



KNACK ENERGY PVT. LTD.

Empowering the future...

Solar PV Encapsulant

KNACK EPE

It is POE and EVA co-extruded PV Encapsulant provide balance properties of POE and EVA. It is a PID and snail trails resistance, UV and weather stable PV Encapsulant.

It has wide process window, proven for glass to glass solar modules. It can be used for single stage as well as short cycle multi stage lamination processes



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PROPERTIES

Particulars	Test Method	Unit	Values
Thickness	ASTM D 6988 - 21	mm	0.45 to 0.8 \pm 5%
Width	Scale	mm	Up to 1400
Melting Point	ISO 11357 - 3	$^{\circ}$ C	70 \pm 6
Surface type	Visual		Orange peel
Tensile Strength	ASTM D 882-18	MPa	12 \pm 3
Elongation	ASTM D 882-18	%	\geq 500
Shore Hardness	ASTM D 2240-15	Shore - A	70 \pm 5
Water Absorption	ISO 62 - 2008	%	\leq 0.1
Adhesion to Glass	ASTM D 903	N/cm	\geq 100
Adhesion to Back sheet	ASTM D 903	N/cm	\geq 100
Thermal Shrinkage	ISO1150 (160 $^{\circ}$ C, 5 min. on Glass Plate)	%	\leq 2
Optical Transmittance	ASTM E 424	%	\geq 90
UV Cut Off Wavelength	ASTM E 424	nm	UV Transparent
Refractive Index	ISO 489		1.48
Dielectric Strength	ASTM D149	kV/mm	\geq 25
Volume Resistivity	IEC 62788-1-2	Ohm.cm	\geq 1 \times 10 ¹⁶
Gel Content	IEC 62788-1-6	%	\geq 75
Lamination Parameters	Single Stage	Double Stage (Stage 1)	Double Stage (Stage 2)
Evacuation Time (Minute)#	4 - 6	4 - 6	
Lamination Time (Minute)	8 - 15	2 - 4	6 - 9
Temperature ($^{\circ}$ C)*	145 - 165	145 - 165	145 - 165

*Temperature and #Vacuum to be uniformly maintained across the laminator. #Vacuum to be applied at -760 mm Hg, Periodic calibration of the machine input parameters to be done by Machine user.

Packing:

- Length/Roll: 130/150meter
- No. of Rolls/Pallet: 9/12
- Total Linear Meters/Pallet: 1560/1800
- Each roll is sealed in a protective bag in corrugated box
- Boxes are strapped on suitable pallets

Storage Condition and Shelf Life:

- Store in undamaged original packaging, temperature between 20 $^{\circ}$ C- 30 $^{\circ}$ C and humidity between 40-60% RH
- Recommended use within 9 months from date of manufacture
- Consume within 12 hrs. once opened from original packing

Note: The above technical information represents the typical range of properties and is believed to be correct as on date. We recommend the user to carry out intensive trials to test suitability of this product and module laminating conditions. Knack gives no warranty and assumes no liability in connection with any use of this information.