Introduction

**CW-908 Aluminum-Cored Solder Wire** is specifically designed for soldering to aluminum and aluminum alloys. Aluminum is a metal that is hard to solder due to the high surface tension difference between it and molten solder alloy. This occurs because aluminum rapidly forms a tenacious oxide layer whenever it is exposed to air. The oxide layer impedes the solder from spreading evenly on an aluminum surface. Special fluxes are required to remove the oxide and to prevent it from reforming.

Features

- Specifically designed for soldering to aluminum and aluminum alloys
- No zinc chloride
- Water rinse necessary to remove flux residue after soldering
- Not suitable for electrical or electronics applications

Compatible Solder Alloys for Aluminum Bonding

Aluminum flux can be used with certain solders to directly solder aluminum. Most solder alloys 180–315°C are capable of bonding to aluminum, including tin-zinc, tin-silver, tin-lead-silver, and tin-copper alloys. Indium Corporation has chosen the three lead-free alloys listed above as the preferred offering. While SnZn alloys are compatible with aluminum, they are incompatible with the CW-908 flux and, therefore, are not available. High-temperature lead-containing alloys are compatible with both aluminum and the flux, but we have limited application for them at this time.

Preferred Lead-Free Alloys

- 96.5Sn/3.5Ag
- 97Sn/3Cu
- Sn99.5

Residue Removal

Due to the corrosive nature of this flux residue after soldering, **CW-908 Aluminum-Cored Solder Wire** requires removal of the flux residue. Complete residue removal can be accomplished by a chemical neutralizer rinse followed by several water washings. A first rinse in water with the addition of 2–3% HCl, while not absolutely necessary, helps remove flux residues and facilitates better second- and third-stage cleaning. All flux residues should be thoroughly removed to prevent corrosion.

Storage

**CW-908 Aluminum-Cored Solder Wire** has a shelf life of 2 years when stored in a dry, non-corrosive environment, such as a low-humidity dry cabinet. Direct sunlight, excessive humidity, and storage near heat sources should be avoided.

Commonly Available Diameters and Packaging

<table>
<thead>
<tr>
<th>Metric Units</th>
<th>English Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diameter</strong></td>
<td><strong>Spool Weight</strong></td>
</tr>
<tr>
<td>.25mm ± 03</td>
<td>125g</td>
</tr>
<tr>
<td>.40mm ± 05</td>
<td>125g</td>
</tr>
<tr>
<td>.50mm ± 05</td>
<td>500g</td>
</tr>
<tr>
<td>.60mm ± 05</td>
<td>500g</td>
</tr>
<tr>
<td>.80mm ± 05</td>
<td>500g</td>
</tr>
<tr>
<td>1.00mm ± 05</td>
<td>500g</td>
</tr>
<tr>
<td>1.55mm ± 05</td>
<td>500g</td>
</tr>
</tbody>
</table>

**Standard Flux Percentage**

<table>
<thead>
<tr>
<th>Metric Units</th>
<th>English Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>2.7 to 3.2%</td>
</tr>
</tbody>
</table>

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All of Indium Corporation’s solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

From One Engineer To Another

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