

Alloys

AIM offers a broad range of alloys for SMT, wave soldering, hand soldering, and various applications. See the chart below for a listing of common alloys used in the electronics industry. Other alloys are available upon request.

ALLOY	MELTING POINT °C	COMMENT	SOLDER FORM AVAILABILITY					
			SOLDER PASTE	BAR SOLDER	CORED WIRE	SOLID WIRE	SOLDER PREFORMS	SOLDER SPHERES
Sn42/Bi58	138	Alloy for low temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	•	•		•	•	•
Sn42/Bi57/Ag1	138	Similar characteristics to Sn42/Bi58, with improved fatigue characteristics.	•	•		•	•	•
Sn63/Pb37	183	Standard electronic assembly alloy prior to RoHS.	•	•	•	•	•	•
CASTIN® Sn/Ag2.5/Cu0.8/Sb0.5	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.	•	•	•	•	•	•
SAC305 Sn/Ag3/Cu0.5	217-218	Tin-silver-copper alloy in line with JEIDA recommendation.	•	•	•	•	•	•
SAC387 Sn/Ag3.8/Cu0.7	217-218	Alternative tin-silver-copper alloy. Similar characteristics as SAC305 with slightly higher cost of metals.	•	•	•	•	•	•
SAC405 Sn/Ag4/Cu0.5	217-218	High-silver tin-silver-copper alloy. Similar characteristics as SAC305 with higher cost of metals.	•	•	•	•	•	•
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.	•	•	•	•	•	•
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.	•	•	•	•	•	•
Sn96.5/Ag3.5	221	May not have adequate thermal reliability or wetting and requires higher soldering temperatures than tin-silver-copper alloys.	•	•	•	•	•	•
Sn97.5/Ag2.5	221-240	Alloy for high-temperature applications only. Costly due to high silver content.	•	•	•	•	•	•
SN100C® Sn/Cu0.7/Ni0.05+Ge	227	Ni and Ge-doped Sn/Cu alloy. Bright solder joints, improved wetting.	•	•	•	•	•	•
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.	•	•	•	•	•	•
SCAN	227	Alternative low-cost lead-free alloy manufactured with a small amount of performance enhancing dopants.	•	•	•	•	•	•
Sn97/Cu3	227-300	Alloy for high-temperature applications only.	•	•		•	•	•
Sn95/Sb5	232-240	Alloy for high-temperature applications only. Poor wetting. Less cost-prohibitive than Sn/Ag.	•	•	•	•	•	•
Bi95/Ag5	262.5	Alloy for high temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	•	•		•		•
Au80/Sn20	281	Eutectic die-attach alloy. Costly due to high gold content.	•	•		•	•	•
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	•	•		•	•	•
Bi95/Sb5	308	Alloy for high-temperature applications. Attention should be paid to potential embrittlement issues and poor thermal fatigue properties.	•	•		•		•
Au88/Ge12	356	Gold die-attach alloy.	•	•		•	•	•