



Hardness of materials refers to stiffness or temper, or resistance to things such as scratching, abrasion and cutting. The property of a metal allows it to resist permanently being deformed (bent, broken or have its shape changed) when a load is applied to it.

The greater the hardness of the metal, the greater resistance is has to deformation. The most common form of hardness test is usually used to test resistance to indentation. This is done by pressing a rounded indenter into the surface of a static load.

ITCL offer a top quality solution through the use of the latest technologies. We use small, integrated digital hardness testers which operate according to the dynamic rebound method (standardized according to ASTM A956). Their compact design allows easy on-site hardness testing on solid, non-transportable components and even on positions difficult to access by other hardness testers. It also allows for quick and reproducible measurements that can be made independent of impact direction due to a patented signal processing.

We also have Mic 10 hardness testers which use a Vickers diamond to indent the test material. With conventional low load Vickers hardness testers the indent is measure microscopically. The MIC 10, however, evaluated the indent electronically by means of the Ultrasonic Contact Impedance method (UCI). This has a major advantage over the visual evaluation of the indent in that high repeatability of the tests results is ensured even when small indents are measure. The measurements are made under load and are based on the area of the indent and not on the length of the indent diagonals.

Benefits of using this technology

- Can be used on heavy non-transportable components
- Can access difficult to reach positions
- Series parts during production
- Can also be used in material identification
- Can be used on range of materials including solid, coarse grained test objects, forged parts with in-homogenous surface structures, and cast materials.

Services available from ITCL

- Approved procedures for control checks
- Approved procedures to specific industry standards
- Fully Experienced Instructors who provide a comprehensive 24hr in house or onsite service.



A Dynapocket™ tester



ITCL at work (above & below)

