

Date July 25, 2023
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Subject XRD Measurement Zero Diffraction Plates

Micheal Kwestarz
El-Cat Inc.
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Dear Micheal Kwestarz,

We are pleased to report our X-ray diffraction (XRD) measurements on the 2" HZ02d - Zero Diffraction Plates for XRD without pocket. The wafers supplied have the following specifications:

Material FZ Silicon

Diameter: 50.8 ± 0.5 mm,

Thickness: $1,550 \pm 25$ μ m,

Surfaces: Both-sides-polished

We have measured the Zero Diffraction Plates supplied by you on a Bruker D8 Discover equipped with a Cu-Anode (0.1542 nm) X-ray source in line focus (Bruker AXS GmbH, Karlsruhe, Germany) and compared this to a reference Zero Diffraction Plate supplied by us. This X-ray source was operated at a power of 40 mA x 40 kV = 1600 W. The detector used was a 192 silicon strip LYNXEYE-XT detector operated in High-Resolution 1D mode with an opening of 2.9 degrees. We performed the measurements in Bragg-Brentano geometry with variable slits on both the primary and secondary side of the diffractometer, yielding a constant footprint of 6 mm. The 2θ range scanned was from 7 to 90 degrees in steps of 0.02 degrees.

Based on the measurements (see Figure 1), we conclude that there is no significant difference in the background of the Zero Diffraction waver supplied by El-Cat inc. and our reference wafer.

Yours Sincerely,



dr. ir. drs. Lars J. Bannenberg

Attachment: XRD Measurement on zero diffraction plates.

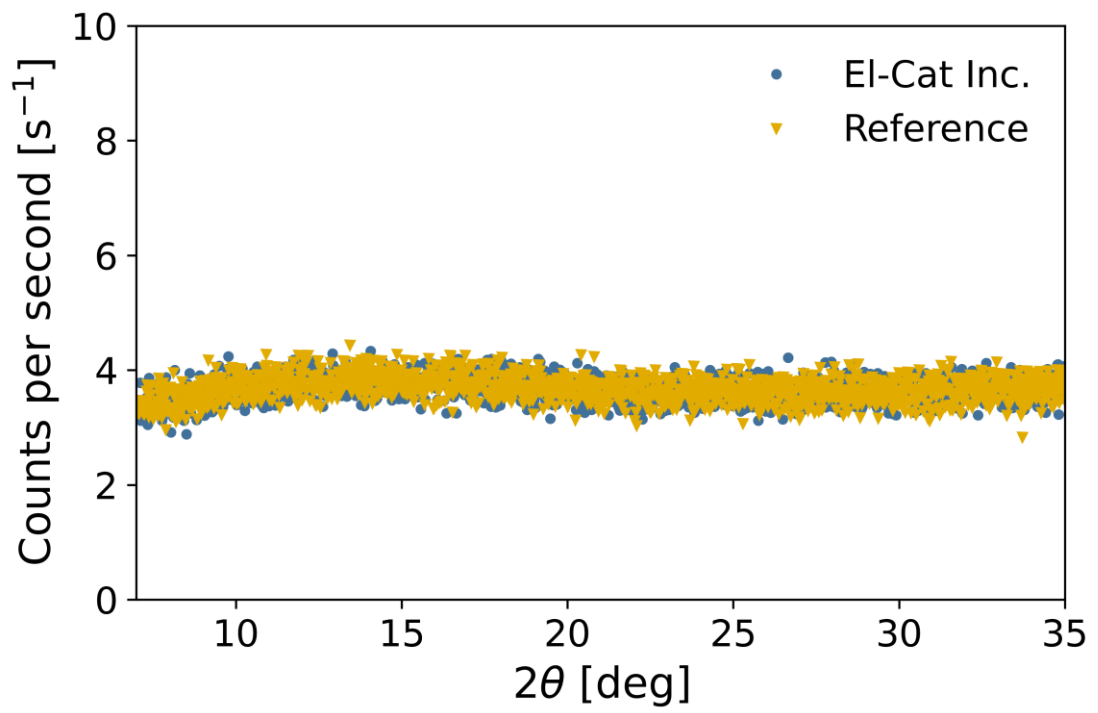


Figure 1 X-ray diffraction measurements (0.1542 nm) on the zero diffraction plates.