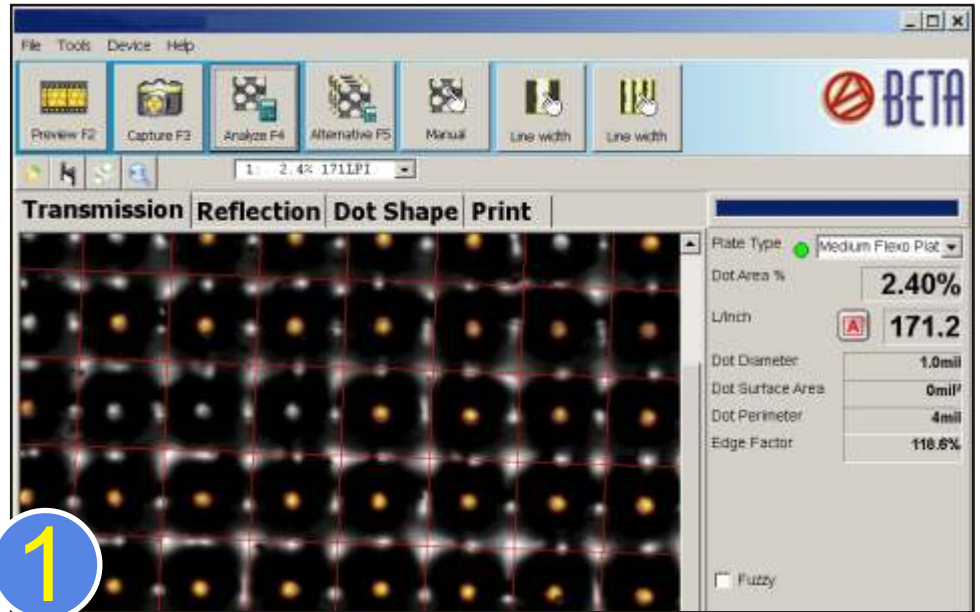


## Betaflex Pro 2D Transmission and 3D Dot Structure Analysis

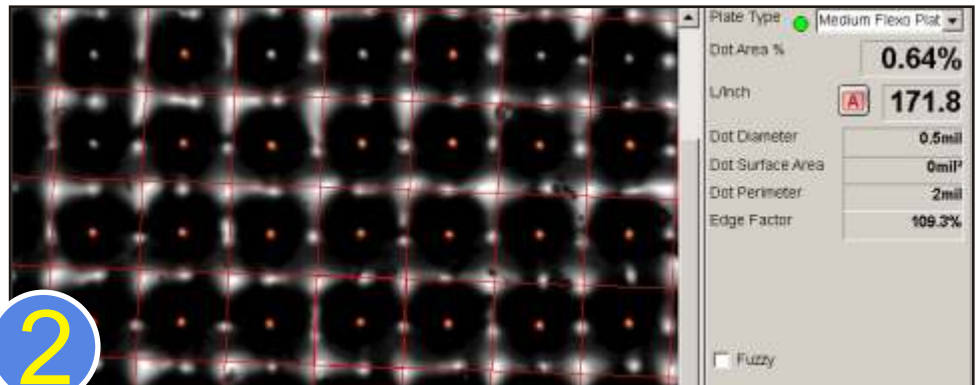
**Figure 1** The conventional 2D view of a highlight dot in Transmission Mode is easily recognized, captured, and analyzed for Dot Area and Screen Ruling.

Modern RIPS and high-resolution imagers are now generating much smaller dots to meet the demands of higher quality and better tone reproduction. A highlight dot of 2.40 percent no longer acceptable.

