QUALITY MOLD PLATES
MEET CUSTOMERS’ NEEDS

MBI offers a full line of exceptional mold plates, clamping plates, ejector plates and spacer blocks in virtually any size up to 40" x 60", all furnished in the same high quality steel grades used in our mold sets. Whether you need precision ground plates, semi-finished ground or raw plates, MBI has the materials and machining services required to meet your needs. We realize our customers demand quality, and we strive to meet those demands.

Since 1972 MBI has been dedicated to serving our customers’ needs by offering superior mold plates, custom mold bases and self-lube components, all at competitive prices.

Our standard grade steels #1 (ASTM A-36), #2 (AISI 4130), #3 (modified P-20), #4 (stainless steel holder block) and our specialties, such as H-13 and aluminum, deliver quality products to our customers.

STEEL SPECIFICATIONS

MBI uses only high quality steels in their mold bases and plate items. This assures reliable mold performance whether it be the Basic Number 1, 2, 3 or 4 steels or the specialties such as H-13, stainless or aluminum. The moldmaker and end user can be assured of the quality of these steels.

MBI #4 STEEL-FREE
MACHINING STAINLESS
HOLDER BLOCK STEEL

Holder blocks made from MBI’s pre-hardened stainless have excellent machinability, uniform hardness and superior resistance to corrosion, caused by engineering resins and humid working or storage conditions. Lower production costs are also achieved through greater heat transfer from corrosion-free water channels. MBI’s pre-hardened stainless holder block is an AISI 420F (modified) steel pre-heat treated to 340 HB for superior quality. "Stainless bases are today considered standard by MBI."

GENERAL
CHARACTERISTICS

MBI #4 Steel is a chromium alloy which is supplied in the hardened and tempered condition.

MBI #4 Steel is characterized by:

✔ Excellent machinability.
✔ Good corrosion resistance.
✔ Uniform hardness in all dimensions.
✔ Good indentation resistance.

These properties combine to produce a steel with outstanding production performance.

The practical benefits of good corrosion resistance in a holder steel are:

✔ Lower mold maintenance costs, e.g., molds stored or operated in humid conditions require no special protection.
✔ Lower production costs since water cooling channels are unaffected by corrosion, ensuring consistent cycle time.

STEEL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>ASTM A-36</th>
<th>MODIFIED AISI 4130</th>
<th>MODIFIED P-20</th>
<th>STAINLESS STEEL HOLDER BLOCK</th>
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<tbody>
<tr>
<td>Hardness</td>
<td>262/321 BHN</td>
<td>262/321 BHN</td>
<td>340 BRINELL</td>
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<table>
<thead>
<tr>
<th>BASIC ANALYSIS</th>
<th>MBI No. 1</th>
<th>MBI No. 2</th>
<th>MBI No. 3</th>
<th>MBI No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon (C)</td>
<td>.25 MAX</td>
<td>.27/.33</td>
<td>.24/.35</td>
<td>.33</td>
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<tr>
<td>Manganese (Mn)</td>
<td>.80/1.20</td>
<td>.90/1.30</td>
<td>.75/1.00</td>
<td>1.35</td>
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<tr>
<td>Phosphorus (P)</td>
<td>.04 MAX</td>
<td>.035 MAX</td>
<td>.025 MAX</td>
<td>-----</td>
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<tr>
<td>Sulfur (S)</td>
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<td>.04 MAX</td>
<td>.005 MAX</td>
<td>.12</td>
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<tr>
<td>Silicon (Si)</td>
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<td>.15/.40</td>
<td>.15/.40</td>
<td>.35</td>
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<tr>
<td>Chromium (Cr)</td>
<td>---</td>
<td>.60/.90</td>
<td>.90/1.20</td>
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<tr>
<td>Molybdenum (Mo)</td>
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<td>.15/.25</td>
<td>.45/.65</td>
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<tr>
<td>Vanadium (V)</td>
<td>---</td>
<td>.02 MIN</td>
<td>.04 MIN</td>
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</tbody>
</table>
The practical benefits of the excellent machinability are:

✔ Lower mold production costs (due to less wear of the cutting edges on the milling and drilling tools) and increased cutting speed can be used giving shorter machining time.

APPLICATIONS

MBI #4 Steel is primarily intended for holders and bolsters for plastic and rubber molds. It provides a completely stainless mold with high corrosion resistance.

HEAT TREATMENT

MBI #4 Steel is intended for use in the as-delivered condition, i.e., hardened and tempered to 340 Brinell, 37 Rc (Average).

MACHINING

MBI #4 Steel greatly improves machinability compared to conventional AISI 420 steels hardened and tempered to 37 Rc. With most steelmakers standardizing on sulfur content of .012 to .015 percent, machinability of these materials is now significantly improved.