UV/Moisture Curable Conformal Coating (Water Resistant) for PCBA

PRODUCT DESCRIPTION

Incure Ultra-Illumina™ 3502 is a UL-compliant, 100% solids UV light curable conformal coating used on PCB assembly. It is designed for use in high volume spray system, does not clog valves as it contains no volatiles and is environmentally-friendly. With full cure, Incure 3502 forms a hard and resilient protective coating thickness of 30 to 150 microns and works as a moisture barrier with excellent adhesion in harsh environments. Permanent fluorescent properties allows for quick in-process and quality inspection of coating coverage. Coated components in shadowed areas are moisture-cured within 72hrs.

UNCURED PROPERTIES

Chemical Type Urethane Acrylate, 100% Solids after full cure
Appearance
Slight Yellow Tint, Clear Fluorescing
Density, g/ml 1.03
Flash Point, °C >93
Toxicity Low (Refer to MSDS)
Viscosity, cP (rpm) 20 300 - 400 Spindle 2

Other viscosities are available upon request. If the viscosity range requested is not our standard offering, this product may be produced with a small lab fee.

Email us at: support@uv-incure.com or your nearest local distributor for more information.

CURED PROPERTIES

Shore Hardness, Durometer D35 to D45
Linear Shrinkage / Expansion (±ε) 2.16%
Water Absorption at 24hrs 0.01% 2 ASTM D2566
Tensile (PSI) PC-PC / PC-SL / SS-SS / S-S / AL-AL Good / Good
Surface After Full Cure Sheet 2 ISTM D189
Thermal Range (Brittleness / Degrades) °C -55 to 150
Young's Modulus of Elasticity, MPa (PSI) 226 (32,800)
Linear CTE (α1 & α2), ppm°C α1=44 , α2=40

RECOMMENDED UV CURE SCHEDULE (FULL CURE)

Full Cure Exposure Time UVA UVB UVC UVV
Post Cure Time between glass slides, mW/cm² 150 43 5 140
Exposure time (s) 1.0 mJ/cm² 150 43 5 140
F200™ @ 3.75” Dist 40.0 mW/cm² 150 43 5 140
Belt Speed (ft/min) 1.5 m/W/cm² 6,000 1,720 200 5,600
F500™ 93.0” Dist 9.0 mW/cm² 500 160 15 480
Belt Speed (ft/min) 1.5 m/W/cm² 4,500 1,440 135 4,320
S20™ Spot (4-Pole LG) 0.4” Dist mW/cm² 3,000 530 50 3,400
Exposure time (s) 3.0 mJ/cm² 9,000 1,590 150 10,200
L900™ LED Spot 0.67” Dist mW/cm² 2,800 42 12 102
Exposure time (s) 3.0 mJ/cm² 8,400 126 36 326

RECOMMENDED UV CURING SCHEDULE FOR THIS PRODUCT

<table>
<thead>
<tr>
<th>Wave length (A)</th>
<th>UVA (320 - 400nm)</th>
<th>UVB (290–320nm)</th>
<th>UVC (220-295nm)</th>
<th>UVV (400-700nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Intensity</td>
<td>150 mW/cm²</td>
<td>43 mW/cm²</td>
<td>5 mW/cm²</td>
<td>140 mW/cm²</td>
</tr>
<tr>
<td>Total Energy Required</td>
<td>6,000 mJ/cm²</td>
<td>1,720 mJ/cm²</td>
<td>200 mJ/cm²</td>
<td>5,600 mJ/cm²</td>
</tr>
</tbody>
</table>

SHELF-LIFE, STORAGE, USE AND HANDLING OF THIS PRODUCT

Shelf-Life of this unopened product is a minimum of ONE (1) year from date of manufacture. Avoid direct exposure of bottle to visible light at all times. Containers should remained covered when not in use. Product should be stored in a dark cool place of 2°C to 20°C. Transfer of product into other packages void all warranties. Users should ensure all bonding surfaces are free of grease, mold release, or any contaminants, as bonding performance will be compromised. All tests for cured bonds should be carried out at ambient temperature. For safe handling of this product, please read Material Safety Data-sheet (MSDS) prior to use. Organic solvents, such as IPA, may be used to wipe away uncured material from surfaces.

EIO and GAMMA STERILIZATION (Not Applicable for this Product)

All Incure medical products are formulated to subject to standard sterilization methods, such as EIO and Gamma Radiation of 25 to 50 kGy (cumulative). Enhanced moisture and thermal resistance of this product show excellent adhesion and bonding stregnth after one cycle of steam auto-clave test. Depending on bond design and structure of the application, users should test specific assemblies after subjecting them to sterilisation. Consult Incure Support Team for assistance, if your devices are subjected to more than one sterilization cycles.

NOTE

The data contained in this document are furnished for information only. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user’s responsibility to determine suitability for the user’s purpose of any production methods mentioned herein. INCURE will not be liable for any indirect, special, incidental or consequential loss or damage arising from this INCURE product, regardless of the legal theory asserted. INCURE recommends that each user adequately test its proposed use and application before repetitive use, using this data as a guide.