Aluminum alloys

Category: Very high strength

Aluminum-alloy Al-MS78

Aluminum alloy Al-MS78 is a very high strength 7000 series (Al-Zn based) Aluminum alloy. It is the highest strength 7000 series alloy available. The strength exceeds 800 MPa depending on Diameter. This is about 40% higher than for A7075 alloy.

General properties

- Very high strength
- Good ductility
- High fatigue strength

Comparison with Standard alloys A7075, A2017

| Advantage | - higher strength |
| Disadvantage | - High cost |

Chemical Composition: Al-Zn-Cu-Mg

Mechanical properties

<table>
<thead>
<tr>
<th>Properties of Al-MS78</th>
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<tbody>
<tr>
<td>Alloy</td>
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<tr>
<td>Al-MS78, D=20mm</td>
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<td>Al-MS78, D=90mm</td>
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<td>Al-MS78, D=40mm</td>
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Physical data

- Density: 2.89 g/cm³
- CTE: 22x10^-6
- Thermal conductivity: 120 W/mK

Applications

- Airframe parts
- Structural parts
- Automotive parts

Delivery form

- Bars, Extrusions
- Billets
- Plates