

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-4000JA).

PSR-4000 LDI (US) Red

Lot # 9090427

Mfg. Date: 9-04-19
 Warranty Ends: 3-04-20

| <u>PROPERTY</u> | <u>TEST METHOD</u> | <u>MANUFACTURING SPECIFICATION</u> | <u>RESULT</u> |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------|
| VISCOSITY | Toki Sangyo RE100U Viscometer 5 rpms @ 25°C | Before mixing: Report Only After mixing: 220 - 270 ps | 424 ps 234 ps |
| THIXOTROPIC INDEX | Toki Sangyo RE100U Viscometer Viscosity ratio: 5 rpm / 50 rpm | After mixing: Report Only | 1.4 |
| 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 100 mJ / cm ² Horizontal Developer - 1% Na ₂ CO ₃ 30°C (86°F) / 60 secs., 28 psi | Stouffer 21 step: 12 - 16 (clear on copper) | 14 |
| 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 (*) | WARRANTY EXTENSION | 100/100 on copper | Passed <input checked="" type="checkbox"/> |

(*) - Final minutes @ 150°C (302°F) in a convection oven

This product has been retested by the Taiyo America Quality Control department and has been granted a warranty extension.

Warranty period ends:
 04/04/20

Authorized By:
 Luis Marquez
 QC Supervisor

Verified By:

[Signature] Q.C. SUPERVISOR 9/6/19
 Name, Title, Date