**Hardox® 400 Round Bars – Band Sawing Recommendations**

**Typical Properties**

<table>
<thead>
<tr>
<th>Hardness in Brinell (HBW)</th>
<th>Hardness in Rockwell (HRC)</th>
<th>Tensile Strength, Rm (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 400</td>
<td>~ 40</td>
<td>~ 1250</td>
</tr>
</tbody>
</table>

For more specific information see data sheet for Hardox 400 Round Bar.

**General information**

**Teeth per inch (TPI)** shows gullet size and may vary between less than 1 and 2.

Large solid workpieces require a band saw blade with fewer teeth per inch.

The fewer teeth that are involved in the work, the larger capacity.

Cutting capacity per tooth is greater if the supply pressure is distributed on a few number of teeth.

- It is important that each tooth of the saw blade cut with the correct cutting depth. Start by selecting a band saw blades with the correct pitch for the workpiece. (Contact the saw blade supplier.)
- Then select the correct band speed from the recommendations in the data sheet. Then you can put the correct feed by studying the chips which the band saw produces during sawing.

**Thin or powdered chips.**
*Increase feed*

**Slightly curled chips.**
*Optimum feed*

**Thick, rough or burned chips.**
*Reduce feed/ speed*
Band Wheels
Remove any chips. Make sure they turn freely.

Blade Tension
Use a tension meter to ensure accuracy.

Blade Tracking
Make sure the blade tracks true and rides correctly in the guides.

Chip Bruch
Engage properly to keep chips from re-entering the cut.

Guides
Make sure guides are not chipped or cracked. Guides must hold the blade with the right pressure and be positioned as close as possible to the workpiece.

Guide Arm
For maximum support, move as close as possible to the workpiece.

Workpiece
Check that the workpiece is firmly clamped so it does not vibrate loose during sawing.

Rubber cover
Keep the rubber cover on the blade until it is installed in the machine to avoid damage to the tooth tips.

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### Blade break-in

A new band saw band has very sharp tooth Tips. In order to withstand the cutting pressures used in band sawing, tooth tips should be honed to form a micro-fine radius.

**How to break in a blade?**

Select the proper band speed, see table above. Reduce the feed force to achieve a feed rate 30% to 50% of normal feed rate during those first 10 minutes. During the next 10 minutes the feed rate increases slowly to normal feed rate.

**Coolant**

Concentrate of coolant oil 8 – 10 % mixture.

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### Basic Maintenance

<table>
<thead>
<tr>
<th>Material</th>
<th>Bi-metal</th>
<th>Carbide Tipped Blade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter &gt;&gt;</td>
<td>&lt; 100 mm</td>
<td>100–400 mm</td>
</tr>
<tr>
<td></td>
<td>30–35 m/min</td>
<td>20–25 m/min</td>
</tr>
</tbody>
</table>

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Links to suppliers of band saw blades
Bahco • Eberle • Lenox • Wikus