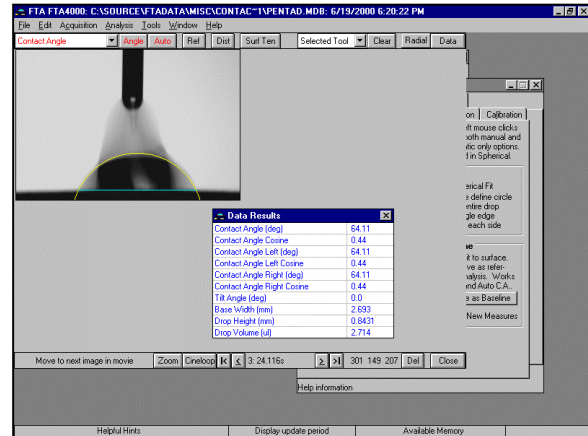


Spreading on Resin Coated Aluminum

June 19, 2000

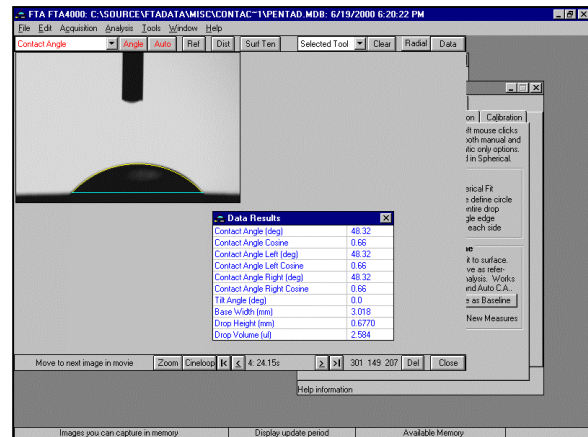
This sample exhibited an equilibrium water contact angle of zero degrees, but the spreading is not instantaneous. The FTÅ200 can measure this spreading time. The following figures illustrate the drop profile at various times. The resultant contact angle and base width is also graphed. Differing amounts of surfactant in the resin would cause the drop to spread at different rates. To do comparative work of this nature, the drop volume should be standardized to within, say, 10% on each sample. The pump forms a pendant drop on the tip which is allowed to grow until its bottom touches the surface, at which time the drop detaches from the tip and forms a sessile drop.



Drop Detaching from Tip.

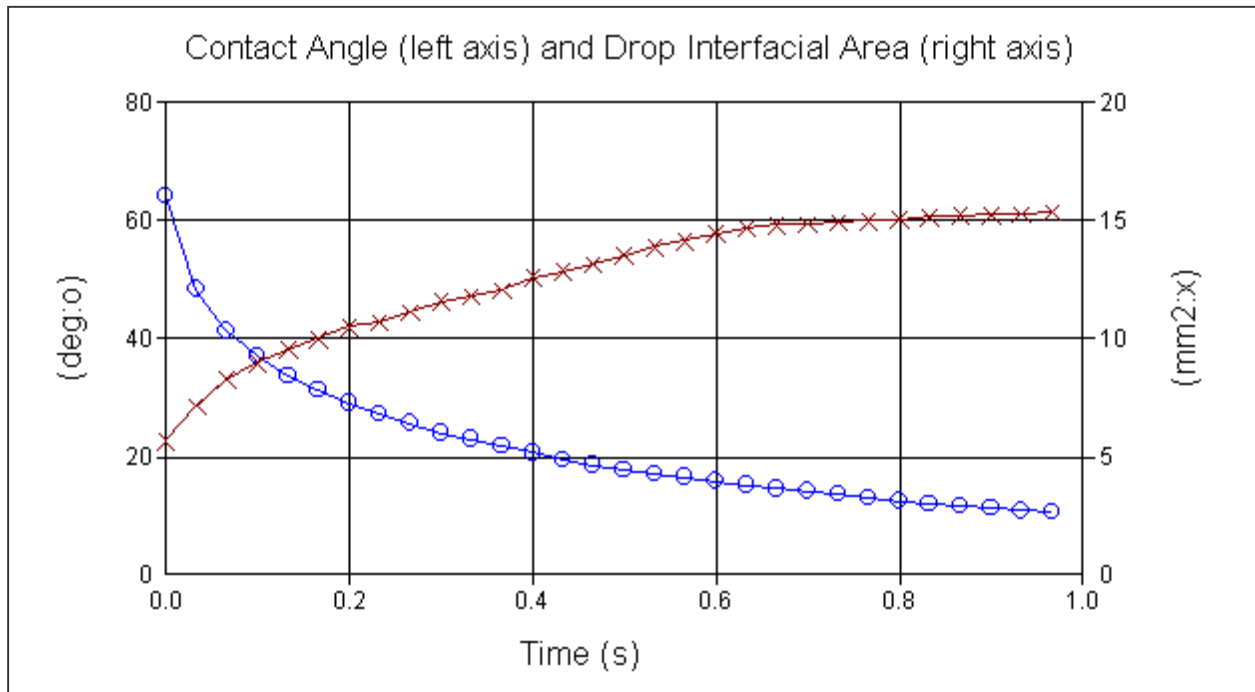
The first image shows the drop actually detaching from the dispense tip. The contact angle of 64.1° is measured with manual spherical mode.

The next image is 0.033s after the preceding one. The sessile drop is formed and is stable. Automatic spherical mode used to measure the contact angle in this and subsequent images.



1/30 second after Detachment.

The graph on the following page shows the contact angle and drop area data during the initial second of spreading after drop touch off. The decrease in contact angle corresponds to the increase in base area as the touched-off volume of liquid spreads. While the initial contact angle was approximately 64° , it ultimately decreased to 5° in 10s.



Contact Angle and Interfacial Area (Drop Base Area) In Time