

AMH43 Automatic Hardness Testing

AMH43 Automatic Hardness Testing System

Featuring live image tracing from the pioneers of automatic hardness testing.

Designed for a number of applications including case-depth analysis and coating hardness, the AMH43 easily measures impressions of various surface conditions—including scratched, etched, or unevenly illuminated surfaces.

A patented visual PANOPTIC method automatically traces the sample edge of a live image, enabling the positioning of indents and patterns directly onto the overview image of a part. This unique sample reconstruction process with advanced image-recognition technology allows you to analyze information unavailable with limited threshold-based methods. The tracing speed also shortens set-up and overall analysis times by up to 50%—depending on the application—showing significant time savings. Additional features include an optional Advanced Analysis Module with complete impression coverage of a sample, as well as pattern support for welding studies. An available Color Hardness/Contour Map displays sample hardness and location with a "color" representation of hardness variances. The new Advanced Image Placement Module automatically searches for clean areas to place indentations while unattended by the operator.

The AMH43 supports both microindentation and Macro/Vickers hardness testing in fully automatic and semi-automatic configurations for greater precision, accuracy, and efficiency. For microindentation hardness testing, the LM-Series performs indentations from 1 gf to 1000 gf with Vickers, Knoop, or dual indenters. The LV-Series can perform Macro/Vickers indentations from 1 kgf to 50 kgf, or from 0.3 kgf to 30 kgf.

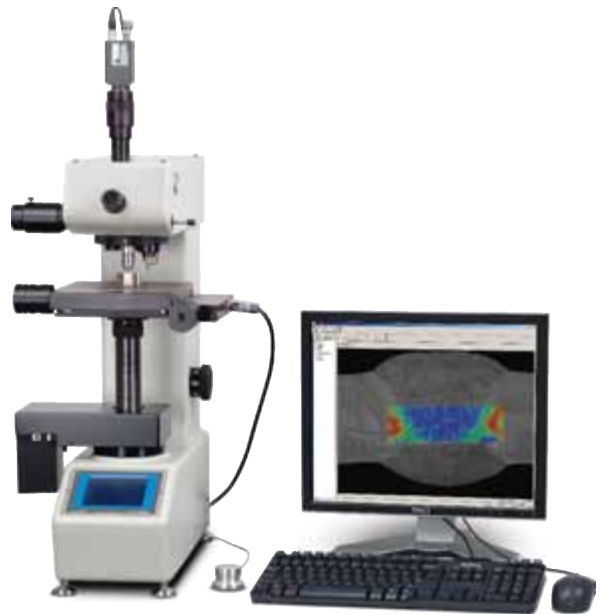
Additional tools add convenience to your work, such as a configurable user interface, professional report designer, and macro language. Smartly designed vise-lock sample holders quickly level mounted parts, free of protrusions above the sample surface.

The AMH43 is Ideal For:

| | |
|---------------------|------------------|
| Case-Depth Analysis | Coating Hardness |
| Surface Analysis | Powdered Metals |
| Weld Profiles | Fasteners |
| Decarburization | Much More |



AMH43 Microindentation Testing

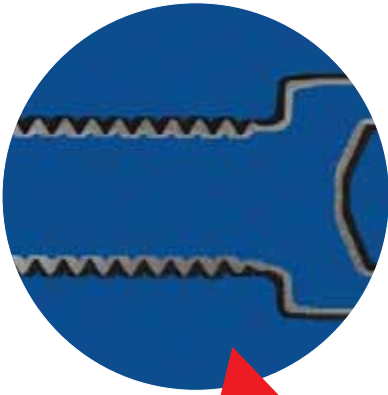


AMH43 Micro/Macroindentation Testing

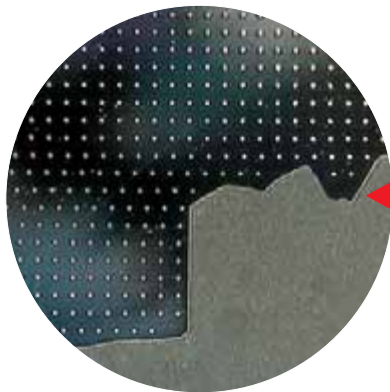


The AMH43 supports all standard loads for microindentation and Macro/Vickers hardness testing. The AMH43 conforms to ASTM E-384 08 and E-92 03 for micro/macro hardness testing.

