

Asymtek Applications Hotsheet

Jetting Underfill into Tight Tolerances (350- μ m gap)

AHS-006 27 March 2006

The goal of this application was to show the ability of the DispenseJet[®] DJ-9000 jet and the Axiom[™] platform to accurately and precisely jet underfill into a 350-micrometer (μ m) gap without any topside die contamination. Both die can be underfilled simultaneously or individually.

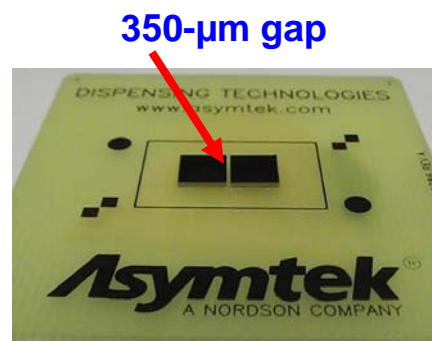
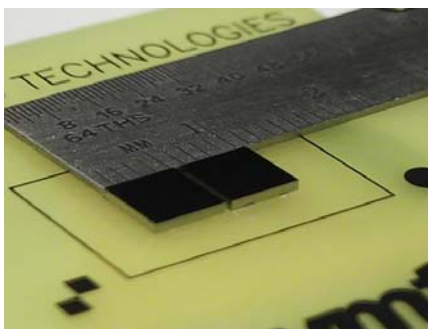
Settings Summary

Platform	Axiom [™] X-1020
Jet/Pump/Valve	DispenseJet [®] DJ-9000
Fluid Type	Underfill
Fluid Manufacturer & Product number	Loctite Henkel
Fluid Data Sheet Link	Click Here for Technical Data Sheet PDF http://tds.loctite.com/tds5/docs/H-FP4549-EN.PDF
Needle Size	3.20mm (pn-7200580-18)
Seat Size	0.25mm, 0.010 in. (pn-210733-2)
Nozzle Size	0.100mm, 0.004 in. (pn-210753-4)
Fluid Pressure	25 psi
Valve Temperature	60 C
Valve On/Off Time	3ms/3ms
Dispense Height	0.350mm (0.014in)
Substrate Temp	90 C
Substrate	Modified twin die demo part with 350- μ m gap
Application Development	Chris Collins

Results Summary

The modified demo boards showcased the ability of the Asymtek platform and valve to accurately dispense into a 350- μ m gap with no topside contamination. The machine was set in "precision" mode and used one corner fiducial on the lower right hand corner of the left die bit. The die were underfilled using four 1mg "I" passes with a 1-second wait between each pass. Figures 1 & 2 show modified gap on demo part.

A video can be viewed at: http://www.asymtek.com/videos/videos/jet_uf_in_350um_gap.wmv



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This hotsheet documents the application at the time of publication. Please contact us at info@asymtek.com for any further updates or improvements.