<table>
<thead>
<tr>
<th>AMPICO® BRONZE</th>
<th>Reference</th>
<th>Sn</th>
<th>Zn</th>
<th>Pb</th>
<th>Al</th>
<th>Fe</th>
<th>Ni</th>
<th>Mn</th>
<th>D (Kg/m³)</th>
<th>Rm (MPa)</th>
<th>Rm₉₅₀ (Mpa)</th>
<th>Brinell</th>
<th>HBW 10000</th>
<th>Tensile strength at 0°C (Kg/m²)</th>
<th>Yield strength at 0°C (Kg/m²)</th>
<th>Coefficient of Linear Expansion (1/°K)</th>
<th>Coefficient of Friction</th>
<th>Softening ratio</th>
<th>Temp. to softening (°C)</th>
<th>Usage Guideline</th>
<th>Recommended applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPCO® 8</td>
<td>0.25</td>
<td>6.5</td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.95</td>
<td>552</td>
<td>283</td>
<td>40</td>
<td>153</td>
<td>54</td>
<td>16</td>
<td>0.17</td>
<td>Moderate</td>
<td>1.5</td>
<td>85</td>
<td>Used whenever good resistance to corrosion and erosion is essential. Idealy suited to chemical and marine industries, in thickening agents. It is used also for bearings, bushings and washers.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 18</td>
<td>10.5</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.45</td>
<td>724</td>
<td>365</td>
<td>14</td>
<td>192</td>
<td>63</td>
<td>16</td>
<td>0.18</td>
<td>Moderate</td>
<td>1.5</td>
<td>100</td>
<td>Food processing material. May well suit for use as gear, sprockets, bushings and bearings. Standard for applications requiring lining wear and improve resistance. Used in the food industry as screws, nuts, bolts, gears.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 18.23</td>
<td>10.5</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.45</td>
<td>758</td>
<td>386</td>
<td>16</td>
<td>207</td>
<td>59</td>
<td>16</td>
<td>0.18</td>
<td>Moderate</td>
<td>1.5</td>
<td>100</td>
<td>This high tensile steel has a maximum resistance to distortion. It gives successful performance under heavy load and impact conditions.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 21</td>
<td>13.1</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.21</td>
<td>758</td>
<td>420</td>
<td>1</td>
<td>286</td>
<td>46</td>
<td>16</td>
<td>0.21</td>
<td>Moderate</td>
<td>0.7</td>
<td>115</td>
<td>Used for wear-resistant hardened steel, and for some applications where high resistance is required. This harder steel is used for wear parts, forming rolls in forming, forging and extrusion. Widely used as a bearing material for valves and gears.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 22</td>
<td>14.1</td>
<td>4.7</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.06</td>
<td>724</td>
<td>427</td>
<td>0.5</td>
<td>332</td>
<td>42</td>
<td>16</td>
<td>0.25</td>
<td>Moderate</td>
<td>0.6</td>
<td>120</td>
<td>Duplex structure with approximately 50% of phase gamma 2 or 50% of phase beta. Excellent compressive and wear resistance. Used in forming and extrusion. It is well suited for gears, dies and other components requiring high mechanical properties.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 25</td>
<td>Proprietary material</td>
<td>6.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.93</td>
<td>1860</td>
<td>3010</td>
<td>0.2</td>
<td>364</td>
<td>33</td>
<td>16</td>
<td>0.30</td>
<td>Moderate</td>
<td>0.5</td>
<td>125</td>
<td>This is a potent alloy. The high hardness, compressive strength and good friction properties make it ideal for forming, machining and precision. Used in forming, bending and extrusion. Excellent for the drop forging process.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 26</td>
<td>6.93</td>
<td>191</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.93</td>
<td>1901</td>
<td>3010</td>
<td>0</td>
<td>420</td>
<td>33</td>
<td>19</td>
<td>0.32</td>
<td>Moderate</td>
<td>0.4</td>
<td>130</td>
<td>This potent alloy shows an increased hardness which gives exceptionally high strength. Due to the extreme hardness the material must be specified in handling and machining. Suitable for stainless steel cladding, forming under high stress and extreme pressures.</td>
<td></td>
</tr>
<tr>
<td>AMPCO® 45</td>
<td>10 2 5 1.5</td>
<td>7.53</td>
<td>814</td>
<td>517</td>
<td>15</td>
<td>226</td>
<td>46</td>
<td>16.2</td>
<td>0.23</td>
<td>1.5</td>
<td>90</td>
<td>High strength material with abrasion resistant properties, wear resistant and chemical resistant. Used in bearings, pump and marine shafts and valve seats, valve spindles and sockets, machine tool parts, high resistance properties makes it suitable for use in corrosive environments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMPCO® M4</td>
<td>10.5</td>
<td>4.5</td>
<td>5</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.45</td>
<td>1000</td>
<td>793</td>
<td>8</td>
<td>260 200</td>
<td>42</td>
<td>16</td>
<td>0.23</td>
<td>High</td>
<td>1.0</td>
<td>330</td>
<td>Food processing material. Used for gear, pinions, bushings and bearings. It is extremely suitable for high wear resistance properties in corrosive environments. Typical applications in food processing industries.</td>
<td></td>
</tr>
</tbody>
</table>

AMS4640 AMS4650 | 10 | 2.5 | 5  | 1.5 |  |  |  |  | 7.53     | 814      | 517          | 15    | 226      | 46                           | 16              | 0.23                 | High          | 1.5             | 90                  | High strength material with abrasion resistant properties, wear resistant and chemical resistant. Used in bearings, pump and marine shafts and valve seats, valve spindles and sockets, machine tool parts, high resistance properties makes it suitable for use in corrosive environments. |

AMS4690 AMS4681 | 10.5 | 4.5 | 5  | 1.5 |  |  |  |  | 7.45     | 1000     | 793          | 8     | 260 200 | 42                           | 16              | 0.23                 | High          | 1.0             | 330                 | Food processing material. Used for gear, pinions, bushings and bearings. It is extremely suitable for high wear resistance properties in corrosive environments. Typical applications in food processing industries. |
AMPCO® Aluminium Bronze Production Process

Casting:

Transformation:

Rings in AMPCO® 25
Pre machined tubes
AMPCO® 21 rounds for internal mandrels

In addition to offering our alloys, AMPCO can assist you providing finished parts, according to your specifications and drawings.

“Carrousel” reaching a capacity of 23 pieces up to 35 kg
Associated with a double spindle lathe

Ceramic rolls
Steel roll with AMPCO® 25 flanges
Tungsten carbide roll
AMPCO® Aluminium Bronze
These superior alloys are used for tube forming and profiles in Stainless Steel, Titanium, Low carbon steel or Aluminum, regardless of the process: High frequency, Laser, TIG.

Laser process.
Welding rolls in AMPCO® 25

HF process.
Welding rolls in AMPCO® 25

TIG process.
Welding rolls and clamp guides in AMPCO® 21

Saw guide in AMPCO® 18 for high strength hollow section

Extraction in HF process.
Supports in AMPCO® 18

HF process.
Forming rolls. Flanges in AMPCO® 25

HF process.
Sizing rolls in AMPCO® 25

Laser process.
Jaws in AMPCO® 18

AMPCO® 25 rolls maintaining the tube during external deburring