

TAIYO AMERICA, INC.
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CERTIFICATE OF ANALYSIS and CONFORMANCE

This is to certify that the following product has been inspected prior to sale and shipment, and complies with Taiyo America's manufacturing specifications for this product.

This product meets all the requirements of IPC-SM-840E Classes H and T and Bellcore (Telecordia) GR-78-CORE and is UL recognized 94V-0 (File #E166421, UL Name: PSR-4000DE).

PSR-4000HFX Satin Black DI Lot # **9050347** Mfg. Date: **5-03-19**
 Warranty Ends: **2-03-20**

| <u>PROPERTY</u> | <u>TEST METHOD</u> | <u>MANUFACTURING SPECIFICATION</u> | <u>RESULT</u> |
|------------------------------------|--|--|--|
| VISCOSITY | Toki Sangyo RE100U Viscometer 5 rpms @ 25°C | After mixing: 220 - 270 ps | 231 ps |
| THIXOTROPIC INDEX | Toki Sangyo RE100U Viscometer Viscosity ratio: 5 rpm / 50 rpm | After mixing: Report Only | 1.3 |
| FINENESS OF GRIND | TAI-0-0002 | 5 microns maximum | 5 microns |
| VISUAL EXAMINATION | Microscopic examination: 1. 1-mil drawdown of wet film | No bubbles, pits, voids, particles, color differences. | Passed <input checked="" type="checkbox"/> |
| | 2. Wet film drawdown on grind gauge | No bubbles, pits, voids, particles, color differences. | Passed <input checked="" type="checkbox"/> |
| SCREENABILITY | Visual inspection of screen printed panel | No surface defects, such as bubbles, pinholes, etc. | Passed <input checked="" type="checkbox"/> |
| TACK-DRY | Hot air convection oven 80°C / 30 minutes | Tack-free to the touch | Passed <input checked="" type="checkbox"/> |
| IMAGING | ORC HMW 680GW - 7 kW 500 mJ / cm ² (Under Artwork) Horizontal Developer - 1% Na2CO3 30°C (86°F) / 60 secs., 28 psi | Stouffer 21 step: 10 - 14 (clear on copper) | 13 |
| RESISTANCE TO SOLDERING (*) | 260°C (500°F) / 30 sec x 1 cycle Rosin-based flux | No discoloration, peeling, or blistering | Passed <input checked="" type="checkbox"/> |
| SOLVENT RESISTANCE (*) | Immersion in PM Acetate 20°C / 20 mins. | No swelling, softening, or blistering | Passed <input checked="" type="checkbox"/> |
| PENCIL HARDNESS (*) | TAI-0-0020 | 6H or greater | 8H |
| ADHESION (*) | TAI-0-0021 | 100/100 on copper | Passed <input checked="" type="checkbox"/> |

(*) - Final cure for these tests was 60 minutes @ 150°C (302°F) in a convection oven

Verified By: *[Signature]*
 Name, Title, Date
Q.C. SUPERVISOR 5/8/19