FEI YU 飞宇

Technical Data

FY10

FY10 is an ultra fast cure and PID resistant EVA (ethylene vinyl acetate copolymer) photovoltaic encapsulating film.

FY10 can be used for all crystalline silicon photovoltaic module constructions, and for many thin film photovoltaic designs. FY10 is provided as rolled film ready for use in thermal lamination processes. The material is self-priming for adhesion to glass.

Properties	Test Method ASTM	Units	Condition	Results
Physical Mechanical				
Tensile Strength	D638	MPa	23℃, 250 mm/min elongation rate	15
Ultimate Elongation	D638	%	23℃, 250 mm/min elongation rate	530
10% Secant Modulus	D638	MPa	23℃, 250 mm/min elongation rate	24
Hardness	D2240	Shore A/D	23℃	80 / 25
Adhesion to Glass	FeiYu	N/cm	23°C	130
MVTR	F1249	g/m²/day	25℃/100sccm flow, 100%RH	18
Water Absorption	D570	wt%	23℃	< 0.1
Optical				
Optical Transmission	E424	%	23℃, 0.46 mm thickness	91
UV Cutoff Wavelength	E424	nm	23℃, 0.46 mm thickness	360
Refractive Index	D542	-	23℃, 0.46 mm thickness	1.48
Electrical				
Volume Resistivity	D257	ohm cm	23℃/50%RH	$>1 \times 10^{15}$
Dielectric Strength	D149	kV/mm	23℃/50% RH, 500V/sec	>20

PROCESS GUIDELINES:

Vacuum Lamination Step		Heat Cure Cycle	
Nominal Temperature	145 - 150℃	Platen Temperature	145 - 150℃
Vacuum Range	< 60 mbar	Cure Time	8 min
Evacuation Time	4 min	Applied Bladder Pressure	910 mbar
EVA Melting Range Via DSC	65 - 75℃	Target Temperature within the Encapsulant	140℃
		Time Above the Target Temperature	> 3 min

Tests are made in accordance with the current issue of the ASTM, or other cited test method. Test data reported here are nominal values measured on extruded films, 0.5 mm thick, or compression molded sheets and test bars, which have been cured at 150℃ for 7 minutes with a laboratory press. Optical measurements made with glass-EVA coupons with high transmission solar glass.

AGENCY APPROVALS:

FY08 is a UL listed product in category QIHE2 Photovoltaic Polymeric Materials. Please refer to UL file number E332129.

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