The Rockwell Measuring Principle

The test principle of the Equotip Portable Rockwell follows the traditional Rockwell static test method. During measurements with the Equotip Portable Rockwell Probe, a diamond indenter is forced into the test piece using a precisely controlled force. The indentation depth of the diamond is continuously measured while a load is applied and released. From the indentation depths \( d_1 \) and \( d_2 \) recorded at two defined loads, the difference is calculated: \( \Delta = d_2 - d_1 \). This is traditionally referred to as plastic deformation.
Equotip® Portable Rockwell
Probe and Accessories

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>0-100 µm; 19-70 HRC; 35-1’000 HV</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1 µm; 0.1 HRC; 1 HV</td>
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<tr>
<td>Measuring accuracy</td>
<td>± 0.8 µm; – ± 1.0 HRC over entire range</td>
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<tr>
<td>Test loads</td>
<td>Preload 10 N / Total Load 50 N</td>
</tr>
<tr>
<td>Diamond indenter</td>
<td>Angle 100.0° ± 0.5°, diameter of flat area of 60 µm ± 0.5 µm</td>
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<tr>
<td>Dimensions</td>
<td>Ø 40 mm, Length 115 mm</td>
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</tbody>
</table>

Round standard foot (magnetic)
Ideal for flat parts, and test locations more than 10 mm from an edge.

Tripod foot
Designed for tests that require accurate positioning (welds, heat-affected zones).

Special feet RZ 18-70 and 70-∞
Designed for curved test pieces such as cylindrical parts, tubes, pipes.

The Portable Rockwell Measuring Clamp

**Clamp Adapters**

- **Support Z1**
  for flat parts max. 40 mm thickness
- **Support Z2**
  for thin cylindrical parts, wires, bolts min. Ø 3 mm
- **Support Z4**
  for tubes and pipes up to Ø 28 mm
- **Support Z4+28**
  for tubes and pipes over Ø 28 mm