Solder plus Support

ALLOY INFORMATION

AIM offers a broad range of alloys for SMT, wave soldering, hand soldering, and various applications. Other alloys are available upon request.

			SOLDER FORM AVAILABILITY					
ALLOY	MELTING POINT °C	COMMENT	SOLDER PASTE	BAR SOLDER	CORED WIRE	SOLID WIRE	SOLDER PREFORMS	SOLDER SPHERES
Au88/Ge12	356	Gold die-attach alloy.	Yes	Yes	No	Yes	Some	Yes
Bi95/Sb5	308	Alloy for high-temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	Yes	Yes	No	Yes	No	Yes
Sn5/Pb93.5/Ag1.5	305-306	High-temperature alloy used mainly for semiconductor attachment to ceramic boards. Also used in fuse and thermal couple attachment	Yes	Yes	No	Yes	Yes	Yes
Sn97/Cu3	227-300	Alloy for high-temperature applications only.	Yes	Yes	No	Yes	Yes	Yes
Au80/Sn20	281	Eutectic die-attach alloy. Costly due to high gold content.	Yes	Yes	No	Yes	Some	Yes
Bi95/Ag5	262.5	Alloy for high temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	Yes	Yes	No	Yes	No	Yes
Sn95/Sb5	232-240	Alloy for high-temperature applications only. Poor wetting. Less cost-prohibitive than Sn/Ag.	Yes	Yes	Yes	Yes	Yes	Yes
Sn95/Ag5	221-240	Alloy for high-temperature applications only. Costly due to high silver content.	Yes	Yes	Yes	Yes	Yes	Yes
Sn97/Sb3	232-238	Alloy with similar properties to Sn95/Sb5.	Yes	Yes	Yes	Yes	Yes	Yes
Sn/Ag25/Sb10	223-236	High temperature die-attach alloy. Costly due to high silver content.	No	Yes	No	Yes	Yes	Yes
SAC+0107 Sn/Ag0.1/Cu0.7	217-228	Lowest available silver version of the SAC alloy family This alloy is a low cost alternative for flow soldering.	Yes	Yes	Yes	Yes	Yes	Yes
SAC+0307 Sn/Ag0.3/Cu0.7	217-227	Low cost Sn-Ag-Cu alloy. Far superior fluidity as compared to other alloys and makes of bar, resulting in excellent flow when used in wave soldering.	Yes	Yes	Yes	Yes	Yes	Yes
SN100C®	227	Ni and Ge-doped Sn/Cu alloy. Bright solder joints, improved wetting.	Yes	Yes	Yes	Yes	Yes	Yes
SAC-LOW	227	Low-silver, cost effective Sn/Cu/Ag alloy available for wave soldering applications.	Yes	Yes	Yes	Yes	Yes	Yes
Sn99.3/Cu0.7	227	Cost-effective alternative for wave soldering and hand soldering applications. Attention should be paid to poor wetting and fatigue properties.	Yes	Yes	Yes	Yes	Yes	Yes
Sn96.5/Ag3.5	221	May not have adequate thermal reliability or wetting and requires higher soldering temperatures than tin-silver-copper alloys.	Yes	Yes	Yes	Yes	Yes	Yes
SAC305 Sn/Ag3/Cu0.5	217-218	Low-silver tin-silver-copper alloy in line with JEIDA recommendation. Lowest cost pure tin-silver copper alloy.	Yes	Yes	Yes	Yes	Yes	Yes
SAC387 Sn/Ag3.8/Cu0.7	217-218	Alternative tin-silver-copper alloy. Similar characteristics as SAC305 with slightly higher cost of metals.	Yes	Yes	Yes	Yes	Some	Yes
SAC405 Sn/Ag4/Cu.7	217-218	High-silver tin-silver-copper alloy. Similar characteristics as SAC305 with higher cost of metals.	Yes	Yes	Yes	Yes	Some	Yes
CASTIN® Sn/Ag2.5/Cu.8/Sb.5	217	The lowest melting point and least expensive of the tin-silver-copper family of alloys. Proven reliability and compatibility with current parts and processes.	Yes	Yes	Yes	Yes	Yes	Yes
In50/Pb50	178-216	A compliant alloy good for soldering substrates together.	Yes	Yes	No	Yes	Yes	Yes
Sn50/Pb50	183-212	Alloy with a large pastey range used to fill large gaps.	Yes	Yes	No	Yes	Yes	Yes
Sn91/Zn9	199	Attention should be paid to the very high corrosion and oxidation of Sn/Zn alloys. Requires special flux formulation. Short shelf-life.	No	Yes	No	Yes	Some	Yes
Sn60/Pb40	183-190	Alloy commonly used to wave solder large gap devices in electronic assembly.	Yes	Yes	Yes	Yes	Yes	Yes
Sn63/Pb37	183	Standard electronic assembly alloy prior to RoHS.	Yes	Yes	Yes	Yes	Yes	Yes
In97/Ag3	143	Alloy for low temperature applications. Costly due to high indium and silver contents. Attention should be paid to corrosion, joint strength and fatigue issues.	Yes	Yes	No	Yes	Some	No
Sn42/Bi58	138	Alloy for low temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	Yes	Yes	No	Yes	Some	Yes
Sn42/Bi57/Ag1	138	Similar characteristics to Sn42/Bi58, with improved fatigue characteristics.	Yes	Yes	No	Yes	Some	Yes
In52/Sn48	118	Alloy for low temperature applications. Costly due to high indium content. Attention should be paid to corrosion, joint strength and fatigue issues.	Yes	Yes	No	Yes	Some	No

"Some" refers to preforms that generally are not available flux filled.