The Complete
BANDSAW RANGE

www.sawcraft.co.uk
ABOUT SAWCRAFT

Based in the West Midlands, Sawcraft UK Ltd supplies a comprehensive range of quality metal bandsaw machines, cutting tools and saw blades to an established customer base throughout the UK. Privately-owned and family-run since formation in 1990, our highly-skilled and knowledgeable team, with over 30 years experience in this industry, has built a reputation for personal service, reliability and quality. We pride ourselves on working hand-in-hand with each customer to ensure that you take away the product that is right for you. We are a dedicated team with all the technical expertise required to formulate cutting solutions to meet individual sawing needs.

Sawcraft UK supplies and maintains Cosen and FMB bandsaw machines as well as Tsune high-production circular sawing machines and C.T.S Conni tube cutting machines. We also supply a full range of circular saw blades for all types of cutting needs. We have built strong relationships with our suppliers and you can be assured of excellent after-sales service well in to the future.

Sawcraft UK offers a complete range of industrial bandsaw blades including all grades of bi-metal, carbon, carbide tipped and grit edge bandsaws for metal and woodcutting. They allow our customers to work to closer tolerances and will provide a better performance than blades of only slightly lesser quality. All our bandsaw blades are cut-to-length and welded on site for rapid processing of orders, for more information please visit www.sawcraft.co.uk

European Partner

Our partners for Germany, Austria and Switzerland are SCS Peter Brommer for all our product range

Contact

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STEP BY STEP PIN UP
**BANDSAW QUALITY**

**CARBON FLEX**

**Blades for Wood Production & General Purpose Metals**

**Applications**
- Plastic
- Wood
- Aluminium
- Non Ferrous Metals

**Benefits**
- General purpose cutting
- Economical
- Greatest variety of width, thickness and tooth specification
- Ideal for straight and contour cutting
- Fatigue resistant

**M42 BI-METAL**

**Blades for General Purpose Metals**

**Applications**
- Aluminium
- Non Ferrous Metals
- Alloy Steels
- Carbon Steels
- Stainless Steels
- Structural Steels
- Tool Steels

**Benefits**
- Up to 50% reduction in cutting time
- Increased cutting accuracy
- Handles hard to machine metals

**M51 BI-METAL**

**Blades for Difficult to cut materials**

**Applications**
- Stainless Steels
- Nimonics
- Inconel

**Benefits**
- Longer operating life
- Increased cutting accuracy
- Cost-efficient cutting of materials with low machinability, such as nickel and titanium alloys

**M66 BI-METAL**

**Blades for Structural Steels**

**Applications**
- Hollow Sections
- Structural steels
- I Beams
- Fabrications

**Benefits**
- Longer blade life
- Stops tooth strippage
- Wider set – reduces jamming
- More clearance

**CARBIDE TIPPED**

**Blades for Abrasive Building Materials**

**Applications**
- Fibreglass
- Ceramics
- Composites
- Hardened Steel
- Cast Iron
- Concrete
- Foamaged Glass
- Graphite
- Aluminium

**Benefits**
- Longer life due to superior resistance to heat wear or abrasion.
- Fatigue resistant alloy backer

**GRIT EDGE CARBIDE**

**Blades for Abrasive Building Materials**

**Applications**
- Carbon
- Quartz
- Silicon
- Stone
- Ceramics
- Composite Glass

**Benefits**
- Precise Cutting
- Minimal Material Loss
- Reduction in Blade Replacement Costs
- Superior Blade Life

**STEP 2 TOOTH SHAPES & FORMS**

**Standard Tooth**

- 0º Rake angle and equally spaced teeth. Useful for small details, cutting across grain of wood and for metal cutting applications.

**Advantages**
- Excellent chip carrying capacity

**Benefits**
- General purpose

**Skip Tooth**

- 0º Rake angle, equally spaced teeth and wide flat gullets. Course blade cuts quickly; best suited for cutting long gentle curves.

