SOLDER DEFECT TROUBLESHOOTING GUIDE

Smart SMT
Equipment & Solutions for Electronic Assembly

DEFECT	Coplanarity	Contamination	Metallurgy	Solder Quality	Solder Volume	Reflow Profile	Placement Accuracy	Land Design	Reflow Cycle Too Long	Excessive Reflow Temp	Excessive Heating Rate	Preheat Temp Low	Solder Paste Oxidation	Screen/Stencil Clogged	Insufficient Solder Paste	Oxidized Solder Paste	Paste Viscosity Too Low	Misaligned Component	Excess Solder Deposition	Component Contamination	Board Contamination	Pad Size Mismatch
	CAUSE																					
Open Joint	■	■			■		■							■				■				
Tombstoning			■	■	■	■	■	■			■											■
Voids		■	■	■		■		■														
Solder Wicking	■		■			■																
Non-Wetting		■	■	■					■													
Incomplete Fillets	■				■		■	■			■				■							
Poor Strength		■	■	■	■	■																
Solder Shorts					■		■	■														
Solder Balls				■	■	■					■	■				■	■					
Intermetallics			■	■		■																
Appearance			■			■	■															
Component Cracking			■		■	■	■	■														
Bridging																		■	■	■	■	
Grainy Solder																				■	■	
Laminate Discoloration									■	■												
Leaching									■	■												
Halo Effect													■									
Discolored Joint													■							■	■	

HELLER INDUSTRIES