DOWSIL™ VE-6001 UV_T Optical Bonding Material

Applications and target devices

- **Applications:** Cover window (glass or plastic), touch sensors, display cell/panels
- **Target devices:** Automotive displays; consumer displays requiring reliability in harsh conditions, such as micro/mini LED displays

Description

DOWSIL™ VE-6001 UV_T Optical Bonding Material is a one-part silicone-based UV-curable precision optical bonding product that provides excellent adhesion, reliability and processability for display devices requiring high-reliability performance. The product provides a controlled flow that satisfies the common optical bonding processes used in the display industry. And the low volatility of the product provides consistent optical transmittance in before/after reliability tests. This uniquely engineered product is a special class of optical bonding material that is cured to an extremely soft material and forms cushioning, resilient materials. The cured resin acts as stress relief while providing the dimensional stability of an elastomer, which is increasingly needed for mechanically sensitive components.

Key features and benefits

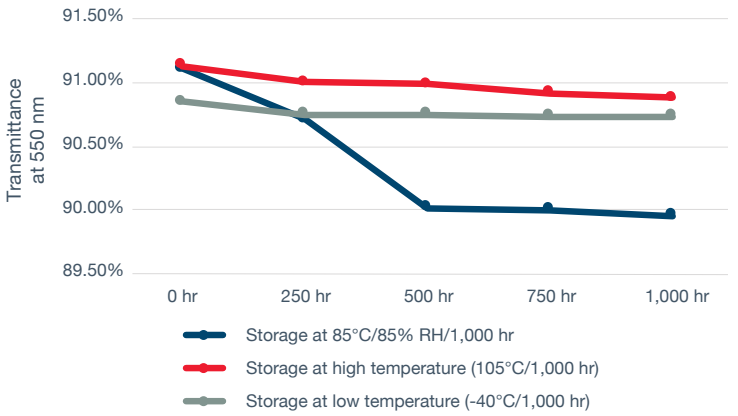
- Excellent reliability; no yellowing after reliability test conditions
- One-part; easy to handle and no additional investment
- Very low volume shrinkage (<1.0%)
- High RI (1.53) and high transmittance (>99%)
- Improved deep-section cure by 395 nm
- Compatible with most existing processes (dam and fill, patterning, slit coating)

Typical material properties

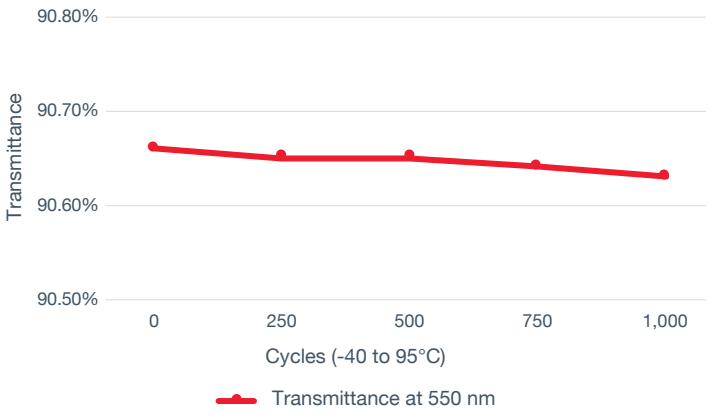
Property	Value
UV-curing energy condition, metal halide/UV LED: 395 nm, 405 nm	>4,000 mJ/cm^2
Viscosity, 52# spindle, 30 rpm	3,600 mPas
Volume shrinkage after cure	<1%
Refractive index	1.53
Transmittance	>99%
Shore 00	54
Shear modulus (G'), strain = 1%, frequency = 0.5 Hz	1.0x10^4 Pa
Adhesion strength, glass to glass lap shear	8.0-9.0 kgf/cm^2
Dielectric constant	3.1 @ 100 kHz 2.98 @ 1 MHz

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Sales Application Engineer or Dow Customer Service before writing specifications on this product.

