

Lumina Brass Sample

Lumina Brass is used in the color industry as a pigment that gives a metallic effect to plastics, inks and coatings. The color, size and shape of the individual particles are extremely important for assessing processing properties such as flowability and adherence as well as final product properties such as brightness and reflectivity.

The object of this analysis is to measure the percent of each of the two colored phases on each individual particle. Length and Sphericity are also measured. The analysis is performed at 200X using a color camera and transmitted light (Fig.1).

First the particles are detected in the blue bitplane by grey thresholding followed by a binary function to separate the touching particles; the individual particles are each assigned a bitplane to validate the separation (Fig.2). Secondly the green and pink phases are detected by using color thresholding (Figs. 3 and 4) and the relative area of the two phases is measured for each individual particle. Finally on the blue bitplane, the sphericity and length are measured for each particle. The report is generated and printed in pdf format.

Colored Particles Images and Results:

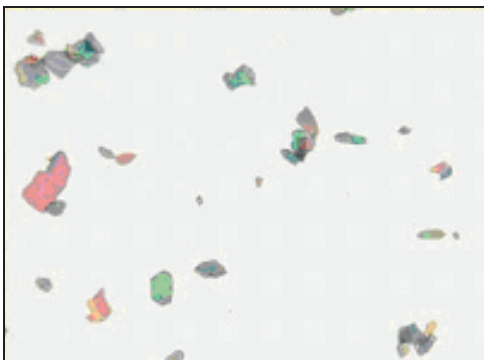


Fig. 1 : Typical original image.200X.



Fig. 3 : Pink phase in red bitplane.

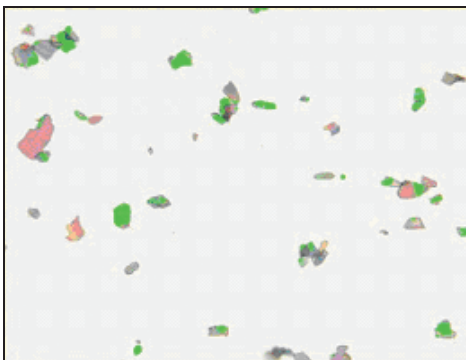


Fig. 2 : Separated particles.

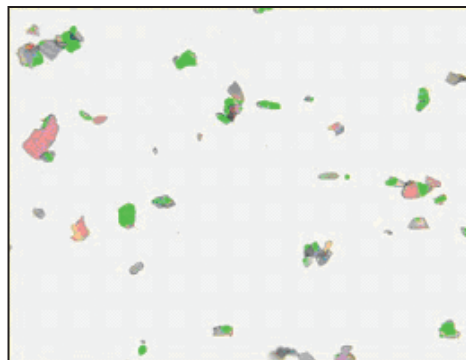


Fig. 4 : Green phase in green bitplane.

Lumina Brass Sample; Results. 4859 particles in 16 fields were analyzed at 200X.

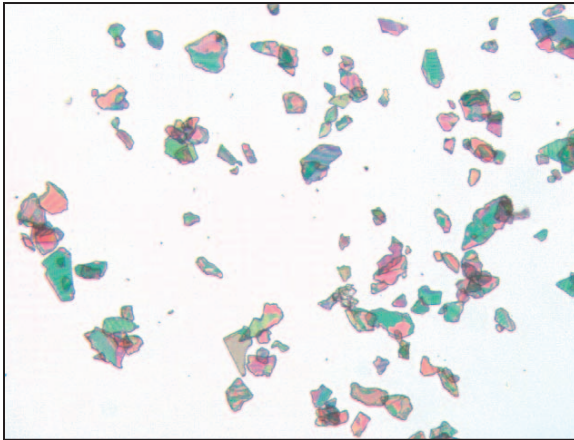


Fig. 5: Typical field.

	Length (microns)	Sphericity (ratio)	Child Area% (green)	Child Area% (pink)
Minimum:	0.96	0.32	0.00	0.00
Maximum:	77.43	1.00	99.84	94.29
Mean:	17.85	0.71	18.03	13.09
Std Dev.:	9.71	0.11	25.26	22.04

Fig. 6: Results Table

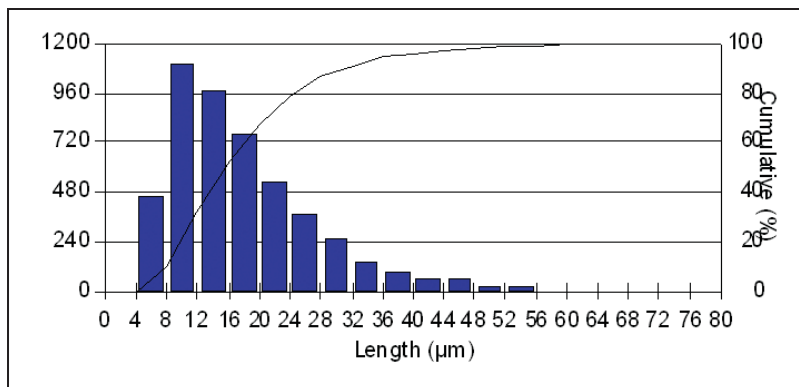


Fig. 7: Length distribution of particles.