

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-4000BN).

PSR-4000BN Red      Lot # 9102247      Mfg. Date: 10-22-19  
 Warranty Ends: 10-22-20

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>MANUFACTURING SPECIFICATION</u>	<u>RESULT</u>
<b>VISCOSITY</b>	Toki Sangyo RE100U Viscometer 5 rpms @ 25°C	Before mixing: 325 - 375 ps After mixing: 175 - 225 ps	<u>357</u> ps <u>209</u> ps
<b>THIXOTROPIC INDEX</b>	Toki Sangyo RE100U Viscometer Viscosity ratio: 5 rpm / 50 rpm	After mixing: 1.2 - 1.6	<u>1.3</u>
<b>FINENESS OF GRIND</b>	TAI-0-0002	15 microns maximum	<u>5</u> microns
<b>VISUAL EXAMINATION</b>	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"/>
<b>SCREENABILITY</b>	Visual inspection of screen printed panel	No surface defects, such as bubbles, pinholes, etc.	Passed <input checked="" type="checkbox"/>
<b>TACK-DRY</b>	Hot air convection oven 80°C / 30 minutes	Tack-free to the touch	Passed <input checked="" type="checkbox"/>
<b>IMAGING</b>	ORC HMW 680GW - 7 kW 500 mJ / cm <sup>2</sup> Horizontal Developer - 1% Na <sub>2</sub> CO <sub>3</sub> 30°C (86°F) / 60 secs., 28 psi	Stouffer 21 step: 9 - 13 (clear on copper)	<u>11</u>
<b>RESISTANCE TO SOLDERING (*)</b>	260°C (500°F) / 10 sec x 3 cycles Rosin-based flux	No discoloration, peeling, or blistering	Passed <input checked="" type="checkbox"/>
<b>SOLVENT RESISTANCE (*)</b>	Immersion in PM Acetate 20°C / 30 mins.	No swelling, softening, or blistering	Passed <input checked="" type="checkbox"/>
<b>PENCIL HARDNESS (*)</b>	TAI-0-0020	7H or greater	<u>9H</u>
<b>ADHESION (*)</b>	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 10/23/19