

Etching Indium to Remove Oxides

The formation of metal oxides on indium is self-passivating. A thickness of 80-100 Angstroms of oxide is all that will form on the surface. Prior to using indium in a sealing or cold welding application, it is recommended that this oxide layer be removed. Here is the recommended procedure for oxide removal:

1. Degrease the indium with an organic solvent, such as acetone, to remove any organic contaminants that may be on the surface.
2. Mildly etch the indium surfaces in a solution of 5-10% hydrochloric acid (by volume) at room temperature for 1 to 5 minutes, depending on oxide thickness, until surface appears bright. This will remove the 80-100 Angstroms of oxide that form on the surface.

3. Thoroughly rinse twice in DI water.
4. Rinse off the water with acetone (preferred) or isopropyl alcohol.
5. Blow-dry with dry nitrogen.

Note: Because this procedure slightly etches the metallic surface, exposing a larger surface area to oxidation, only the indium that is going to be used immediately should be cleaned by this procedure. Return any unused, etched indium to storage under nitrogen or argon.

APPLICATION NOTE

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices.

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