### Deburring and Edge Preparation Chart

<table>
<thead>
<tr>
<th>Material</th>
<th>SFM</th>
<th>Hardness: 28-38 Rc (271-344 HBN)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.15</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>0.31</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td>0.47</td>
<td>0.48</td>
</tr>
</tbody>
</table>

#### ALUMINUM ALLOYS

- **Casting (S, T2, T6,):**
  - Deburr
  - Edge Break

- **Wrought (1xxx, 2xxx, 5xxx, 6xxx, 7xxx, 8xxx):**
  - Full Chamfer
  - Deburr

- **Casting - 9-10% Si (AlSi, AlSi, AlSi, AlSi):**
  - Deburr
  - 4500

- **Casting - 8-12% Si (AlSi, AlSi, AlSi, AlSi):**
  - Deburr
  - 6500

#### COPPER ALLOYS

- **Copper - 90% Cu:**
  - Deburr
  - 500

- **Brass (Copper-Zinc alloys, CuZn, CuZn, CuSn):**
  - Deburr
  - C60600-C68100

#### MAGNESIUM ALLOYS

- **Deburr:**
  - 500

#### ZINC ALLOYS

- **Casting:**
  - Deburr
  - 800

### Carbide End Milling Chart

<table>
<thead>
<tr>
<th>Material</th>
<th>SFM</th>
<th>Hardness: 38-45 Rc (335-421 HBN)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.015</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>0.031</td>
<td>0.032</td>
</tr>
<tr>
<td></td>
<td>0.047</td>
<td>0.048</td>
</tr>
</tbody>
</table>

#### CARBON STEELS

- **Free-Machining/Low Carbon steels, 10-12% S, A15, A15, A15:**
  - Deburr
  - 600

- **4000:**
  - Deburr
  - 600

#### STAINLESS STEELS

- **304L, 408, 410, 429, 304L, 403, 403, 403, 404:**
  - Deburr
  - 450

#### TOOL STEELS

- **A, L, O, P, W series:**
  - Deburr
  - 200

#### TITANIUM ALLOYS

- **Casting:**
  - Deburr
  - 150

#### HIGH TEMP ALLOYS

- **Inconel, Hastelloy, Waspaloy, Morel, Haynes, Hastloy, Inconel:**
  - Deburr
  - 70

---

**Chip Load (IPT) based on Effective Cutter Diameter**

- Deburring refers to removing the burr only
- For Full Chamfer engagement the Effective Diameter is 80% of the cutter diameter
- Cutting - 3%-5% Si (AlSi, AlSi, AlSi, AlSi)
- D, H, M, T, S series
- Deburr
- Edge Break
- High Temp Alloys
- Deburr
- Edge Break
- Tool Steels
- Deburr
- Edge Break
- Titanium Alloys
- Deburr
- Edge Break

**Product: Back Chamfer Cutters, 90° Incl Angle, 3x Reach, 4 Fl Series: 9433xx**

**Product notes:**
- Due to a varying diameter, an Effective Cutter Diameter is needed for Chip Load selection and RPM calculation:
  - Effective Cutter Diameter = (Major Diameter + Minor Diameter) / 2
- For Full Chamfer engagement the Effective Cutter Diameter is 80% of the cutter diameter

**General notes:**
- All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions.
- Chip loads reflect uncoated cutters and may be increased 10% to 20% if coated. For ferrous materials with hardness ≤ 28 Rc, chip loads can be increased 10% to 20%.
- If you require additional information, Harvey Tool has a team of technical experts available to assist you through even the most challenging applications. Please contact us at 800-645-5509 or tech@harveytool.com.
- **WARNING:** Cutting tools may shatter under improper use. Government regulations require use of safety glasses and other protective equipment.