



Solar E VA ncapsulants





In 2011, Brij started the first plant in India for manufacturing Solar EVA encapsulants and has since been a leader in manufacturing high quality encapsulants for the solar industry. Backed by more than 25 yrs of EVA processing experience, the company has complete expertise and understanding of the product as well as the technology. Through constant research and development, in-house testing laboratory and stringent quality checks, we at Brij make sure that each square meter of EVA manufactured in our state-of-the-art manufacturing facility encapsulates the solar modules not for 25 yrs, but for a lifetime.



25,000+ hrs. of real environmental testing & 50+ MW of module laminations









 Compatibility with wide range of cells and backsheets





Exceptional quality & +80% crosslinking () (Gel content) under normal laminating conditions

Solar EVA Encapsulants

A solar module though looks simple, is a combination of highly engineered materials working together in tandem to harness energy. Thus each and every component used affects its quality, durability and is as important as any other. One such component is the Ethylene Vinyl Acetate (EVA) encapsulant. This transparent layer of plastomer forms a protective layer over and under the solar cells preventing water, dirt and other external impurities from contaminating the cells and at the same time ensures optical transmitivity & electrical isolation. These encapsulants ensure that the module can be used outdoors for more than 25 years without much degradation.

+ Product characteristics & specifications



- High light transmittance and low haze rate during long time aging process.
- Excellent bonding and adhesion to glass and back sheet.
- Excellent anti-yellow resistance for longer life.
- Good long-term thermal properties like creep resistance due to high crosslinking rate.
- Low shrinkage rate for improved lamination stability and lower rejections.
- Long shelf life for better storability.
- High volume resistivity for lower PID effects.

Standard thickness : Production size between 0.3 mm to 1.0 mm. Conventional thickness: $0.45 \text{ mm} \pm 0.02 \text{ mm}$.



+ The Brij Advantage



+ Testing & Certification

From time to time, we update our product to meet the rising industry demands. We are IEC 61215 qualified and constantly looking for ways to testify our perfection. Apart from 3rd party testing from leading testing laboratories like NISE-MNRE, TUV, SGS etc., Brij is fully equipped with its own in-house testing center with digital & computerized testing apparatus, which is regularly calibrated to maintain the desired level of accuracy and consistency. The testing center is equipped to perform the following tests as per IEC, ASTM and ISO standards, as applicable:

- Module test laminator.
- Crosslinking ratio test.
- Water absorption test.
- Adhesion test (T-peel and 180° peel).
- Shrinkage ratio test.
- Elongation at break test.
- Tensile strength & young's modulus test.

+ Technical Specification Sheet

| Item | Unit | Technology Data | Brij EVA |
|--|-------------------|--|----------|
| Melt Index | g/10 mins | — | 30 |
| Softening Point (before curing) | °C | — | 58 |
| Density | g/cm ³ | — | 0.96 |
| Appearance | Visual | smooth surface, uniform thickness, no discoloration, non-stick at room temperature | Ok |
| Transparence (after curing) | % | ≥ 91.0 (400-110nm) | 92 |
| UV - Cutoff Wave length | Nm | — | 360 |
| Gel Content | % | ≥ 75 | 80 |
| Peeling Strength after curing | N/cm | \geq 60 (glass/sheet) | 75 |
| | | \geq 40 (TPT/sheet) | 48 |
| Shrinkage Rate (before curing, 120° C, 3 min) | % | \leq 4 | 2 |
| Tensile Strength (after curing) | MPa | ≥ 20 | 21.5 |
| Elongation at Break (after curing) | % | \geq 500 | 518 |
| Water Absorption | % | ≤ 0.1 | 0.04 |
| Humidity & Heat Resistance | | No bubble, no peeling, no discoloration, power loss ${<}5\%$, sheet ${\Delta}{\rm Yl}{\leq}2$ | Ok |
| Resistance to temperature, moisture and cold | | No bubble, no cracking, no peeling, no dis- coloration, no expansion with heat and contraction with cold, power loss <5%, sheet Δ YI \leq 2 | Ok |



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