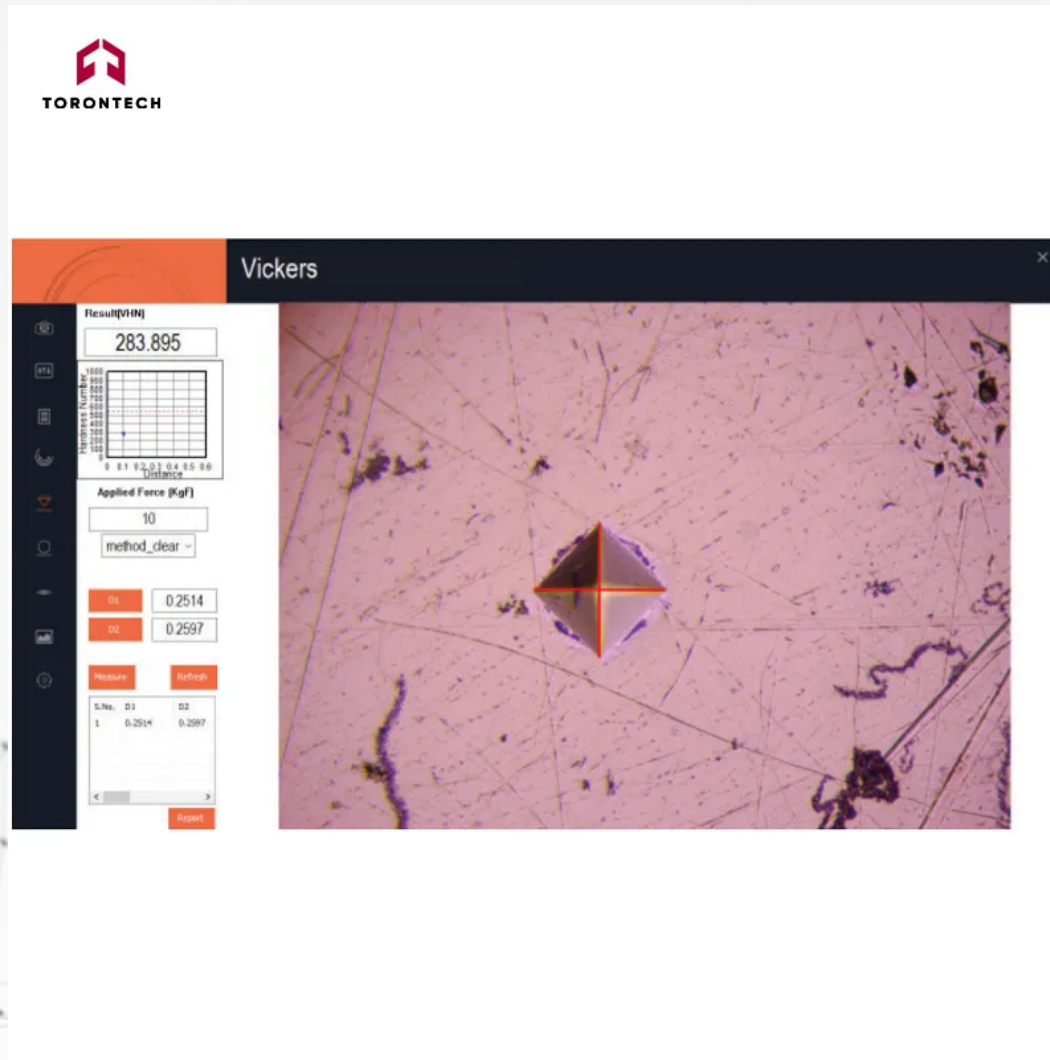


HARDNESS IMAGE ANALYSIS SOFTWARE - TORONH™ -PRO



Hardness Image Analysis Software - ToronH™-Pro is a next-generation solution designed to simplify image analysis for scientists and researchers. Featuring a single-window interface, it offers a user-friendly and efficient workflow.

APPLICATIONS

Hardness Image Analysis Software ToronH™-Pro is compatible with a wide range of capture cards, cameras, and microscopes, providing flexibility and independence in setup. It supports both grayscale (8-bit) and color (24-bit) images, allowing multiple images of any size to be opened and displayed simultaneously for analysis or comparison.

Hardness Image Analysis Software ToronH™-Pro supports popular image formats such as BMP, JPEG, TIFF, PNG, GIF, and PSD. Live images can also be viewed and captured directly within the platform.

Built in a Windows environment, the software enables quick transfer of graphs and charts into other Windows-based programs like Microsoft Word, Excel, and other applications, making it ideal for generating reports and presentations.

Hardness Image Analysis Software ToronH-Pro™

THEORY & METHOD

Camera

Users can choose from various display and capture sizes, and adjust live image settings such as white balance, brightness, contrast, hue, and saturation in real time. Once the settings are configured, the image can be captured and saved to a designated folder for further analysis.

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Calibration

Calibration should be carried out on all microscope objectives where a digital camera is installed. It must be done only after all hardware components are securely in place. If any part is readjusted or replaced, the calibration process should be repeated.

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Manual Vickers

The Vickers hardness test is an indentation method that uses a square-based diamond pyramid with an angle of 136.5° between opposite faces at the vertex. The indenter is pressed into the surface of the test specimen, and after the force is removed, the lengths of the diagonals of the resulting indentation are measured.

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Automatic Vickers

The Vickers hardness test is an indentation method in which a square-based diamond pyramid, with an angle of 136.5° between opposite faces at the vertex, is pressed into the surface of a test specimen. After the applied force is removed, the lengths of the diagonals of the resulting indentation are measured.

Hardness Image Analysis Software ToronH-Pro™

Manual Brinell

The Brinell hardness test is an indentation method in which a hard metal ball is pressed into the surface of a test specimen. After the force is removed, the average diameter of the resulting indentation is measured.

Hardness Image Analysis Software ToronH-Pro™

Automatic Brinell

The Brinell hardness test is an indentation method in which a hard metal ball is forced into the surface of a test piece. Once the force is removed, the average diameter of the resulting indentation is measured.

Hardness Image Analysis Software ToronH-Pro™

Manual Knoop

The Knoop hardness test is an indentation method in which a rhombic-based diamond pyramid, with a longitudinal edge angle of 172.5° and a transverse edge angle of 130° , is pressed into the surface of a test specimen. After the force is removed, the length of the long diagonal of the resulting indentation is measured.

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Automatic Knoop

The Knoop hardness test is an indentation method in which a rhombic-based diamond pyramid, with an included longitudinal edge angle of 172.5° and a transverse edge angle of 130° , is pressed into the surface of a test specimen. After the force is

removed, the length of the long diagonal of the resulting indentation is measured.

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Settings

The Settings module is designed to configure essential parameters when the software is installed for the first time. It provides options to select ISO or ASTM standard calibration, customize the report format, and define various parameters for printed images in reports. Once configured, analysis can be performed with a single click. All settings are saved and remain in effect until you choose to update them. Routine changes are not required.

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Reporting Data

A preview of the report is available in this module before printing.

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Saved Reports

All reports are saved to a designated folder and can be retrieved at any time in the future.

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