New Product Announcement

MILLING

MARCH 2018 • INCH 20-2018

Page 1 / 5

Front and Back Chamfer Milling Tools

CHAMF MILL
CHAMFERING LINE

Member IMC Group
New CHAMFMILL tools for front and back chamfering, carrying PNMT 06 pentagonal inserts with five cutting edges for front chamfering and five for back chamfering.

ISCAR is introducing the CHAMFMILL family of indexable milling cutters for front and back chamfering. The new cutters carry star-shaped (pentagonal) double-sided inserts with 10 cutting edges - 5 intended for front chamfering and 5 for back chamfering.

The main applications of the new tools include machining outer and inner small chamfer widths and removing burrs.

The new family ensures cost-effective milling of 45° chamfers.

**Insert Features**
- 5 cutting edges for front chamfering
- 5 cutting edges for back chamfering
- Produced from the advantageous IC830 ISCAR’s SUMO TEC carbide grade
- Maximum width of machined 45° chamfer is .060”
Tool Features
- Two shank configurations are available:
  - Cylindrical shank
  - Replaceable milling heads with MULTI-MASTER adaptation
- Available in .458, .655 and .734 inch tool diameters
- Suitable for back milling chamfers in .394” minimum diameter holes
- Polish coating to ensure better chip flow and tool protection from corrosion and wear

Applications
- Machining main engineering materials: steel (ISO P), stainless steel (ISO M) and cast iron (ISO K)
- Front chamfering, back chamfering, eliminating hand de-burring

Benefits
- Economical: inserts with 5 front and 5 back cutting edges
- Productive machining due to high cutting speed

Recommended cutting conditions

<table>
<thead>
<tr>
<th>ISO class DIN/ISO 513</th>
<th>Description</th>
<th>ISCAR mat. group</th>
<th>Hardness, HB</th>
<th>Typical material</th>
<th>Cutting speed Vc [SFM]</th>
<th>Feed fz [in/tooth]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-alloy steel</td>
<td>1-5</td>
<td>130-180</td>
<td>1020</td>
<td>1.0402</td>
<td>490-655</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6-8</td>
<td>260-300</td>
<td>4340</td>
<td>1.6582</td>
<td>460-560</td>
</tr>
<tr>
<td></td>
<td>Low alloy steel</td>
<td>9</td>
<td>HRC 35-42**</td>
<td>3135</td>
<td>1.5710</td>
<td>260-330</td>
</tr>
<tr>
<td></td>
<td>High alloy steel</td>
<td>10-11</td>
<td>200-220</td>
<td>H13</td>
<td>1.2344</td>
<td>460-655</td>
</tr>
<tr>
<td></td>
<td>Ferritic/martensitic stainless steel</td>
<td>12-13</td>
<td>200</td>
<td>420</td>
<td>1.4021</td>
<td>490-655</td>
</tr>
<tr>
<td></td>
<td>Austenitic stainless steel</td>
<td>14</td>
<td>200</td>
<td>304L</td>
<td>1.4306</td>
<td>330-590</td>
</tr>
<tr>
<td></td>
<td>Grey cast iron</td>
<td>15-16</td>
<td>250</td>
<td>Class 40</td>
<td>0.6025 (GG25)</td>
<td>820-985</td>
</tr>
<tr>
<td></td>
<td>Nodular cast iron</td>
<td>17-18</td>
<td>200</td>
<td>Class 65-45-12</td>
<td>0.7050 (GGS50)</td>
<td>655-820</td>
</tr>
</tbody>
</table>

* ISCAR material group in accordance with VDI 3323 standard
** Quenched and tempered
1. The table provides reference cutting conditions, it should be adjusted according to the condition of the machine tool and workpiece
2. Wet cutting is recommended to obtain good surface quality.
3. In case built-up edge occurs during cutting stainless steel, use soluble oil.

A Five-Star Tool for Efficient and Cost-Effective Chamfer Milling
CH45-PN06
Upper and Bottom Chamfering Endmills Carrying Pentagonal Inserts

```
CH45-PN06
Upper and Bottom Chamfering Endmills Carrying Pentagonal Inserts

CH45-MM-PN06
Upper and Bottom Chamfering Endmills with MULTI-MASTER Threaded Adaptation

Spare Parts
Designation     Screw     Key
CH45-PN06       SR M2.5X5-T7-60 T-7/51

Spare Parts
Designation     Screw     Key
CH45-MM-PN06    SR M2.5X5-T7-60 T-7/51
```

| Designation  | DCX | DC_2 | DC | APMX | APMX_2 | DCONMS | CICT | LU | LU_2 | OAL | DMIN | WT |
|--------------|-----|------|----|------|--------|--------|------|----|------|-----|------|----|-----|
| CH45-.39-1.2-1-C.50-PN06 | .468 | .330 | .260 | .059 | .059 | .500 | 1 | 1.16 | 1.00 | 4.000 | .390 | .17 |
| CH45-.67-2.5-2-C.83-PN06 | .655 | .527 | .449 | .059 | .059 | .625 | 2 | 1.16 | 1.00 | 4.500 | .670 | .29 |
| CH45-.75-3.2-3-C.75-PN06 | .734 | .606 | .528 | .059 | .059 | .750 | 3 | 1.16 | 1.00 | 5.250 | .770 | .00 |

(1) Number of inserts  (2) Minimum penetration diameter for back chamfering  (3) Item weight

Do not apply lubricant to the MULTI-MASTER threaded connection

(1) Number of inserts  (2) Key flat size  (3) Minimum penetration diameter for back chamfering  (4) Item weight
PNMT 0602-TN
Pentagonal Inserts for Upper and Bottom Chamfering

![Pentagonal Insert Diagram]

<table>
<thead>
<tr>
<th>Designation</th>
<th>L</th>
<th>RE</th>
<th>IC</th>
<th>S</th>
<th>LC30</th>
<th>f: (inch/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNMT 0602-TN</td>
<td>.091</td>
<td>.0079</td>
<td>.236</td>
<td>.083</td>
<td>●</td>
<td>.0027-.0047</td>
</tr>
</tbody>
</table>