MOLYBDENUM ARC-CAST PRODUCTS

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MOLYBDENUM ALLOY AFB
Arc-Cast Forging Billet

Description of Product
This specification covers carbon-deoxidized molybdenum wrought forging billets produced from ingots consolidated by the H.C. Starck consumable electrode vacuum-arc-casting process.

Chemical Characteristics
(Mass fraction in % [cg/g]; ppm [µg/g])

<table>
<thead>
<tr>
<th>Element</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mo</td>
<td>99.95%</td>
<td>0.002%</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td>0.002%</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>0.002%</td>
</tr>
<tr>
<td>Fe</td>
<td></td>
<td>0.008%</td>
</tr>
<tr>
<td>Si</td>
<td></td>
<td>0.008%</td>
</tr>
<tr>
<td>C</td>
<td>0.030%</td>
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</tr>
</tbody>
</table>

*Unless method of analysis is agreed upon, deviations from these limits alone shall not be cause for rejection.

Mechanical Properties
The billets will be supplied in the recrystallized condition, with a maximum hardness of 200 BHN (10 mm ball/1500 kg/30 sec.). Material can be supplied in the stress-relieved condition upon request.

Dimensional Tolerance
The diameter of each billet will be uniform along its length within ± 1/16 inch. Any variation in diameter will be smoothly blended into adjacent areas.

Arc-Cast Products

1) Information on testing methods on request.
Surface Condition
Billets will be supplied with machined or chemically cleaned surfaces. Minor surface imperfections revealed by dye penetrant inspection may be removed by conditioning to a maximum depth of 0.090 inch. The internal integrity of all billets will be determined by ultrasonic inspection and shall satisfy H.C. Starck Ultrasonic Specification No. (latest revision).

Identification
All billets will be identified with an appropriate ingot number. Each shipping container will be marked with the name of the customer and the purchase order number.

none.

Reports
A product certification report that details pertinent chemical, mechanical, structural and physical integrity features will be provided.

Rejection
H.C. Starck must receive written notification of rejected material with the reason for rejection. The right is reserved to inspect rejected material at customer plant for claim validation. The material may be returned only after proper authorization.