

## 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

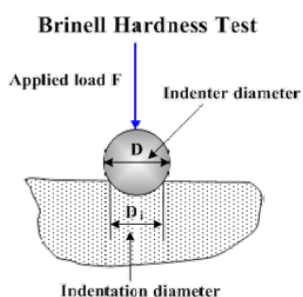
The test equipment must be specifically made for testing of hardened steel.

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).