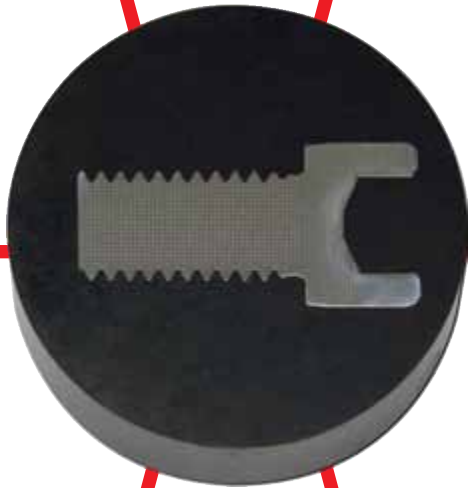
During the first step of the automated hardness testing process, the fastener is automatically traced using the AMH43's patented PANOPTICS visual method.



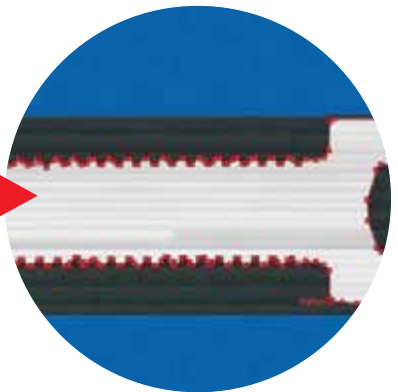
After tracing, the inside of the fastener is automatically filled, exposing the entire sample.



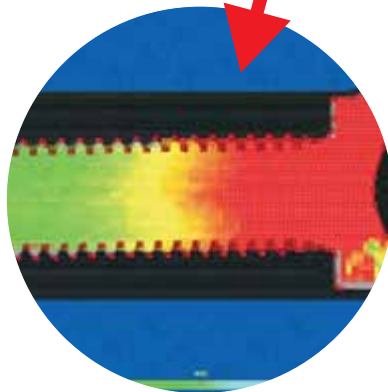
This close-up image of the fastener after completion of the AMH43 process shows the impression locations.



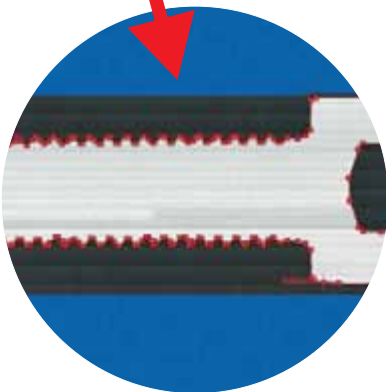
An indentation pattern is then automatically drawn around the sample edge.



Once the sample's interior is filled with impressions, a hardness test is automatically run without operator interaction. A color hardness contour map is created, providing a visual example of the varying levels of hardness.



The interior of the sample is then automatically filled with impressions. Additional options are also available for customization, including the capability to follow ASTM methods for spacing.



The AMH43 supports all standard loads for microindentation and Macro/Vickers hardness testing.

Accessories and Equipment

A wide variety of metallographic/optical equipment and accessories are available for every application.



IA44/PAX-it™ Image Management System

Ideal for the measuring, archiving, and image analysis of a variety of materials.



Inclusion32 Software

LECO's Inclusions32 software for cleanliness of steel analysis.



Sectioning Machines

Versatile sectioning machines offer both linear and radial feed configurations in efficient benchtop and floor models.



GPX-Series Grinder/Polisher

Variable wheel base and speeds; Optional 4-bottle fluid dispenser.



SS-1000 Grinder/Polisher

Grind up to six 1.25-inch samples simultaneously. Rugged 3/4 HP motor and variable-speed base.



PR-4X Mounting Press

A variety of mold sizes with pre-programmed methods for various materials.



Hirox Digital Zoom Microscopes

Achieve magnifications of 1X to 7000X for the ultimate in image microscopy.



GX51/71 Inverted Metallurgical Microscopes

Ideal for meeting diverse inspection and research needs. Full range of accessories including digital cameras and software.



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Micro for reflected light microscopy; macro for stereo microscopes. Traceable to ISO 17025 through A2LA accreditation.

LECO Optical Service: Routine maintenance extends the life of your optical equipment.



Service

Available at our state-of-the-art facility in St. Joseph, Michigan.

Repair

Complete repair and overhaul of your optical equipment by factory trained service specialists.

Calibrations

Calibrations are A2LA accredited in the U.S.A. and Canada (certificate #1845.01; copies available at www.leco.com or call 269-982-2385).

Technical Support

Call LECO Optical Service if you have any questions or problems (269-982-2385).



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