

## Area Percentage of Phases Image Analysis Report 278b

### Sample Description

Polished NdFeB sample.

### Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to discriminate and measure the area percentage of each phase in the field of view.

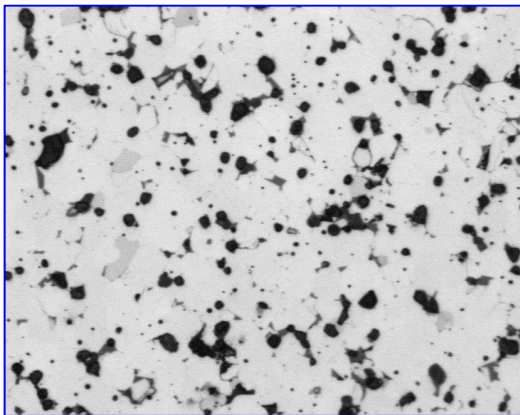


Figure 1: Original image at 1000x.

### Procedure

The original image was improved by a Gray Delineate.

Each phase was linked to a different bitplane according to its gray level using Gray Threshold (fig. 2).

The artifacts were removed using binary instructions (Fill, Trap, Chord Size, Invert, Opening, Disconnect, Boolean).

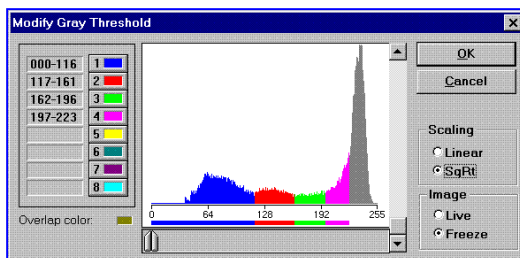


Figure 2: Gray Thresholding of the improved gray image.

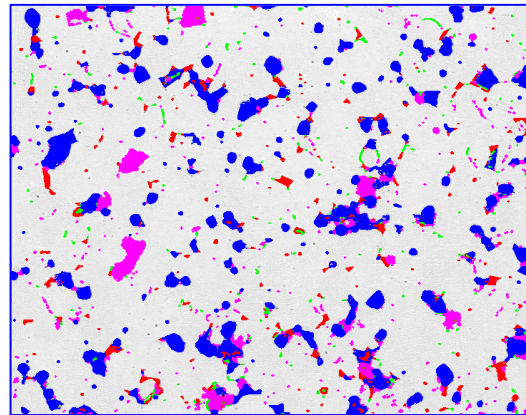


Figure 3: Final detected phases superimposed over the original image.

### Results Summary

	Area %
Black	53.57
Dark Gray	11.67
Gray	6.71
Light Gray	28.43

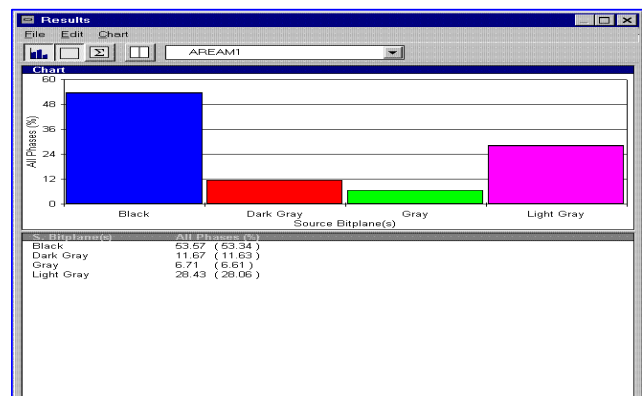


Figure 4: Area percentage of each phase compared to the field of view.

### Equipment

#### Image Analysis

**System:** Clemex Vision SE  
**Camera:** Sony XC-77 CE, B&W (728 x 574)  
**Microscope:** Nikon Epiphot 200  
**Objective:** Nikon 100x (Mag.: 1000x)  
**Motorized Stage** Marzhauser EK8B-S1