We are the experts for thermal processes:

Reflow soldering, drying, hardening, curing and custom design of systems...

SMT
Maschinen- und Vertriebs GmbH & Co.KG

Solder problems

	tombstoning	bridging	excessive solder paste	delamination of board	cold solder joint	insufficient paste	poor wetting	surface	dislocation	discoloration	solder balls
solder paste problem					possibly aged solder paste or flux problems		possibly aged solder paste or flux problems	flux residues			solder paste too cold (when opening the container) and thus humid
time between printing and reflow too long		time between printing and reflow too long, solder paste disperses			time between printing and reflow too long, flux no longer active		time between printing and reflow too long, flux no longer active		component connection got lost (missing adhesive strength)		time between printing and reflow too long, solder paste disperses
uneven pad lay out	uneven melting of pads										
stencil too thick		bridging during reflow	too much solder paste								solder balls during reflow
print beyond pad size		bridging during reflow	bridging during reflow						light weight components get pulled during reflow due to different solder deposits		print beyond the pad limit
contamination during printing						possibly drying out of paste or stencil clogged					paste residues on the stencil
displacement of print	component may not be placed fully into paste	paste overlaps two solder pads							light weight components get pulled during reflow		print beyond the pad limit
uneven pressure during printing	component is placed in uneven amount of paste					insufficient amount of paste	insufficient amount of paste		caused by uneven amount of paste during reflow		
missing components	different component dimensions						aged components with oxidized pads		contact area only partly wettable		
displacement	component is placed only single sided into paste	component is placed between two pads							incorrect placement		paste print gets dislocated during placement
placement pressure or positioning incorrect	component is placed only single sided into paste	paste print gets too wide after placement									paste print gets too wide after placement
> 2.3 K/sec ramp up gradient	paste melts too quickly on one side				flux looses activation too quickly			flux looses activation too quickly			excessive heating rate
< 3 min reflow cycle too short					peak temperature on the board too low		flux not yet fully activated				
> 5 min reflow cycle too long				board material gets too hot for too long			activator used up too early	activator used up, surface very rough		flux residues are discoloring	
> Temp. excessive reflow temperature				board material gets too hot, discoloration	too hot in preheat zone		oxidation on board cutting edge	too hot in preheat zone		flux residues discoloration	
< Temp. reflow temperature too low					peak temperature on the board too low		flux not yet fully activated				
ppm ppm level too high							ppm level too high	ppm level too high for N2 solder paste			
ppm ppm level too low	surface tension insufficient (problem at vapor phase)							flux corrodes paste surface			

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