

CORPORATE DEVELOPMENT

The History of Yamamoto Scientific Tool Laboratory is a history of pursuing the ultimate hardness blocks with zero variance in hardness measurements.

The standard hardness blocks, or hardness reference blocks, we produce are employed regularly by a wide range of users in the industrial world, which include leading steelmakers and automobile manufacturers in Japan, as well as university laboratories and governmental research institutes.

Because it underpins the safety of industrial products, hardness testing demands strict accuracy. Even a single hair beneath a test specimen can result in a considerable difference in hardness measurements. So, the measuring accuracy of a hardness tester needs to be regularly monitored to detect any deterioration, and this is accomplished using hardness test blocks.

Seventy years ago, Yamamoto Scientific Tool Laboratory was founded by Mr. Shoichi Yamamoto under the guidance of experts in metallic engineering, including Professor Kotaro Honda. Since then, the Company has worked to enhance the accuracy of hardness test blocks, under the corporate creed of "pursuing zero hardness dispersion."

Today, standard hardness blocks made in Japan enjoy an established reputation for the highest reliability in the world. It is no exaggeration to say that the history of Yamamoto Scientific Tool Laboratory is the history of hardness standard blocks in Japan.

However, we do not rest on our laurels, and continue to refine our technologies toward the ultimate goal of creating standard blocks with zero dispersion in hardness measurements.

- 1939 Successfully manufactured standard hardness blocks for the first time in Japan.
- 1952 Established Yamamoto Scientific Tool Laboratory Co., Ltd., as the world's first manufacturer specializing in standard hardness blocks in Funabashi City, Chiba Prefecture. Started mass-production of various standard hardness blocks.
- 1962 Started mass-production of Rockwell hardness blocks.
- 1965 Started mass-production of Shore hardness blocks.
- 1967 The founder Shoichi Yamamoto was awarded the Order of the Sacred Treasure, Gold Rays with Rosette.
- 1978 Gave a major presentation on the status of hardness blocks, which was followed by a rapid increase in demand from overseas customers.
- 1981 Started mass-production of Vickers hardness blocks.
- 1983 Started mass-production of Brinell hardness blocks.
- 1990 Developed Leeb hardness blocks.
- 1997 Acquired ISO 9000 certification. Started supplying HRC blocks to the U.S. NIST for use as a Standard Reference Material.
- 1999 Hiroshi Yamamoto, the Company's second president, received the Award of the Director-General of Science and Technology Agency.
- 2000 Hiroshi Yamamoto was awarded the Order of the Sacred Treasure, Gold and Silver Rays. Started supplying HR15N, HR30N blocks to the U.S. NIST for use as a Standard Reference Material.
- 2006 Developed a single crystal tungsten standard block for nanoindentation jointly with the National Institute of Material Science.
- 2012 Completed a new company building. Marked the company's 60th anniversary.
- 2015 Takashi Yamamoto, the Company's third president, was awarded the Prize for Science and Technology under the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology

RECOGNIZED GLOBALLY

Yamamoto Scientific Tool Laboratory (YSTL)'s hardness blocks have become global brands.

YSTL hardness blocks are used in a wide range of countries throughout Europe, the Americas, Australia, and Asia, due to their global reputation for superior quality, as well as their traceability to international standards. As a company with customers around the world, we will continue to promote the global development of our hardness block business by deepening international technological exchanges and building closer alliances with overseas distributors to expand our sales network.

PRODUCT GUIDE

Hardness uniformity of the world's highest level guarantees the high accuracy of test results

Accumulating material engineering, heat treatment, and other technologies involved in the manufacture of standard hardness blocks has made it possible for us to develop a range of related products.



Standard Hardness Blocks

Due to their high hardness uniformity, which has been achieved in Japan and is accepted around the world, and compliance with JIS/ISO standard values, YSTL standard hardness blocks are used worldwide as hardness blocks for the indirect verification of

hardness testers.

And, due to their high reliability, YSTL blocks are widely used in Japan and overseas for checking the accuracy, stability, and reproducibility of hardness testers and for their daily control.



Hardnester

Hardnester tools provide a way of measuring the hardness of a metal quickly and conveniently just by having it make contact with a test material.

These tools are especially useful when you want to know the rough hardness value of an item onsite where you cannot make precise hardness measurements with a hardness tester, or when you want to know the hardness of items that have irregular or complicated shapes and are difficult to measure using a hardness tester.



Standard Microstructure

This unparalleled Standard Microstructure set contains standard microstructure samples of as many as 170 metallic materials and heat-treated materials classified into seven groups.

The set comes with a guidebook on properties, details of heat treatment, and microstructure of each sample, which was prepared under the guidance of the Material Technology Education Society. As a result, it is suitable for educational use not only at educational organizations, but also at business entities and research institutions. This set has been applied extensively for studying the microstructures of metals, learning the procedures for developing microstructures, such as polishing and etching, and how to operate a microscope, and acquiring photographic skills, among others.



Standard Pieces for Spark Tests

The grinder sparks of steel materials vary considerably and subtly according to the contents of carbon or other alloy ingredients of a material.

This set of standard pieces for spark tests contains standard samples of representative 45 JIS steel types classified into three groups, and is useful for identifying the steel types of unknown test pieces and for educational purposes.



Charpy V-Notch Test Blocks

These are JIS-compliant high-accuracy standard blocks for verifying a Charpy V-Notch impact-testing machine. They are available in three energy levels—160 J, 100 J, and 30 J—for indirectly verifying impact testers.

QUALITY CONTROL

For perfect quality control, we will maintain top-level equipment for all stages of production

Standard hardness blocks have to meet many challenging requirements due to their important role in verifying the accuracy of hardness testing. First, the variance of hardness measurements across a block must approach zero. In addition, hardness measurements must remain constant over time. In every respect, YSTL hardness blocks offer unrivalled excellence and enjoy a reputation for being the best in the world, due to their ability to

guarantee the reliability of hardness testing. Production of these blocks is achieved with quality control systems we have perfected to maintain the accuracy of all manufacturing processes from selecting raw materials to heat treatment, machining, and inspection. Besides, we are continuing research and development to address cutting-edge materials and expand the scope of our products' applications.

