easily incorporated into the PV module.

- Weatherable, hard-coated films help defend against dirt, dust, and scratching, maintaining the optical clarity of the top substrate.

Reflective Films

Reflective aluminum or silver films provide up to 93% solar reflectance and are ideal for use in concentrating solar applications where thin, lightweight mirrors are required. We utilize proprietary alloy chemistry and edge-sealing techniques to help protect the reflective coatings against corrosion.



► History

Leveraging over 50 years of product development and manufacturing experience, Solutia's specialty films are used in applications such as:

- Energy products
- Electronic displays
- Touch screen
- Medical devices
- Solar control window film

► Capabilities

State of the art, large scale roll-to-roll coating and laminating, vacuum metallizing and sputtering, and deep dyeing capabilities.

► Research and Development

Integrated lab and pilot scale development facilities and R&D staff with more than 150 patents issued.

► Custom Products

Solutia can deliver custom solutions for your specialty film requirements. Our manufacturing capabilities can be adapted to handle unique application needs including coating chemistry and substrate type.

FLEXVUE™
FILMS WITH TECHNOLOGY INSIGHT

Product Overview

Product	Features	Attributes	Benefits
TRANSPARENT CONDUCTIVE FILMS	Wide range of resistances	2.5 - 1000 ohm / square	Maintain high levels of solar energy conversion efficiency
	Heat stabilized	Up to 87% VLT, less than 1% haze	Improve reliability and reduce mechanical failures in field with consistent performance
BARRIER FILMS	UV absorbing	UV absorption = 2.4 abs at 360 nm	Maintains substrate integrity within PV modules, helping protect against UV degradation, helps to protect top substrate against color fade and yellowing
	Moisture resistant	WVTR performance as low as 10 ⁻² gr/m2/day with 89% VLT, may be adjusted as needed	Helps prevent corrosion and delamination resulting from moisture and oxygen intrusion
	Weatherable protective hardcoat	5H pencil hardness	Helps protect top substrate from scratching and abrasion
	Heat stabilized, optically-clear		Improve reliability and reduce mechanical failures in field with consistent performance
REFLECTIVE FILMS	Metallized aluminum, silver or other metals on polyester film	65% VLT to opaque, 0.5 - 10 mils (12 - 350 microns), up to 93% reflection	Improves solar energy conversion efficiency

Evaluation samples and technical support are available.
 For general information, pricing, and availability, please contact our sales department.
 Telephone: 1-888-273-4567 or 1-314-674-3150 outside U.S.A.
 E-mail: info@flexvuefilms.com

www.flexvuefilms.com

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