

INDIUM AND INDIUM ALLOYS FOR CTE MISMATCH & THERMAL TRANSFER

Pure indium and high indium solder alloys have the unique attributes of high ductility, high thermal conductivity and low melting point. These properties make indium and indium alloys an ideal joining material for ceramic component attach to PCB's and heat spreaders.

In addition, pure indium can be used as a gasket to make cold compression bonds with no reflow required.

Surfaces to be soldered must be well cleaned and heated to the appropriate soldering temperature. Typically, flux must be used; however fluxless soldering can be achieved via the use of mechanical scrubbing. This is usually achieved by using an ultrasonic soldering tool to agitate the molten solder, although metal brush abrasion can also be used.



Indium Alloys for Non-Metallic Bonding

AIM offers a wide variety of indium alloys for a various applications. These are available in paste, preform, ribbon, sphere, ingot, wire and foil form.

Common Alloys for Ceramic Component to Metal joining:

<u>Composition</u>	<u>Melting Point (°C)</u>
Pure Indium	157
97In/3Ag	146
80In/15Pb/5Ag	148-149
52In/48Sn	118

Some of the other indium alloys available from AIM:

<u>Composition</u>	<u>Melting Point (°C)</u>
70In/Pb30	165-175
60In/Pb40	173-181
50In/Pb50	178-210
40In/Pb60	195-225
30In/70Pb	245-260
26In/37.5Sn/37.5Pb	134-181
25In/75Pb	250-264
20In/54Sn/26Pb	130-154
19In/81Pb	270-280
5In/2.5Au/92.5Pb	300-310



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