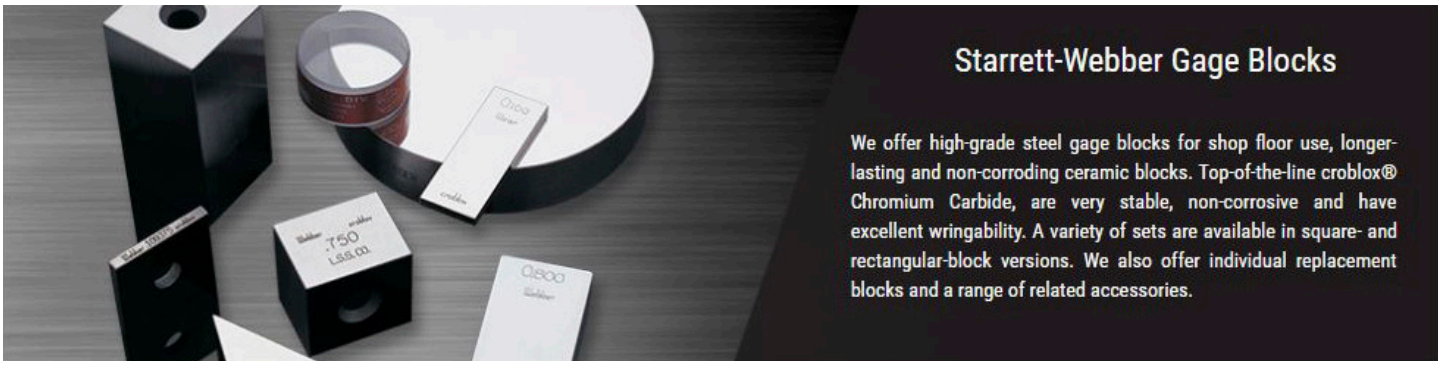

Major Product Characteristics

Precision gage blocks are the primary standards vital to dimensional quality control in the manufacture of parts. The four major characteristics that are necessary for a precision gage block are accuracy, surface finish, wear resistance and dimensional stability. Other factors are corrosion resistance, hardness, thermal conductivity and coefficient of expansion.

The base material used for gage blocks is crucial in meeting the above criteria. While many materials have been tried, the major types available today are:

Traditional high-grade steel gage blocks, which are generally used in shop floor environments
Tungsten Carbide gage blocks, which have the advantage of being harder and longer wearing than steel. (Not available from Webber.)
Ceramic gage blocks have an advantage over regular steel. They will outwear regular steel and they will not corrode
Chromium Carbide gage blocks are considered the top of the line – the finest available.
They outwear regular steel and ceramic. In addition, they will not corrode and are very stable and accurate, and have exceptional “wringing” qualities

croblox® Chromium Carbide: the superior gage block material. The reason that our Webber Gage Division emphasizes gage blocks made from Chromium Carbide is because they are the most stable measuring devices ever developed.

No one in the world except Starrett/Webber has produced the accuracy and stability of our croblox® Grand Masters. They were produced in 1955 of Chromium Carbide material to an accuracy within one millionth of an inch (.0000254mm) and have been checked periodically by the U.S. National Bureau of Standards and the U.S. National Institute of Standards and Technology (NIST) and have remained stable over this period.

Other Characteristics

Accuracy
All Starrett/Webber gage blocks meet or exceed all known specifications. The flatness, parallelism and surface finish necessary to achieve the required accuracies are the same as or better than government requirements.

Stability
Starrett/Webber gage blocks do not change in size except through normal wear. Gage block stability is a characteristic that our Webber Gage Division has mastered with over eighty years of experience. Our gage blocks have withstood the test of time.

Hardness
Steel blocks have a Rockwell “C” hardness of approximately 64-65. Chromium Carbide blocks have a Rockwell “C” hardness of 71-73, with an unusually fine, hard grain structure which gives them exceptional resistance to wear and abrasion.

