Solutia

Experts in Encapsulation

Saflex PVB *Product Bulletin*

Saflex® PA61 Solar PVB Encapsulant

Proven 3G PVB technology exceptionally suited for thin film solar PV market

The role of the solar panel package is twofold: maintain the efficiency of the solar cell and protect the system from environmental elements such as rain, hail, heat, and humidity. Plus, panels must consistently perform across a range of end-user applications and endure over their expected lifetime—typically 20 to 30 years. That's why thin film module manufacturers are increasingly turning to Saflex® solar PVB encapsulants.

Solutia entered the solar market with a new solar encapsulant – Saflex PA61. Saflex PA61 is the first of a new series of encapsulant products specifically designed to meet the unique needs of photovoltaic module makers. It builds upon the proven third generation (3G) PVB chemistry that was first introduced by Saflex in 1997 for architectural and automotive applications. In order to meet the need for electrical insulation, Saflex PA61 was further optimized to provide increased electrical resistivity beyond that of typical 3G PVB interlayers.

The 3G PVB product platform is a major improvement to previous PVB formulations as it was designed specifically for long term edge stability and durability in encapsulated systems. This is of particular importance when using metal coated glass or in exposed edge applications like frameless solar modules.

A key attribute of Saflex 3G PVB is its retention of adhesion at very high moisture content and it's ability to maintain that adhesion at its edges helping to overcome the separation stresses that might otherwise cause edge delamination. Test results confirm the formulation to be less moisture sensitive which helps maintain high adhesion of the encapsulant to the glass, especially at the edges, even as environmental conditions, like humidity, fluctuate. Saflex PA61 is also IEC certified, UL recognized, and RoHS compliant.

PRODUCT OFFERING

Product	Thickness	Standard Widths*	Standard Lengths*	Colour	Form
PA61	1.14 mm	134, 264 cm	167, 300, 334 m	Clear	Refrigerated or Interleaved

* Custom widths and lengths are available.

Solutia is a global leader in specialty chemicals and performance materials. The company focuses on providing solutions for a better life through a range of products used in architectural, automotive, and photovoltaic end markets.

In 2010, Solutia acquired Etimex Solar GmbH to become the world's only single-source supplier of both major encapsulation technologies branded as Vistasolar® EVA and Saflex® PVB. With 100 plus years of combined processing expertise, unmatched manufacturing scale, and a track record of rapid innovation, Solutia provides expert analysis and cutting-edge solutions to the world's leading solar energy companies.

Solutia's is headquartered in St. Louis, Missouri, USA and operates globally with approximately 3,400 employees in more than 50 locations.

SOLUTIA EVA & PVB MANUFACTURING SITES

SAFLEX® PA61 - TECHNICAL DATA OVERVIEW

Property	Units	Typical Result	Test Method
Specific Gravity (25˚C)	g/cm^3	1.07	ASTM D792
Specific Heat (50˚C)	J/kg-˚C	2080	ASTM E1269
Thermal conductivity	W/m-K	0.20	ASTM D5930
Refractive Index	-	1.48	ASTM D542
Total Reflectance	%	---	AirMass 1.5 (400 - 1100nm)
Tensile Strength	kg/cm^2	>200	JIS 6771
Elongation at Break	%	>200	JIS 6771
Tear Resistance	N	46	ASTM D1004
Adhesion	N/cm	>40	90˚ Peel Test
	N/mm^2	>15	Compressive Shear
Bulk Resistivity (0.43% H20)	Ω cm	1×10^{12}	ASTM D257
Surface Resistivity (0.43% H20)	Ω/sq	2×10^{13}	ASTM D257
Coefficient of Thermal Expansion	1/K	1.7×10^{-4}	ASTM E831
Normalized Flow (135˚C)	µm	160	TMA

CONTACT

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