

Area Percentage of Phases Image Analysis Report 220c

Sample Description

Aluminum sample.

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to discriminate and measure the percentage of eutectic silicon and chine script phases in the field of view.

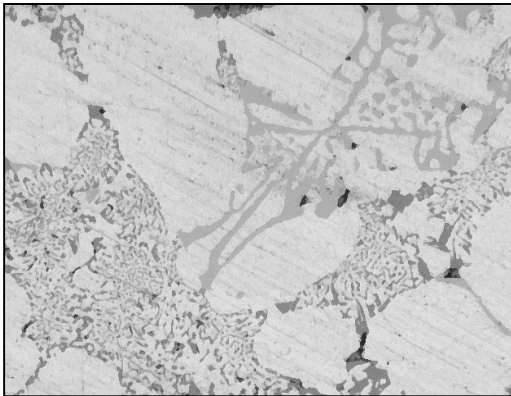


Figure 1: Original image.

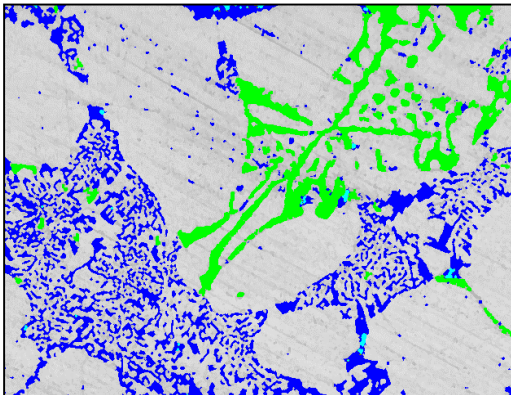


Figure 2: The phases were binarized by Gray Thresholding and some binary transformations were necessary to obtain this final binarization. Silicon appears in blue, chine script in green and pores in cyan.

Results Summary

	Area Percent (%)
Silicon	13.48
Chine Script	7.54
Pores	0.22

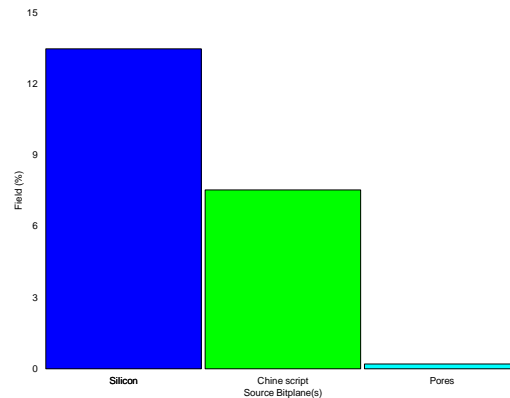


Figure 3: Area percentage of silicon, chine scripts and pores.

An area with as few scratches as possible was selected for this analysis. Despite this, some parts of deep scratches were detected as silicon particles. This lead to a slight overestimation of the silicon area percentage.

Equipment

Image Analysis

System: Clemex Vision SE
Camera: Sony DXC-950
Microscope: Nikon Optiphot 2
Objective: Nikon 40x (Mag.: 400x)
Stage: Motorized Marzhauser