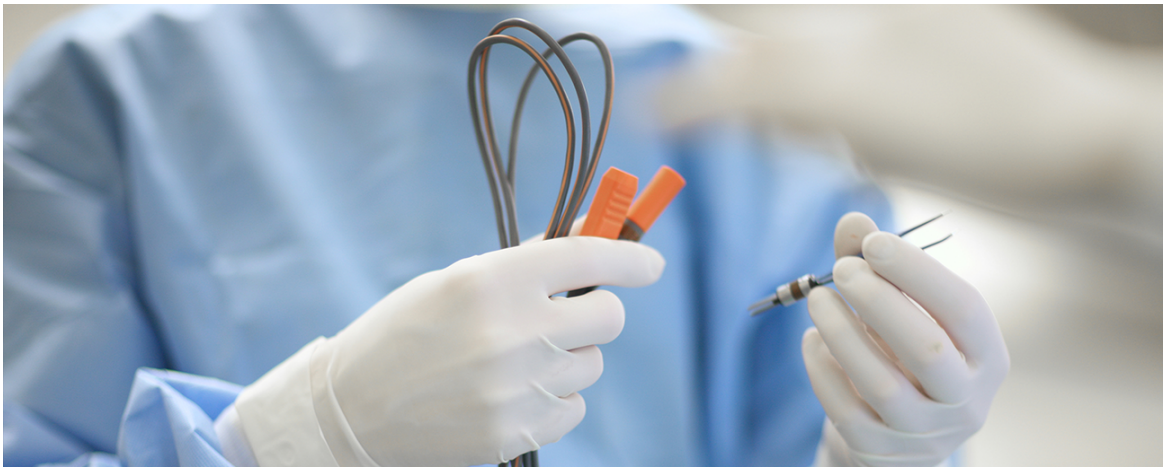

Assessing the Hardness of Thin Medical Wires

This application note describes how to inspect the hardness of thin medical wires with portable hardness testers.

Hardness evaluation of thinner wires

The industry is well equipped with such tools as Leeb rebound testers or Ultrasonic Contact Impedance (UCI) to evaluate the hardness of larger objects that fulfil the mass and dimension criteria; crucial conditions to correctly evaluate the hardness of tested objects.

Objects below the mass dimension limits must be coupled with a special grease to a solid surface, in order to prevent the test piece from vibrations. However, as the objects become smaller, the correct assessment of the hardness is a challenging task.

Quick and reliable measurement with the direct-indentation method

For many years, our customers have been verifying HRA and HRC hardness values of very thin 3 - 5 mm medical wires made out of stainless steel, copper, aluminium and brass.

The Equotip 550 Portable Rockwell probe installed in the measuring clamp fits the application perfectly and delivers the required results quickly and easily. The simplicity and portability of the Equotip 550 are greatly appreciated by the customers.

What materials can be tested?

In short, any. The Portable Rockwell method measures the penetration depth of the test piece and is measured in micrometers, hence any material which is at least 10 x thicker than the indentation depth can be successfully tested.

See more related application notes, articles and case studies in our Inspection Space.