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CRITICAL INFORMATION WHEN USING SPINODAL CONTACT MATERIAL
Application of Common Solders

All copper-base alloys can react with the tin in tin-containing solders at high temperatures to form intermetallic components.

For Temperatures Above 150°C

At these very high temperatures, in order to minimize intermetallic phase formation that can occur with any copper alloy, it is necessary to use high lead solder containing a maximum of 10% tin. Excellent field experience has been obtained with the 10%Sn-88%Pb-2%Ag solder. Laboratory data also shows excellent compatibility of this solder with Spinodal at 225°C. The 10%Sn-90%Pb solder is not recommended for temperatures above 200°C.

For Temperatures up to 150°C

All Tin-Lead solders can be used in this temperature range.

ASTM* ALLOY GRADE	COMPOSITION	SOLIDUS		LIQUIDUS		SUGGESTED TEMP. RANGES OF USE WITH SPINODAL		
		°C	°F	°C	°F	Up to 150° C	150° to 200° C	Above 200° C
Tin/Lead								
Sn63	63Sn/37Pb	183	361	183	361	☐		
Sn60	60Sn/40Pb	183	361	190	374	☐		
Sn50	60Sn/50Pb	183	361	216	421	☐		
Sn45	45Sn/55Pb	183	361	227	441	☐		
Sn40A	40Sn/60Pb	183	361	238	460	☐		
Sn30A	30Sn/70Pb	183	361	255	491	☐		
Sn25A	25Sn/75Pb	183	361	266	511	☐		
Sn15	15Sn/85Pb	225	437	290	554	☐		
Sn10A	10Sn/90Pb	268	514	302	576	☐		
Sn5	5Sn/95Pb	308	586	312	594	☐	☐	☐
Sn2	2Sn/98Pb	316	601	322	611	☐	☐	☐
Silver Bearing								
Sn96	96.5Sn/3.5Ag	221	430	224	430	☐		
—	95Sn/5Ag	221	430	241	465	☐		
Sn10B	10Sn/88Pb/2Ag	268	514	299	570	☐	☐	☐
Ag2.5	97.5Pb/2.5Ag	301	580	304	580	☐	☐	☐
Tin/Antimony								
—	100Sn	232	450	232	450	☐		
Sb5	95Sn/5Sb	233	452	240	464	☐		

*From ASTM Standard B32-83.