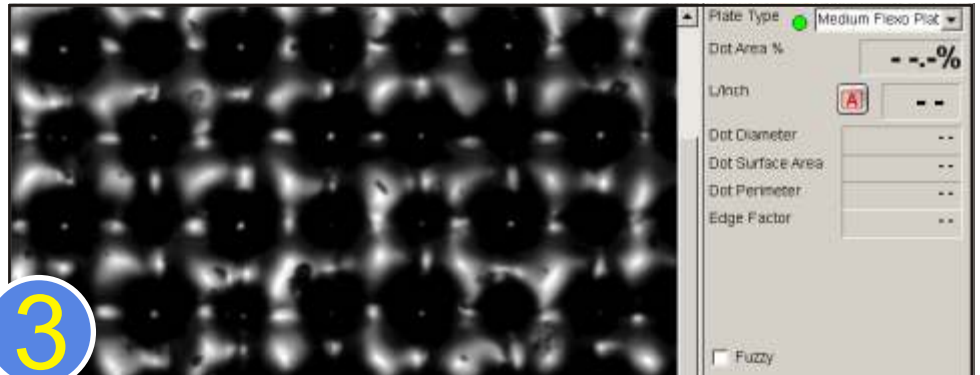


**Figure 2** Nearly four times smaller, this dot is still automatically measured in the conventional 2D Transmission mode. The perfectly regular layout and uniform size of the dots indicates that conventional AM screening is still in use.

But even finer highlight gradation can be created with current RIPS and high resolution hardware.

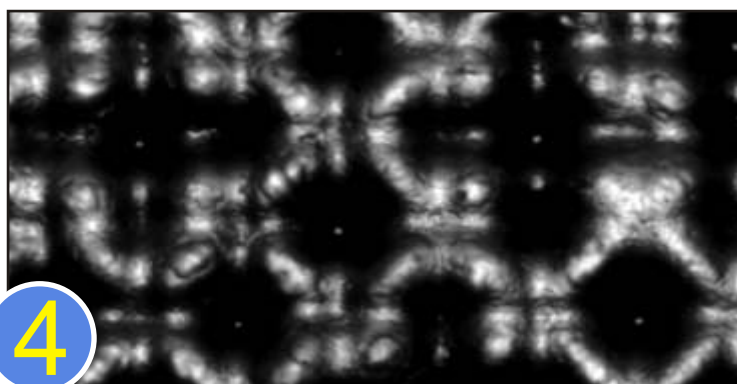


**Figure 3** Dot sizes are no longer consistent, nor automatically detectable or measurable in 2D Transmission mode as advanced screening algorithms are applied.



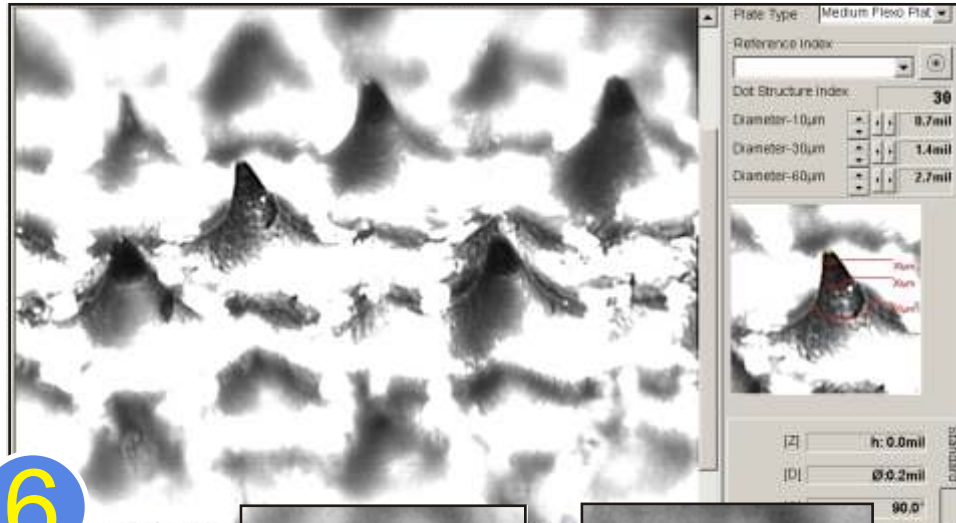
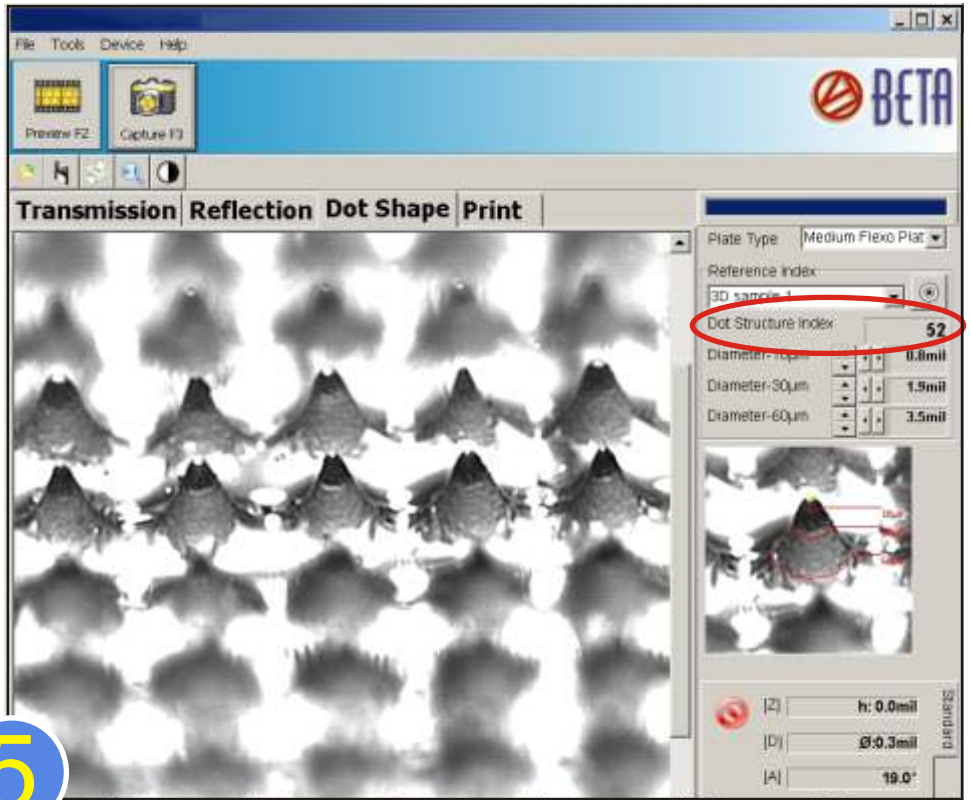
**Figure 4** The last step on the tone scale shows evidence of stochastic screening and support dots.