**Advantages**
- Excellent chip carrying capacity
- Provides a coarse pitch on narrow bands

**Benefits**
- Excellent cutting for non ferrous and non metallic applications

**Recommended applications**: brittle materials of large diameter such as brass, bronze, aluminium risers and brittle plastics.

**Hook Tooth**

- Positive rake angle, wide rounded gullets and equally spaced teeth. Most aggressive tooth style. The large round gullet can transport large amounts of material from the cut.

**Advantages**
- The positive rake angle provides better tip penetration with less feed pressure.

**Benefits**
- Fast cutting with good surface finish

**Variable Tooth Pitch**

- 0º or Positive rake angle, varying gullet depth and tooth spacing. The tooth size and depth of the gullet changes from one tooth to the next.

**Advantages**
- Reduced vibration
- Aggressive cutting

**Benefits**
- Improves blade life
- Smooth and efficient cut
- Reduced noise

Decreases the vibration on interrupted cuts e.g. Tubing, U channel or beams.
The correct tpi selection (tooth per inch) will dramatically increase the blade life. (Guide only)

### Tooth (tpi) Selection Charts

The correct tpi selection (tooth per inch) will dramatically increase the blade life. (Guide only)

#### CARBON

<table>
<thead>
<tr>
<th>Material Thickness (mm)</th>
<th>1</th>
<th>2</th>
<th>2.5</th>
<th>6</th>
<th>10</th>
<th>18</th>
<th>25</th>
<th>38</th>
<th>50</th>
<th>127</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Inch)</td>
<td>0.08</td>
<td>0.1</td>
<td>0.24</td>
<td>0.4</td>
<td>0.7</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

#### BIMETAL

**WOOD/PLASTIC/ALUMINIUM**

| Teeth Per Inch | 24 | 18 | 14 | 10 | 8 | 6 | 4 | 3 | 2 | 1.3 | 1.1 |

**RECTANGLE SOLID METALS AND SQUARES**

| Teeth Per Inch | 24 | 14 | 10/14 | 8/12 | 6/10 | 5/8 | 4/6 | 3/4 | 2/3 | 1.1/1.5 |

**ROUND SOLID METALS**

| Teeth Per Inch | 24 | 14 | 10/14 | 8/12 | 6/10 | 5/8 | 4/6 | 3/4 | 2/3 | 1.1/1.5 |

**TUBE/PIPE/PROFILE, CHANNEL & BOX METAL SECTION**

| Teeth Per Inch | 14 | 10/14 | 8/12 | 6/10 | 5/8 | 4/6 | 3/4 | 2/3 | 1.1/1.5 |

### General rule of thumb:

For **wood and soft materials** aim for 3 – 6 teeth in the work piece

For **metals and harder materials** aim for 6 – 24 teeth in the work piece

### Notes:

- Too few teeth may straddle the work and break the teeth
- Too many teeth can cause gullet overload and strip teeth
- Hard materials require more teeth to share the work
- Softer materials require fewer teeth and more gullet capacity to clear the larger chips they generate

### SAW BLADE SAFETY

- Be careful opening welded loops as they are packed under tension
- While unpacking and installing the blade, always wear safety shoes, gloves and safety glasses
- Close the cover of the bandsaw during cutting operation
  - Switch off the machine during blade change
  - Install blade with teeth position in correct rotation

For your own safety please follow the safety instructions while you are working with bandsaw blades.
It is very important that the blade always produces chips during break-in to avoid making the tooth tips dull. Increase the feed as necessary to produce the chips.

### BLADE BREAK IN

The correct break-in of a bandsaw blade can extend blade life by up to 30%.

**M42 Bi-Metal Blades**

To break-in a new blade for metal cutting:
- Set the band speed to the recommended surface feet per minute (SFPm) or (SMPm) for the material to be cut.
- Initially set the feed rate at 50% of the normal cutting rate.
- Gradually increase feed rate up to the normal recommended rate.

**IMPORTANT**

It is very important that the blade always produces chips during break-in to avoid making the tooth tips dull. Increase the feed as necessary to produce the chips.

**Carbon Blades**

To break-in a new blade for wood cutting;
- Set the band speeds to the normal recommended SFPM.
- Before cutting the material run the blade for 5 minutes.

