VDM® Aeterna® 2805
CuZn28Al4Ni3Co1Si1Mn
VDM® Aeterna® 2805 is a special brass alloy, which is particularly suitable for applications with high requirement on running and sliding properties. High strength and high wear resistance describe this alloy.

VDM® Aeterna® 2805 is characterized by:

- very good gliding properties
- high strength and hardness
- high wear resistance
- high load capacity
- very high fatigue strength
- high cavitation resistance

**Nomenclature**

<table>
<thead>
<tr>
<th>Standardization</th>
<th>General Material Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>VDM® Aeterna® 2805</td>
</tr>
<tr>
<td>EN Material-Nr.</td>
<td>Special alloy</td>
</tr>
<tr>
<td>Description</td>
<td>CuZn28Al4Ni3CoSi1Mn</td>
</tr>
</tbody>
</table>

**Chemical Composition**

<table>
<thead>
<tr>
<th></th>
<th>Cu</th>
<th>Zn</th>
<th>Pb</th>
<th>Fe</th>
<th>Mn</th>
<th>Ni</th>
<th>Al</th>
<th>Si</th>
<th>Co</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td>Min.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>58,5</td>
<td></td>
<td></td>
<td>0,1</td>
<td>0,8</td>
<td>0,8</td>
<td>2,0</td>
<td>3,8</td>
<td>0,5</td>
<td>0,5</td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td></td>
<td></td>
<td>63,0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 - Nomenclature

Table 2 - Chemical composition (wt.%)
Physical Properties

Density  Melting temperature
8,0 g/cm³  1030 °C

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Heat conductivity</th>
<th>Electrical conductivity</th>
<th>Young’s modulus</th>
<th>Coefficient of thermal expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>W/m·K</td>
<td>MS/m</td>
<td>kN/mm²</td>
<td>10⁻⁶ K</td>
</tr>
<tr>
<td>20</td>
<td>80</td>
<td>9,5</td>
<td>105</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 3 - Typical physical properties of VDM® Aeterna® 2805 alloy

Mechanical Properties

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pressed</td>
<td>Ø 40-80</td>
<td>400</td>
<td>600</td>
<td>4</td>
<td>160</td>
</tr>
<tr>
<td>drawn extruded</td>
<td>Ø 20-40</td>
<td>450</td>
<td>650</td>
<td>5</td>
<td>175</td>
</tr>
<tr>
<td>forged</td>
<td>-</td>
<td>400</td>
<td>600</td>
<td>4</td>
<td>180</td>
</tr>
</tbody>
</table>

Table 4 – Typical mechanical properties of VDM® Aeterna® 2805 alloy
Applications

Typical applications of the special alloy VDM® Aeterna® 2805:

• Sliding applications
  • Bearings

• Synchronizer rings

• Axial piston pumps:
  • Sliding shoe
  • Bearing bushes
  • Holding Segments
Imprint

December 2022

Publisher
VDM Metals International GmbH
Plettenberger Straße 2
58791 Werdohl
Germany

Disclaimer
All information contained in this data sheet are based on the results of research and development work carried out by VDM Metals International GmbH, and the data contained in the specifications and standards listed available at the time of printing. The information does not represent a guarantee of specific properties. VDM Metals reserves the right to change information without notice. All information contained in this data sheet is compiled to the best of our knowledge and is provided without liability. Deliveries and services are subject exclusively to the relevant contractual conditions and the General Terms and Conditions issued by VDM Metals International GmbH. Use of the most up-to-date version of this data sheet is the responsibility of the customer.

VDM Metals International GmbH
Engineered Solutions
Zeilweg 42
60439 Frankfurt am Main
Germany

Telefon +49 (0)69 5802-0
Fax +49 (0)69 5802-159
es-sales.vdm@vdm-metals.com