

Hardness test procedure

Measurement of hardness of hardened steel requires high quality test equipment and accurate preparation of surface to mirror quality, to achieve correct measurement.

1. Select test piece

The test piece must be at least 8 times thicker than the impression depth.

2. Cut test piece

The test piece shall be cut with equipment that avoids heat impact on the test piece. If the test piece is heated above 160 °C / 320 °F the test result is considered invalid. Heat above the approved temperatures damages the hardness of the steel.

3. Polish the test surface

The test surface must be polished to almost mirror quality free from oxid before the test can commence.

See example below of correct prepared surface:



4. Select correct test equipment

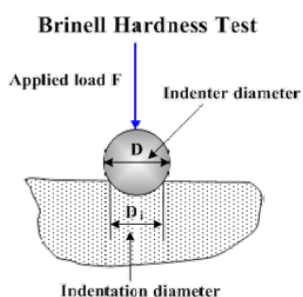
The test equipment must be specifically made for testing of hardened steel.

See examples below:



The test is performed by applying as specified sphere force to the prepared surface. The width of indentation diameter specifies the hardness.

See example below:



The test shall be performed with a calibrated Brinell test equipment. With a 10 mm hard metal ball forced into the surface 0,5-1 mm below the surface of the sheet metal, and with a force of 3 000 kg. The angle must be 90 degrees against the test surface.

NOTE!!!

Portable and manual test equipment is not accurate enough to get a trustworthy result and therefore not allowed as measurement equipment.

See examples below:



Straightness

The deviation from straightness (arrow height) is measured with the bar resting on the horizontal surface. Arrow height is measured in horizontal direction on whole bar (L).

