



## ASTM E 110

### Standard Test Method for Indentation Hardness of Metallic Materials by Portable Hardness Testers

This test method covers determination of the indentation hardness of metallic materials by means of portable hardness testers.

#### **Apparatus**

Portable hardness testers are used principally for testing articles that are too large or unwieldy to be tested in the usual types of testing machines, for testing parts of fixed structures, or for testing under any conditions which require that the indenting force be applied in a direction other than vertical. In order that they may be portable and also in order that the indenting forces may be applied in any direction, these testers are designed in such a way that dead weights are not used in applying or limiting the indenting force.

The indenting force may be applied by means of a hydraulic cylinder with a pressure gage to indicate the magnitude of the force. The hydraulic cylinder may also be equipped with a spring – forced relief valve to fix the magnitude of the force. Alternatively the indenting force may be applied by means of a screw through a calibrated spring with a dial gage or other means of measuring the deflection of the spring to indicate the magnitude of the force.

Portable hardness testers are generally provided with various means of holding the indenter in contact with the surface to be tested. The testers may be lamped to the object to be tested, attached to an adjacent fixed object or attached to the surface to be tested by a magnet. For testing inside a cavity, the tester may be placed against one wall of the cavity to make a test on the opposite wall.

If you have any questions concerning this particular ASTM method, please feel free to give our office a call at (800) 334-5432 or email us your inquiry at [info@nhml.com](mailto:info@nhml.com).

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