

Asymtek Applications Hotsheet

Jetting Die Attach, Ablebond MA-2

AHS-010 7 July 2006

The goal of this application was to evaluate the suitability of using the Asymtek DispenseJet[®] DJ-9000 jet for dispensing silver epoxy on Mylar substrate for component attach.

Settings Summary

Platform	Axiom™ X-1020
Jet/Pump/Valve	DispenseJet [®] DJ-9000
Fluid Type	Die Attach
Fluid Manufacturer & Product number	Ablestik [®] Ablebond [®] MA-2
Fluid Details	8,600 cps
Jet Needle Size	Needle: 1.25 mm (0.050 in) (P/N 7200580-13)
Nozzle	Nozzle: 0.20 mm/0.075 mm Unitized (8/3) (P/N 7201384-23)
Fluid Pressure	0.055 MPa (8 psi)
Nozzle Temperature	45 °C
Dispense Height	0.38 mm – 0.50 mm (15 -20 mils)
Valve on / off	3 ms / 3 ms
Micrometer Setting	15 Clicks
Substrate Temp	Room temperature
Substrate	Mylar & glass
Applications Development	Linh Rolland

Results Summary

To test process stability for MA-2, the changes in dot volume (mass) and dot diameter were measured over 8-hour periods. Dot mass variations were about $\pm 10\%$, 3 sigma and dot diameter variations were about $\pm 7\%$, 3 sigma.

(continued)

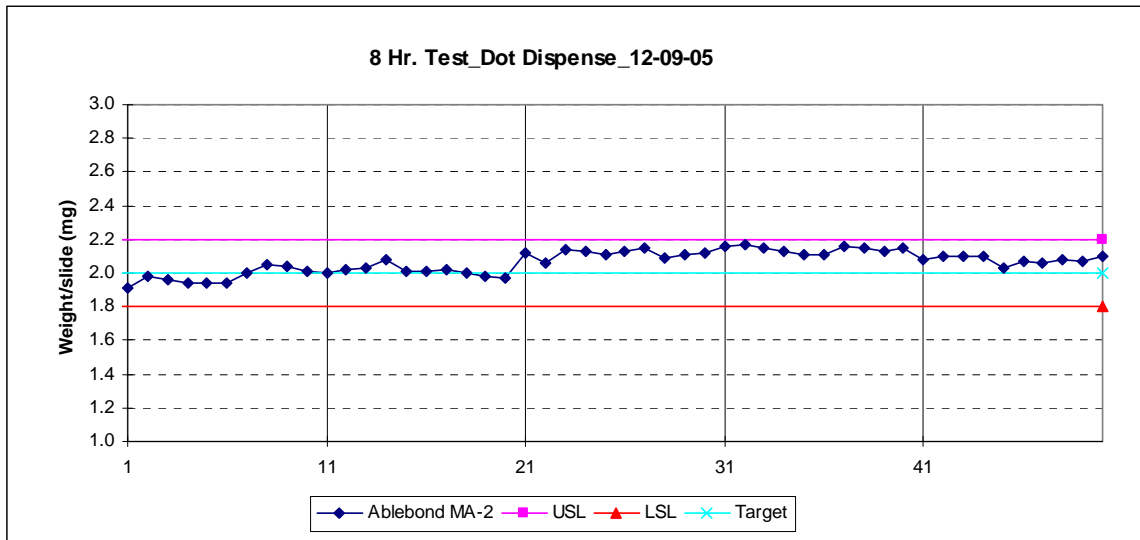


Figure 1. Mass Gain over 8 Hours

To verify the repeatable dot diameter, 5,000 dots were dispensed over 8 hours and measured with an automated microscope. See the table below for the dot diameter and circularity statistics of Ablebond MA-2.

Table 1. Dot Diameter and Circularity Statistics

<i>Dot Diameter (mm)</i>		<i>Circularity(mm)</i>	
3s%	7%		
Mean	0.3573605	Mean	0.0100875
Standard Deviation	0.007993251	Standard Deviation	0.005877542
Minimum	0.3325	Minimum	0.0025
Maximum	0.3825	Maximum	0.155
Count	5000	Count	5000



Figure 2. MA-2 Silver Dots on Glass Slide, Top View



Figure 3. MA-2 Silver Dots on Glass Slide, Side View

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