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Portable Hardness Tester by Pravinda Fernando

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What is a portable hardness tester? Portable hardness testers have been around since the late 90â€™s, with a vast offering of high tech, digital instrumentation. Small, compact and menu driven, these instruments have never been easier to use for unlimited types of applications. Hardness Testing is a widely used method for determining hardness of materials using test methods such as Vickers, Brinell, Knoop, Rockwell, Shore, Clark and IRHD. Portable hardness testers come in a variety of types with the ability to test most metals, alloys and plastics ranging from soft polymers and rubbers to engineering alloys designed for use in the most arduous conditions or most severe operating environments. In addition, Portable Hardness Testers equipment offers a quick and economical supplement to stationary hardness testing in the modern production process.

There are two basic methods of portable hardness testing that is accepted in the field today.

â€œDynamic Impactâ€• is based on the Leeb principle of hardness, developed by Dietmar Leeb in the 1970â€™s. A spring loaded impact body is thrust to the test surface, effecting rebound. The speed of both the initial thrust and the rebound is measured in a non-contact mode. This is calculated as a Leeb hardness value and then automatically converted to Rockwell C, B, Brinell, Vickers and Shore Values. It has effectually brought easy, fast and accurate results to portable hardness testing.

â€œUltrasonic Contact Impedanceâ€• is based on a 136 degree diamond at the end of a vibrating rod bein depressed into the test surface at a fixed load. The difference in Ultrasonic vibration frequency is then calculated into a hardness value. The UCI test procedure is slower than the Dynamic Impact style, however the â€œUCIâ€• method of hardness testing is portable, easy and accurate. It also has its own advantages when utilized for certain testing applications. UCI testers are not restricted to large mass items like dynamic type testers. These units can test metals as thin as 1mm and at a hardness value as low as 20HRC (75HB). They also excel at performing hardness tests on larger, harder metals as well. Another reason for the rise in popularity is due to the fact that the UCI method is categorized as â€œNon-Destructiveâ€•. That translates into less scrap parts/ lower mfg costs due to necessary inspections.

At Techequip Australia we have a wide range of Portable Hardness Testers, with a range of products for general usage and a range of products that are for heavy duty industrial usage. We are a leading test equipment supplier in Australia.

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