Akcome EVA Film Instruction

Please read these instructions carefully before using our Akcome EVA film. If you have any questions, please contact our relevant staffs directly.

This product can be used for encapsulating all crystalline PV modules and many thin film PV modules. It is non-sticky at room temperature so that it is easy to cut. EVA film is laminated to generate cross linking reaction to be with fine bonding and sealing performance. And it has the function of increasing light transmission, Water vapor resistance and anti-UV, which ensures the service life of PV modules.

1. EVA Property Parameters

ITEM	TEST METHOD	UNIT	AKC-1F/FC	AKC-2F/FC
Curing Type	/	/	Fast Cure	Fast Cure
VA Content	TGA(Internal)	%	28-33	28-33
Melt Index	ISO 1133:1997	g/10min	20~40	20-40
Melting Point	ISO 11357-3:1999	°C	60~72	60-72
Specific Gravity	ASTM D792	g/cm^3	0.95~0.96	0.95~0.96
Degree of Cross Linking[1]	Xylene Extraction	%	80~95	80~95
Tensile Strength (cured)	ASTM D882	MPa	>16	>16
Elongation at Break (cured)		%	>500	>500
Refractive Index[2]	ASTM D1218	/	1.48	1.48
Volume Resistivity(cured)	IEC 60093:1980	Ω cm	>1.0×10^{15}	>1.0×10^{15}
Dielectric Strength(cured)	IEC 60243-1:1998	kV/mm	>22	>22
UV Cutoff Wave Length(cured)	UV-Spectral Photometer	nm	≥350	≤260
Light Transmittance (cured)	ASTM D 1003:2007 (Photovoltaic glass[3])	%	≥90	>90
	ASTM D 1003:2007 (PET release film[4])		≥91	>91
Water Absorption (20 °C /24h) (cured)	ISO 62:2008	%	≤0.1	≤0.1
Thermal shrinkage[5]	135°C/3min	MD %	≤3	≤3
		TD %	≤1	≤1
EVA/Glass Peel Strength	ISO 8510-2:1990	N/cm	≥60	≥60
EVA/Back sheet Peel Strength		N/cm	≥50	≥50
UV-exposure Test (UVB 313nm,1000h)	ASTM G154	ΔYI	<3	<3
Damp and Heat Test[6] (85 °C,85%RH,2000h)	IEC 61215	ΔYI	<3	<3

*Notes:

①Degree of Cross Linking[1]: Measured by xylene extraction method. Mesh bag made by the 120 mesh stainless steel

wire. The reflow extraction process will last for 5 hours and the sample will be dried for 3 hours at 140°C.

②Refractive Index[2]: Measured by the ellipsometer.

③Photovoltaic glass[3]: Photovoltaic glass (3.2mm thickness)/EVA/Photovoltaic glass (3.2mm thickness); PET release film[4]: PET release film (70μm thickness)/EVA/ PET release film (70μm thickness); Test instrument: ultraviolet and visible spectrophotometer.

④Thermal shrinkage[5]: Sample of 100 * 200mm size is tested with the smooth surface over the patterned surface of glass.

⑤Damp and Heat Test[6]: Test sample is with TAIFLEX TPE back sheet.

2. Lamination Condition

Recommended lamination parameters for Akcome EVA film:

Table1. Lamination parameters

Hot plat temperature /°C	Evacuation time /min	Pressure time /min
140-145	5-7	10-13
145-150	4-6	9-12

(*Notes: Due to the differences of solar module laminators, we suggest our customers to optimize the lamination parameters for every laminator used in mass production.)

3. EVA Film Dimension Specifications

① Range of thickness: 0.3~1.2 mm（±0.03mm）;
② Range of width: 300 mm~2100 mm（0～+8 mm）;
③ Roll length: 150 m (flexible), It can be customized, and with no negative tolerance.

4. Instruction

① Transportation: keep away from the light, heat, and dampness in transit. Be stacked less than 5 layers flat and level with no directly touching ground; protect it from breaking package and bending. At the same time, keep away from rain, heavy load, and hard stuff collision or poking.

② Storage conditions: Keep it in a cool and dry place (Temperature≤30℃， Humidity≤60%); Best not to be piled up too high; protect it from the radiation of the direct sunlight and heat; avoid contamination; avoid storing it together with flammable, explosive and chemicals in a same warehouse.

③ Shelf life is 6 months (from the date of production); best to finish it within 3 months; keep dry and clean during producing; please use up it as soon as possible and tighten the package after unsealing or cutting.

④ Don't touch the film directly by hand to avoid affecting the adhesive performance.

⑤ Don't pull the EVA film hard in case of deformation, which would affect the performance.