Toughness, bendability and good weldability.

Hardox round bars feature the same guaranteed properties as the wear plate, so the same properties in a new shape. They come in diameters between 40 and 100 mm, with development material available from 20 to 40 mm, and lengths up to 5000 mm. Delivered quenched or quenched and tempered to high tensile strength and hardness levels, and combined with excellent toughness, Hardox round bars represent entirely new possibilities for stronger and lighter product design.

Hardox round bars also help optimize workshop procedures such as machining, welding and bending. Another benefit with Hardox round bars is that they are ready to use directly. No additional quenching is needed because these bars are delivered heat treated.
DELIVERY CONDITIONS
Hardox round bars are delivered heat treated, in either rolled or turned conditions. The recommendation from SSAB is a rolled surface.

Dimensions

<table>
<thead>
<tr>
<th>Steel grade</th>
<th>Hardness nominal HBW</th>
<th>Yield Strength typical MPa</th>
<th>Impact toughness typical CVL at -40°C</th>
<th>Impact toughness typical CVL at -40°C</th>
<th>CEV/CET typical values</th>
<th>Bar diameter</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardox 400</td>
<td>400</td>
<td>1000-1100</td>
<td>Min 27 J</td>
<td>45 J</td>
<td>0.58/0.37</td>
<td>40 – 100 mm</td>
<td>20 - 39.9 mm</td>
</tr>
</tbody>
</table>

1. CEV=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15; CET=C+(Mn+Mo)/10+(Cr+Cu)/20+(Ni)/40.

Diameters
All diameter tolerances are plus, meaning -0/+ deviation. The tolerances are according to standard EN 10060 or SSAB’s own standard.

Ovality
Tolerances for both rolling and turning are according to EN 10060, meaning the deviation of roundness shall not exceed 75% of the diameter tolerance range.

Straightness
Tolerances for both rolling and turning are according to EN 10060 (0.4% of length) but with a tighter max deviation of 0.2% of length, meaning 2 mm/m.

Surface
The tolerance for rolled surfaces according to EN 10221 Class C for diameters ≤75 mm. For diameters ≥80 mm, the maximum depth of surface discontinuities is 1 mm. The Ra value for turned surface is < 5 µm.

HARDNESS TESTING
Bar hardness is measured on a milled surface, with indents positioned as for impact testing according to EN 10 083.

Experience the full potential of Hardox in round bars!