Thermal Conductivity and Coefficient of Expansion
These are not important considerations when measurements are taken in temperature-controlled environments. This is primarily done when measuring to microinches or microns.

On the shop floor, where precision measurements are rarely finer than .0002” or 0.005mm, the coefficient of expansion of steel, chromium carbide and ceramic is so close as to be negligible.

Thermal conductivity is important on the shop floor. However, because it takes time for a gage block to move to the same temperature as the work piece, we recommend setting the gage block on a heat sink such as a large mass of metal that is at the shop environment temperature.

NVLAP Accreditation

National Institute of Standards and Technology
National Voluntary Laboratory Accreditation Program

Calibration Laboratories NVLAP Lab Code 200038-0
Webber Gage Division /
L.S. Starrett Co.
24500 Detroit Rd
Cleveland, OH 44145
Phone: (440) 835-0001
Fax: (440) 892-9555
Email Us
Dimensional NVLAP Code: 20/D03 Gage Blocks

NVLAP Accreditation does not constitute an endorsement of any product by NVLAP or any agency of the US government.

Comprehensive & Fast

Starrett-Webber gage block calibration is performed promptly – your gage blocks will be ready to be returned to you within a few days after we receive them.

The calibration process is as follows:

1) After receiving your gage blocks, we document their arrival, then clean each block to remove oil, grease and film. The case is also thoroughly cleaned.

2) Next, we lightly stone each block to remove small nicks and burrs. This does not guarantee that the blocks will wring if they are heavily nicked, scratched, or burred.

3) Your gage blocks are then individually compared with master blocks that are accurate to fractions of one millionth of an International Inch.

4) Starrett-Webber Grand Master Blocks are Starrett-Webber croblox® (solid chrome carbide). Our exclusive Grand Master Gage Blocks are calibrated directly by the U.S. National Institute of Standards and Technology (NIST).

5) Our automated system generates a Certificate of Calibration to ensure complete accuracy in recording gage block size. This certificate shows the deviation from the marked size of each block and marks those sizes which need replacing.

6) We will then provide a quotation for recommended replacements in the original material and croblox®, if applicable.

7) If replacements are not required, or if you have instructed us only to calibrate and return the set, the gage blocks are packed and returned to you with a Certificate of Calibration showing the “as found” readings.

8) If you authorize replacements, your Certificate of Calibration is marked to indicate which blocks were replaced and the date of replacement. At your request, we can issue an “as found” and an “as left” certificate for an additional fee.

Necessary Information

When sending gage blocks to us for calibration, please specify whether you want us to:

(A) calibrate, issue a certificate and return only;
(B) calibrate, advise condition and hold for instructions; or
(C) calibrate, replace worn and missing blocks, then return.
If your order specifies replacement for worn and missing blocks and the cost of replacement approaches that of a new set, we will inform you, provide a quote prices and wait for your instructions.
Shipping

Shipping

Be sure to protect your valuable gage blocks by packaging them carefully before shipment.

Gage block cases are made for immobile storage – not as shipping crates.
It is good practice to carefully follow these steps when preparing your gage blocks for shipment:
Treat them with rust preventative. Starrett M1® Lubricant is an excellent choice for this job.
Place wax paper over the blocks.
If necessary, add cushioning inside lid to prevent excessive movement of blocks in the inserts. Do not overdo this – the lid should not have to be forced to close.
Seal the closed case with reinforced heavy tape. Note that the case clasp alone is not adequate to ensure that the case remains closed during shipment.
Use a strong, oversize outer shipping container. Carefully surround the case with a generous amount of firm cushioning material to ensure that your blocks withstand shock in transit.
Be sure to mark the shipping box as “Fragile.”

As Good as New

When you receive your freshly calibrated gage block set with all necessary of the recommended repairs and/or replacements, you can rely on them to be essentially as good as new – that is, the most reliable and trusted gage blocks available – Starrett-Webber.

Click Here to View All Gage Block Sets Available at CDI

Webber Gage Blocks - Metric

Webber Gage Blocks - Imperial

Webber Gage Blocks - Angle