

# Steel Hardness Tester



The **Model 316** Portable Steel Hardness Tester is designed for accurate, rapid in place measurement of the hardness of steel and steel alloys in the range from 20 to 65 on the equivalent Rockwell C Scale.

The unit consists of two major components: a calibrated indenter and a direct reading microscope. The hand-held impact indenter drives a 1/16" diameter tungsten carbide ball into the sample being tested. The resulting indentation diameter - which is a function of the hardness - is measured with the 60X microscope. The calibrated reticle in the microscope reads C Scale directly in the range of 20 HRC to 65 HRC with an accuracy of  $\pm 1.5$  points. The illumination system features a MagLite® flashlight with a fiber optic pipe that directs the light to the focus of the microscope.

The instrument is fully portable and easy to use. Flat or curved surfaces of virtually any configuration may be measured. The instrument's portability makes it particularly useful where the test piece is too large or too heavy to test on a bench-type tester.

**Model 316** includes a hand-held impact indenter assembly; an illuminated, fixed focus, 60X magnification measuring microscope; a marked and calibrated hardness test block; test instructions; a convenient hardness conversion chart; and a carrying case.

Model	Description
316	Portable Steel Hardness Tester

# Metal Hardness Tester

These testers are designed for use by: inspection and quality control personnel, tool and die makers, heat treaters, mechanics, welders, and metallurgists.

These unique instruments are the handiest and most economical way of grading and checking various metals in the equivalent Rockwell B Scale range for the **Model 415B** and the equivalent Rockwell C Scale Range for the **Model 415C**. The upper end of the instrument is the gripping area for insertion into a milling machine, drill press, or lathe. The lower end is the load cell. It extends up into the body of the hardness tester and houses a centerless ground precision spring which preloads the diamond tip indenter. The diamond tip indenter has been polished to a 0.004" radius and has an included angle of 60°. The total force required to move the indenter through its full travel of 0.025" (6.35 mm) is 85 pounds. The movement of the indenter causes the gauge pointer to read the corresponding Rockwell C scale. (The chromoly steel indenter of the **Model 415B** has been polished to a spherical radius of 0.012" and ground to an included angle of 30°). Each unit comes complete with test block (high and low range test blocks for **Model 415C**), conversion calculator and carrying case.



## Specifications:

Ranges:

**Model 415B:** 40 to 100 HRB equivalent Rockwell B scale

**Model 415C:** 20 to 67 HRC equivalent Rockwell C scale

Accuracy:  $\pm 1.5$  points

Sample Thickness: Minimum 0.025"

Dimensions: 6-3/4" x 1-1/16" x 1-9/16" diameter

Model	Description
415B	Rockwell B Scale Hardness Tester
415C	Rockwell C Scale Hardness Tester