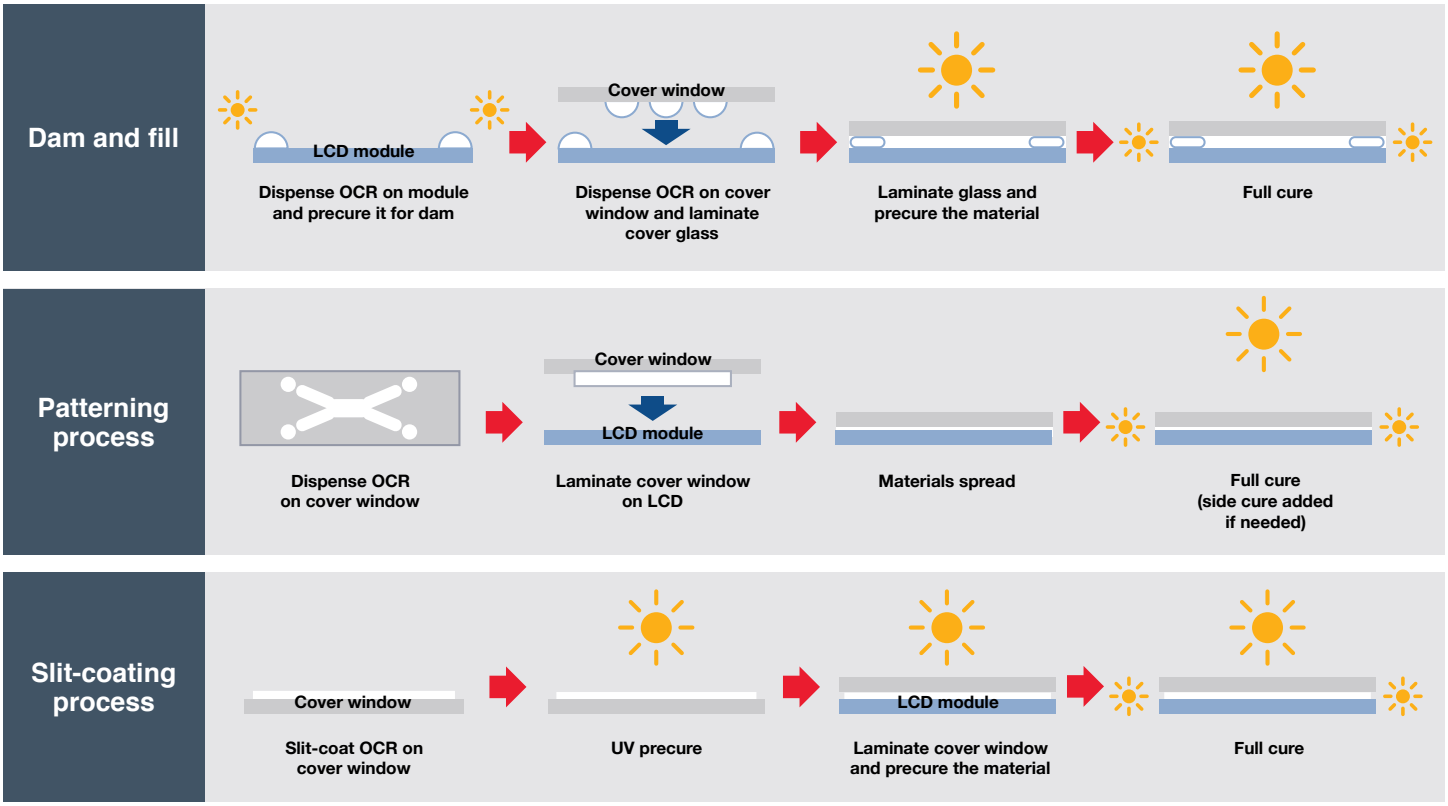
Storage reliability test



Temperature cycle reliability test



Representative optical bonding processes



Learn more

We offer more than just an industry-leading portfolio of advanced silicone-based materials. As your dedicated innovation leader, we bring process and application experience, a network of technical specialists, a reliable global supply base, and world-class customer service.

To find out how we can support your applications, visit **dow.com/electronics**.

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