A completely different measuring technique needs to be used if process control is to be maintained with this plate. There is no meaningful dot area to be measured; the shape and structure of the dot are now the most important parameters.

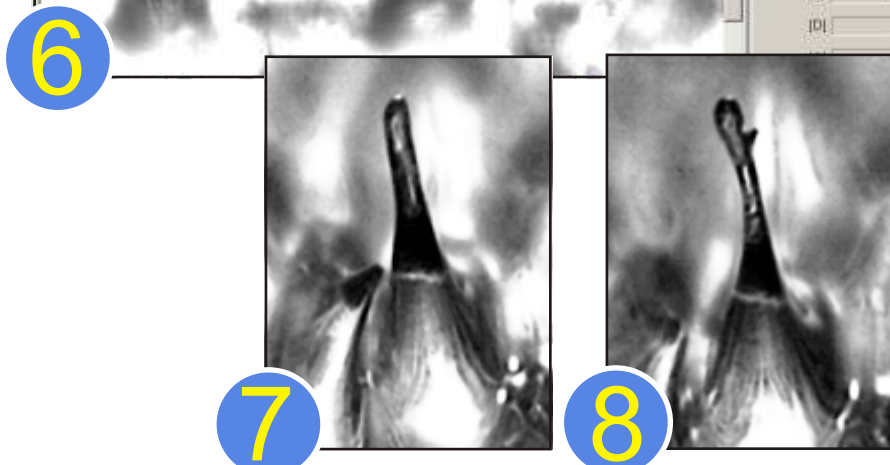


**FIGURE 5** Small, conventional highlight dots are captured in the 3D Dot Shape Mode. Their variation in size can be seen as the RIP begins to reduce the printing dot area.

The Dot Structure Index of 52 is calculated based on the diameter of the shoulder at the three locations indicated. Reference values and comparison images are created and stored on the system to guide the operator in creating consistent plates with dots that are becoming too small to see.



**FIGURE 6** As the shoulder of the dot is reduced by the RIP, the Dot Structure Index decreases, alerting the operator to the possibility of creating unstable dots.



**FIGURES 7 and 8** As RIP parameters are adjusted, the 3D imaging function detects dot structures that will not print consistently as plate wear, cleaning, and other activities progress.

Being clearly visible and easily measured, these effects can now be controlled in a systematic manner to maximize print quality reduce plate failures.