

EVO® - Five Segment ZEISS Backscattered Detector

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Date: September 2008

Introduction

The EVO® MA and LS series of scanning electron microscopes utilise state of the art silicon detector technology to provide high contrast images for every application field.

The new EVO® five segment backscattered electron detector (5S-BSD) is compatible with imaging in High Vacuum (HV), Variable Pressure (VP) and Extended Pressure (EP). The 5S-BSD builds upon the strengths of the Zeiss 4 segment detector by including an additional fifth detector element. This enlarged detection area provides improved signal collection and offers enhanced images with new contrast modes.

The 5S-BSD provides both compositional and enhanced topographic imaging. The fifth, off axis, segment presents topographical information (shadow mode), whilst the four axially symmetric segments deliver compositional information.

The 5S-BSD is a universal detector system able to provide imaging solutions for all specimens in all modes.

Application areas

Compositional imaging

- Metallurgical sections
- Geological sections
- Complex materials

Semiconductor

- Ball grid array
- Printed circuit board
- Bond pad

Topographic imaging

- Surface roughness
- Surface morphology



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Figure 1:
Dime coin
Compositional mode



Figure 3:
Defect in a steel sheet
Compositional mode

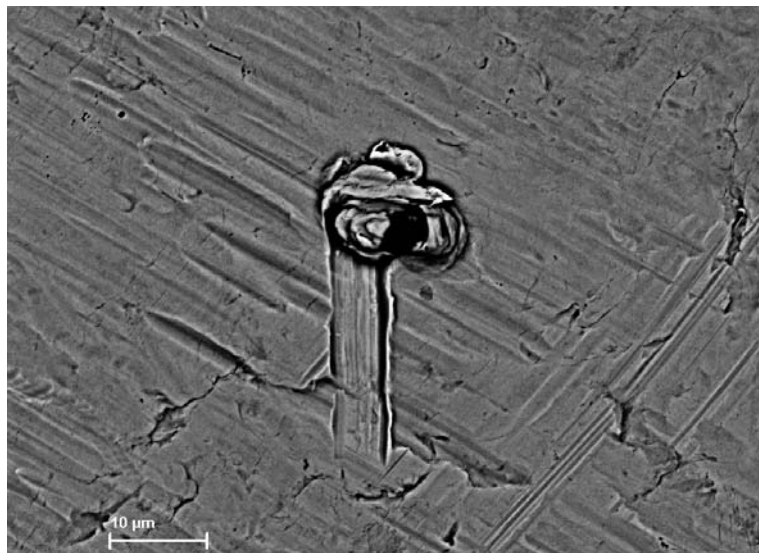


Figure 5:
Tissue paper
Compositional mode

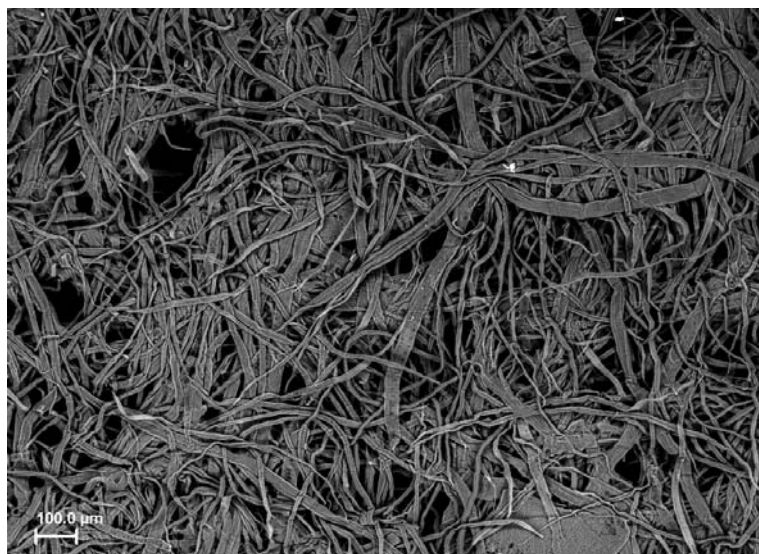




Figure 2:
Dime coin
Shadow mode with
only the off axis segment
selected

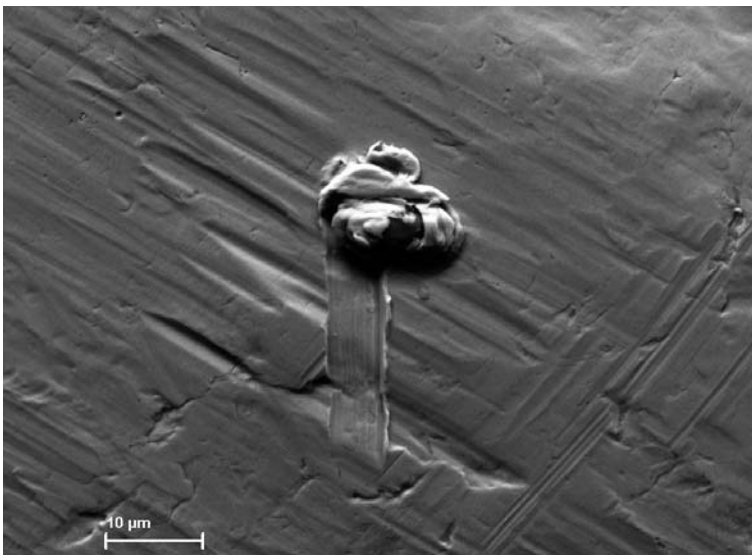


Figure 4:
Defect in a steel sheet
Shadow mode with
only the off axis segment
selected



Figure 6:
Tissue paper
Shadow mode with
only the off axis segment
selected

Essential specifications

The five segment BSD is compatible with all EVO® MA and LS series microscopes

- Mounting: Lens mounted
- Compositional
- Topographic
- Shadow mode

EVO® MA and LS series



EVO® MA 10



EVO® MA 15



EVO® MA 25



EVO® LS 10



EVO® LS 15



EVO® LS 25

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