### MACHINE SET UP

**Machine Guides**

It is essential that all machine guides including; roller guides, fixed guides and pressure guides are set properly and replaced when worn or damaged to avoid premature blade life.

**Wheels**

- Correct wheel alignment is critical to blade performance
- Worn bearings cause galled cracks
- Check that the wheel flange does not rub the blade back causing back edge cracks to occur

**Blade Tension**

Tension on the blade is essential to prevent it from flexing during the cut.

**Coolants**

Cutting fluids are recommended to reduce the frictional heat generated at the cutting edge and wash chips away from the blade.

### BAND SPEEDS AND FEEDS

The band speed is measured in surface feet per minute (SFPm) or surface metres per minute (SMPm).

To calculate SFPM or SMPm use the following procedure:

1. To determine the RPM: refer to the machine manual or clock the revolutions per minute of the wheels.
2. Measure the diameter of the drive wheel.

\[
S.F.P.M = \text{Wheel diameter in inches} \times 0.262 \\
S.M.P.M = S.F.P.M \times 3.28
\]

**General Guidelines for Band Speeds and Feed Pressures**

<table>
<thead>
<tr>
<th>Materials to cut</th>
<th>Blade Material S.M.P.M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>Flexback 1000m</td>
</tr>
<tr>
<td>Plastic</td>
<td>Flexback 1000m</td>
</tr>
<tr>
<td>Carbon Steel</td>
<td>Bimetal 50-70m</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>Bimetal 25-40m</td>
</tr>
<tr>
<td>Titanium</td>
<td>Bimetal 25-35m</td>
</tr>
<tr>
<td>Bronze</td>
<td>Bimetal 70-100m</td>
</tr>
<tr>
<td>Aluminium</td>
<td>Bimetal 400-500m</td>
</tr>
<tr>
<td>Cast Iron</td>
<td>Bimetal 80-100m</td>
</tr>
<tr>
<td>Copper</td>
<td>Bimetal 25-60m</td>
</tr>
<tr>
<td>Die Steel</td>
<td>A-2, D-7</td>
</tr>
</tbody>
</table>
### Dr. SAW CRAFT’S Troubleshoots

#### Premature dulling of teeth

<table>
<thead>
<tr>
<th>Problem Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Blade put on machine backwards</td>
<td>• Install blade correctly</td>
</tr>
<tr>
<td>• Improper blade break-in procedure</td>
<td>• Refer to recommended procedures</td>
</tr>
<tr>
<td>• Hard material or heavy surface scale</td>
<td>• Check material hardness and surface condition</td>
</tr>
<tr>
<td>• Material is hardening</td>
<td>• Increased feed pressure</td>
</tr>
<tr>
<td>• Improper cutting fluid or mix ratio</td>
<td>• Follow coolant mixing procedure</td>
</tr>
<tr>
<td>• Speed or feed too high</td>
<td>• Reduce speed or feed</td>
</tr>
</tbody>
</table>

#### Teeth Fracture

**Front of tooth**

<table>
<thead>
<tr>
<th>Problem Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Loose material in vice</td>
<td>• Adjust vices</td>
</tr>
<tr>
<td>• Incorrect tooth pitch</td>
<td>• Use proper tooth selection</td>
</tr>
<tr>
<td>• Feed too fast</td>
<td>• Reduce feed rate</td>
</tr>
<tr>
<td>• Speed too fast</td>
<td>• Refer to cutting recommendation</td>
</tr>
</tbody>
</table>

**Back of tooth**

<table>
<thead>
<tr>
<th>Problem Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Saw guides not properly adjusted</td>
<td>• Align or adjust saw guides</td>
</tr>
<tr>
<td>• Incorrect feed or speed</td>
<td>• Refer to cutting recommendations</td>
</tr>
<tr>
<td>• Incorrect blade</td>
<td>• Use proper blade types and pitch</td>
</tr>
<tr>
<td>• Material moves in vise</td>
<td>• Inspect and adjust vices</td>
</tr>
</tbody>
</table>