DENDRITE ARM SPACING IN COPPER LEAD ALLOY

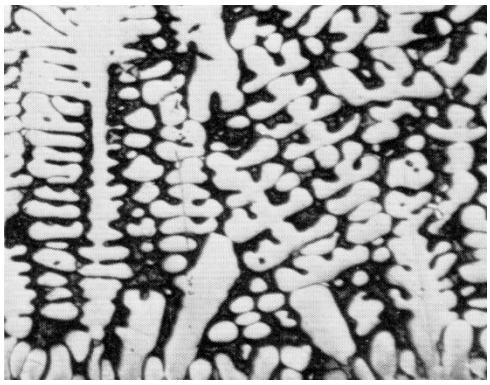


Figure 1: *Original submitted image for analysis.*

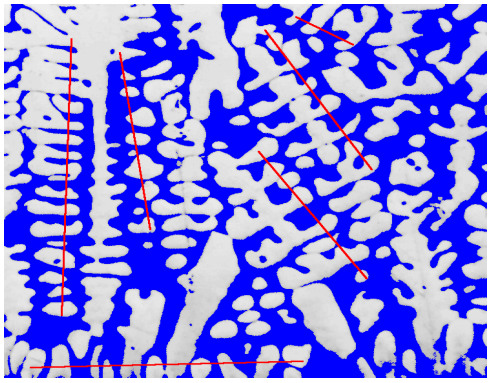


Figure 2: *The lead matrix is binarized into blue bitplane. The user can draw some straight lines through dendrite arms to be measured.*

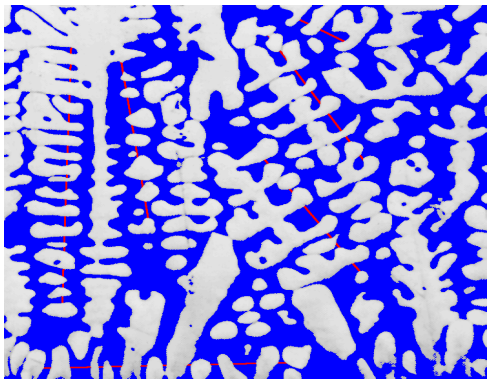


Figure 3: *Binary operations are applied to keep only the part of the lines that cross the lead matrix (blue).*

Sample Description

One image of dendritic copper lead alloy at 100X, in tiff format.

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analysis system can measure average dendrite arm spacing.

Procedure

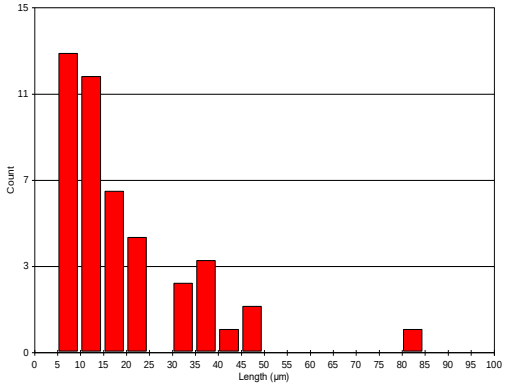
The matrix of lead in original image was binarized into blue. A Pause Line instruction was then executed allowing the user to draw a straight line through dendrite arms. After the binary operations, only part of the lines that crossed the lead matrix were measured.

Equipment

Image Analysis System: Clemex Vision PE

Results

Well polished surface is essential to minimize the influence of scratches when identifying the cell intervals. Analyzing multiple fields could produce more representative results.



Minimum	5.7 µm
Maximum	80.8 µm
Average	19.8 µm
Std Dev.	14.5 µm

Figure 4: *Length distribution of the resulting lines.*