A5™ – Soft Soldering Alloy

Johnson Matthey’s A5™ is a 5% silver-lead soldering alloy. It offers increased strength and creep resistance at elevated temperatures over conventional tin-lead solders. The silver addition improves wetting of A5™ onto copper and copper-based alloys and to a lesser extent on steels.

Flow of the alloy is not as good as tin lead alloys and the alloy has a long melting range. The optimum joint gap for A5™ is 0.2mm.

Composition: 5% Ag, 95% Pb
Conforms to: BS.EN 29453 No.33, EN ISO 9453:2006 Alloy No. 182
Melting range: 304-370°C

Uses for This Product

A5™ is specified where its increased strength and creep resistance at elevated temperature is an advantage. With the correct choice of flux this alloy will join copper and copper alloys, carbon steels and stainless steels.

The use of lead in products is increasingly recognised as being undesirable both in terms of the long-term environmental impact and recyclability of products. Consequently the use of lead containing solders will continue to decline.


The use of lead in potable water systems has also been prohibited in Europe and in many countries worldwide. Despite these considerations many companies continue to use lead containing solders. Lead free alternatives should be considered wherever possible.

Conditions for Use

With the correct choice of flux this alloy will join copper and copper alloys, carbon steels and stainless steels. A5™ supplied in a solid form and in this case a suitable flux should be selected from the list below.

<table>
<thead>
<tr>
<th>Flux</th>
<th>Recommended for use on</th>
<th>Corrosive/ Non-corrosive</th>
<th>Working Range °C</th>
<th>Product Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft Solder Flux No. 1S™</td>
<td>Carbon steel / stainless steel</td>
<td>Corrosive</td>
<td>350°C</td>
<td>1 litre container</td>
</tr>
<tr>
<td>Soft Solder Flux No. 2S™</td>
<td>Copper / brass</td>
<td>Non Corrosive</td>
<td>350°C</td>
<td>0.5 litre container</td>
</tr>
<tr>
<td>Soft Solder Flux No. 3S™</td>
<td>Copper / brass / carbon steel Stainless steel</td>
<td>Corrosive</td>
<td>350°C</td>
<td>1kg container</td>
</tr>
</tbody>
</table>

Product Availability

Special order only

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