Alloys

AIM offers a broad range of alloys for SMT, wave soldering, hand soldering, and various applications. Commonly used alloys for the electronics industry are shown below. 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
LOW TEMPERATURE								
Sn42/Bi58	138	For low temperature soldering applications. Alloys containing high amount of bismuth have unique properties that may require special considerations.	●	●		●	●	●
Sn42/Bi57/Ag1								
Sn62/Pb36/Ag2	179	Not RoHS/REACH compliant.	●	●	●	●	●	●
Sn63/Pb37	183							
HIGH RELIABILITY								
REL61™ Sn/Ag/Cu/Bi	208-215	Enhanced reliability, high strength/low silver, lead-free solder alloy. Exhibits good wetting. Mitigates tin whisker formation.	●	●	●	●	●	●
REL22™ Sn/Ag/Cu/Bi/Sb/X	210-212	High reliability, high strength lead-free solder alloy. Exceptionally durable for extreme service environments.	●	●	●	●	●	●
CASTIN® Sn/Ag2.5/Cu0.8/Sb0.5	217-219	Improved drop-shock performance versus SAC305.	●	●	●	●	●	●
TIN-SILVER/TIN-SILVER-COPPER (SAC)								
SAC305 Sn/Ag3/Cu0.5	217-218	Industry standard for SMT and through hole soldering. High purity and high performance alloy.	●	●	●	●	●	●
SAC387 Sn/Ag3.8/Cu0.7								
SAC405 Sn/Ag4/Cu0.5								
Sn96.5/Ag3.5	221	Eutectic Sn-Ag solder alloy. May not have adequate thermal reliability/ wetting. Requires higher soldering temperature than SAC alloys.	●	●	●	●	●	●
LOW/NO SILVER LEAD-FREE								
SAC-B 0307 Sn/Ag0.3/Cu0.7	217-227	Cost effective alternative to SAC alloys. Primarily used in wave, selective and hand soldering due to higher melting temperatures. High purity and high performance alloy.	●	●	●	●	●	●
SAC-B 0107 Sn/Ag0.1/Cu0.7								
SN100C® Sn/Cu0.7/Ni0.05+Ge	227	Near eutectic, low/no silver, cost effective alternative for wave soldering and hand soldering applications.	●	●	●	●	●	●
Sn99.3/Cu0.7								
SCAN								
Sn97/Cu3	227-300	Lead-free alloy used for high temperature soldering applications.	●	●		●	●	●
SPECIALTY ALLOYS								
Sn95/Sb5	235-240	High temperature application alloy. Special considerations may need to be made to accommodate unique alloy properties.	●	●	●	●	●	●
Bi97.5/Ag2.5	263		●	●				●
Au80/Sn20	281	Ideal for soldering gold. High hardness, high strength, high reliability.	●	●		●	●	●
Sn5/Pb93.5/Ag1.5	305-306	High temperature alloy used for semiconductor attachment and used in fuse and thermal couple attachment applications.	●	●		●	●	●
Bi95/Sb5	275-308	High temperature application alloy.	●	●				●
Au88/Ge12	356	Gold die-attach alloy.	●	●			●	●

*Solder Form Availability Subject to Change

Melting points should not be used as design criteria for thermal protection devices.