

TONER PARTICLES SIZE AND SHAPE

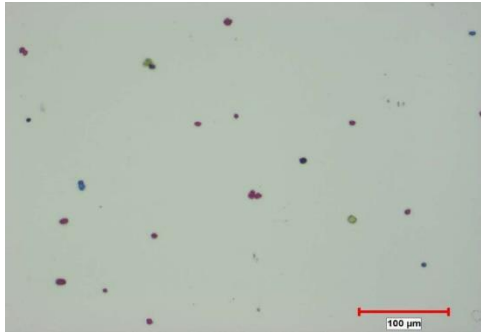


Figure 1: The toner particles viewed at 200X.

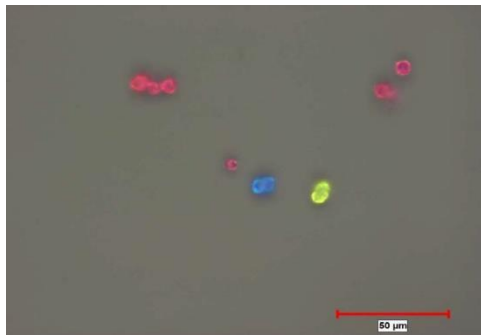


Figure 2: The toner particles viewed at 500X.

Sample Description

Loose toner powder sampled from different areas of a commercial printer is submitted to detect particles and measure the size and sphericity.

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analysis system to discriminate and measure the particles in the field of view.

Procedure

The images were captured using the multi-layer grab to ensure all particles were in focus. Vision PE detected particles on the slide based on differences in saturation level. Any particle smaller than 3 μm is automatically rejected. Agglomerations were detected and excluded from the measurements. Particles were measured for their equivalent diameter and their sphericity.

Equipment

Image Analysis System:	Clemex Vision PE
Microscope:	Leica DM6000M
Camera:	Clemex L 1.4MP Color
Magnification:	500X
Stage:	Motorized Marzhauser 215x100 mm

Results

From the current analysis, the average diameter of the particles was 7.2 μm . None of the toner particles was a perfect sphere, rather the roundness varied between 0.31 and 0.91, for an average of 0.7. Final results can be printed directly from Clemex Vision. Raw data are linked to their respective objects for validation purpose. Raw data can also be exported in Excel format.

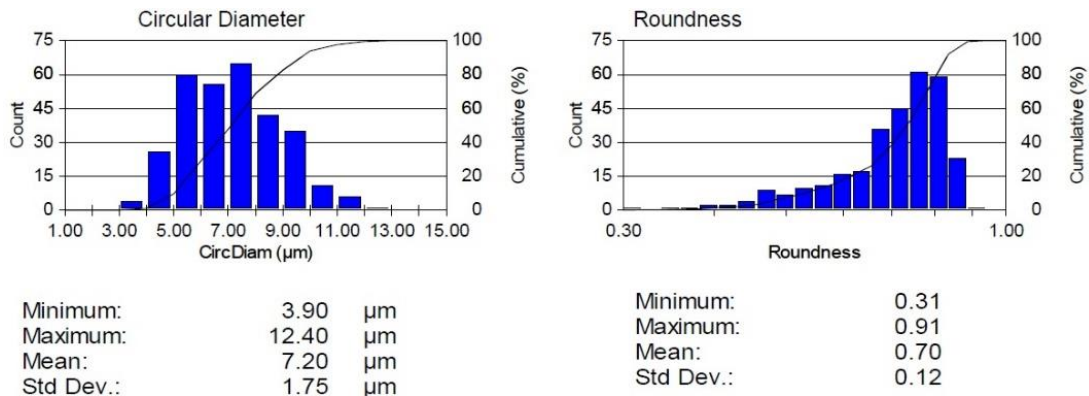


Figure 3: Circular diameter and roundness of the measured toner particles.