



Solder plus Support

THERMAL MANAGEMENT MATERIALS



THERMAL MANAGEMENT MATERIALS AT A GLANCE

- Exceptional ductility
- Superior heat dissipation
- Broad range of mechanical and melting characteristics
- Excellent fatigue resistance
- Good for use in high power applications

As devices run at higher powers and the need for thermal management becomes greater, solder materials with heat dissipation superior to organic silicon grease type material are needed. AIM offers a range of advanced materials for these types of applications.

Indium and indium alloys are the ultimate thermal management materials, offering exceptional ductility and superior heat dissipation. These products are best when utilized in cases where the outgassing of thermal greases is problematic, the conductivity of thermal greases is insufficient for the heat dissipation needed, or the interface material needs to also serve as a mechanical connection. These elements and alloys are available in powder for fillers, foils¹, wire and custom fabricated preforms.

**AIM'S MANUFACTURING FACILITIES ARE
ISO 9001/14001 & IATF CERTIFIED**

Common Indium Solder Alloys for Thermal Management

Alloy	Ag	In	Pb	Sn	Melting Point °C	Density lb/in ³
In 99		99.99			156	.2639
In 80	5	80	15		142-149	.2834
In 70		70	30		165-175	.2956
In 60		60	40		173-181	.3072
In 52		52		48	118	.2635
In 50		50	50		178-210	.3198
In 40		40	60		195-225	.3355
In 30		30	70		245-260	.3590
In 26		26	36.5	37.5	134-181	.3040
In 25		25	75		226-228	.3599
In 20		20	26	54	130-154	.2950
In 19		19	81		270-280	.3707

¹Thermal foils are alloy laminated foils designed to provide exceptional co-planarity conformity while reducing oxide content. This yields a consistent, reproducible thermal management interface.