Ankorsteel® 1015 is a low apparent density water atomized powder for structural applications. The atomizing process imparts a spongy morphology to the powder particles giving the material superior green strength with good compressibility. Ankorsteel 1015 results in fast and uniform carbon pick-up during sintering and permits shorter sintering cycles. Dimensional change factors are lower especially in the copper steels.

Typical Analysis and Properties

<table>
<thead>
<tr>
<th>Composition (w/o)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fe</td>
</tr>
<tr>
<td>Balance</td>
</tr>
</tbody>
</table>

Apparent Density: 2.65 g/cm³
Flow Rate: 28 s/50 g

Sieve Distribution (w/o)

<table>
<thead>
<tr>
<th>Micrometers</th>
<th>+250</th>
<th>-250 /+150</th>
<th>-150 /+45</th>
<th>-45</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Standard Mesh</td>
<td>(+60)</td>
<td>(-60 /+100)</td>
<td>(-100 /+325)</td>
<td>(-325)</td>
</tr>
<tr>
<td>Trace</td>
<td>11</td>
<td>65</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

The Effects of Compaction Pressure on Green Properties

Green Density vs. Compaction Pressure (tsi)

Green Strength vs. Compaction Pressure (tsi)
Ankorsteel® 1015

Comparison of Sintered Properties with Ancormet® 101

Composition: Mixes contain 0.9 w/o graphite, 2 w/o copper and 1 w/o zinc stearate
Sintered in dissociated ammonia at 1120 °C (2050 °F) for 30 minutes

[Graph showing transverse rupture strength vs. sintered density for Ancorsteel® 1015 and Ancormet® 101]

[Graph showing dimensional change (%) from die size vs. sintered density for Ancorsteel® 1015 and Ancormet® 101]

[Graph showing apparent hardness (HRB) vs. sintered density for Ancorsteel® 1015 and Ancormet® 101]
Ancorsteel® 1015

Typical Powder Morphology

SEM Photomicrograph of Ancorsteel® 1015  800X

SEM Photomicrograph of Ancorsteel® A1000  800X

SEM Photomicrograph of Ancormet® 101  800X

IMPORTANT NOTICE: The data shown are based on laboratory processing standard test specimens. Results may vary from those obtained in production processing.