

## Thermal Spray Coating Image Analysis Report 244b

### Sample Description

Mounted sample of thermal spray coating.

### Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to obtain a thickness distribution of the coating.

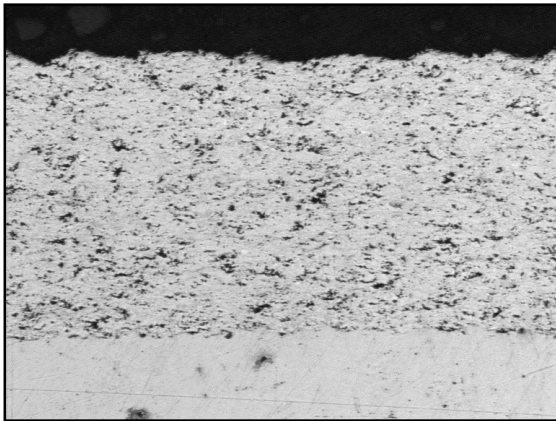


Figure 1: Original gray image.

### Procedure

The Kirsch gray operator outlines all contrasting boundaries. In this case, the effect is to highlight the coating.

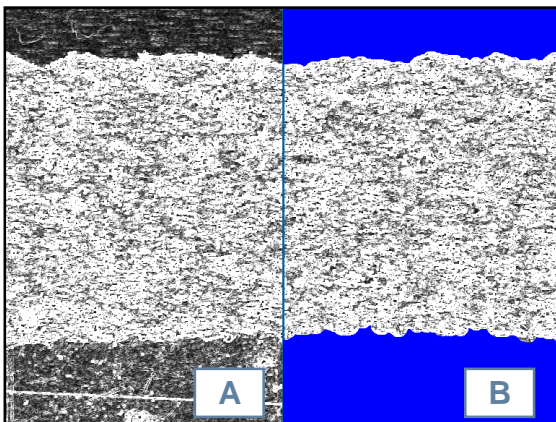


Figure 2: a) The Kirsch gray transformation applied to the original image. b) Binarization in blue of the modified image by Gray Thresholding. The mount and the substrate appear in blue.

### Procedure (continued)

A Square Grid was combined (Boolean AND) with the detected coating to produce measuring lines. Measuring their length gives a thickness distribution of the coating.

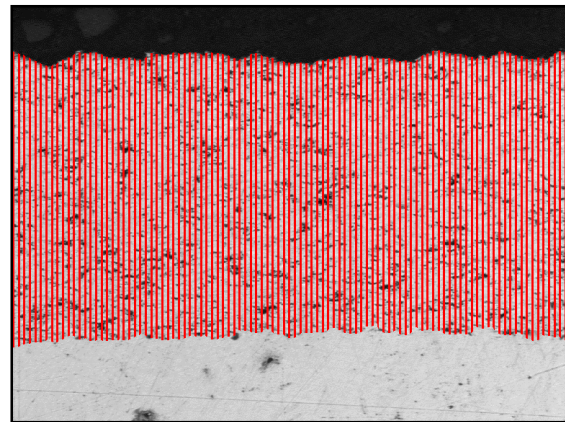


Figure 3: Measuring lines overlaid against the original image.

### Results Summary

	Length $\mu\text{m}$
Minimum	305.6
Maximum	483.0
Mean	411.8
Std Deviation	39.4

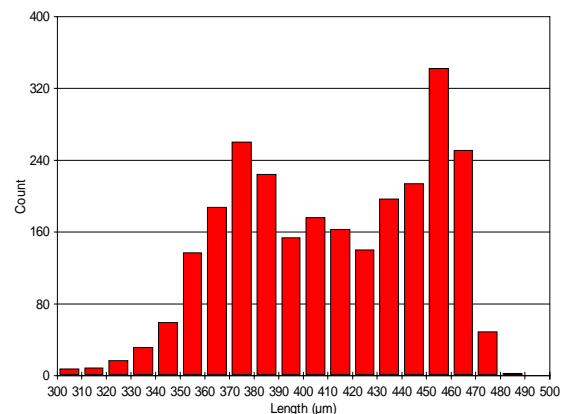


Figure 4: Thickness distribution of the coating (length distribution of the measuring lines).

### Equipment

Image Analysis  
**System:** Clemex Vision SE  
**Camera :** Sony XC-77 CE  
**Microscope:** Nikon Epiphot 200, 10X