

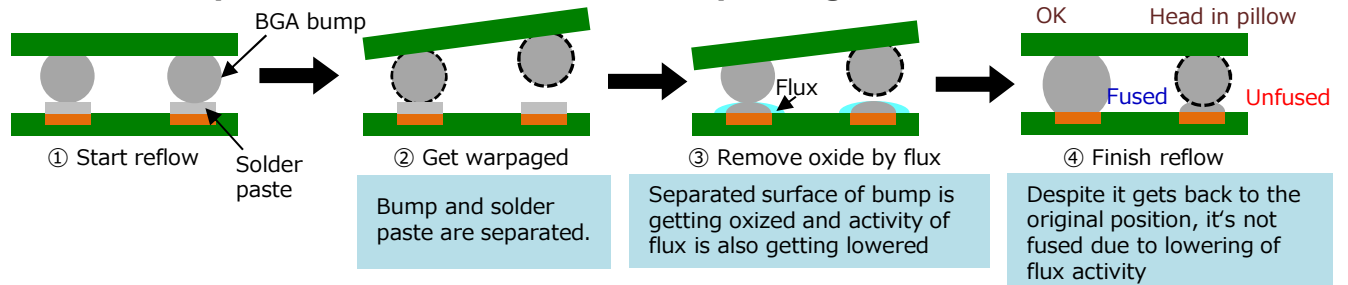
Anti Head in Pillow Defect

PF305 - 153TO

Alloy Composition : Sn-3.0Ag-0.5Cu

Flux : Halogen Free, ROL0 in IPC standards

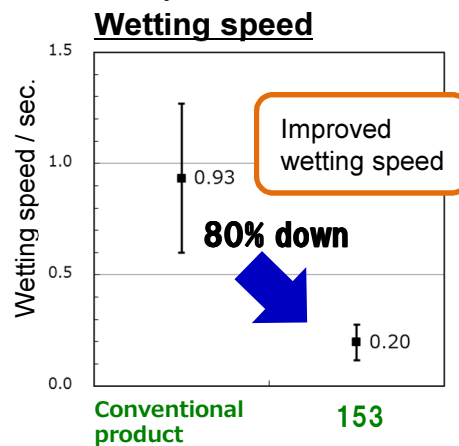
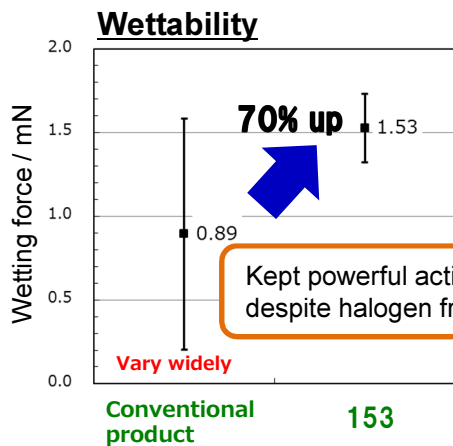
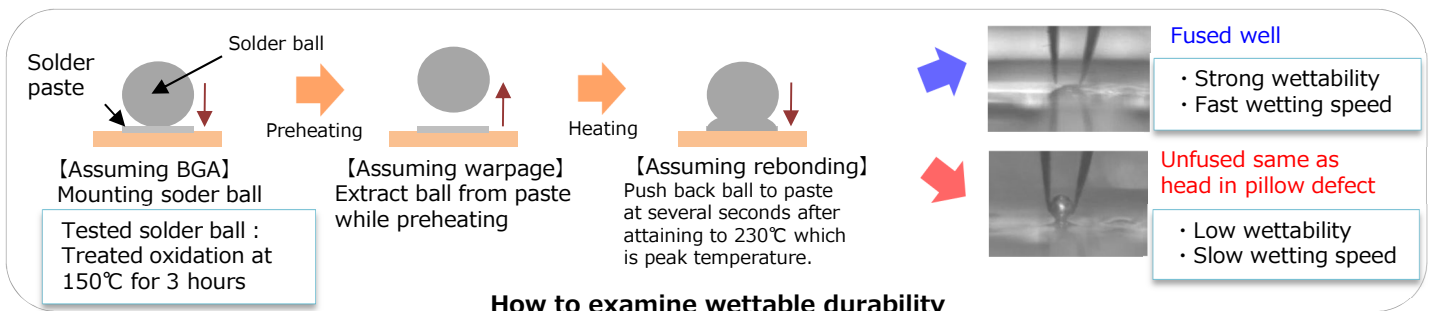
How head in pillow defect occurs in BGA package ?



Schematic diagram of head in pillow defect caused by warpage in the package

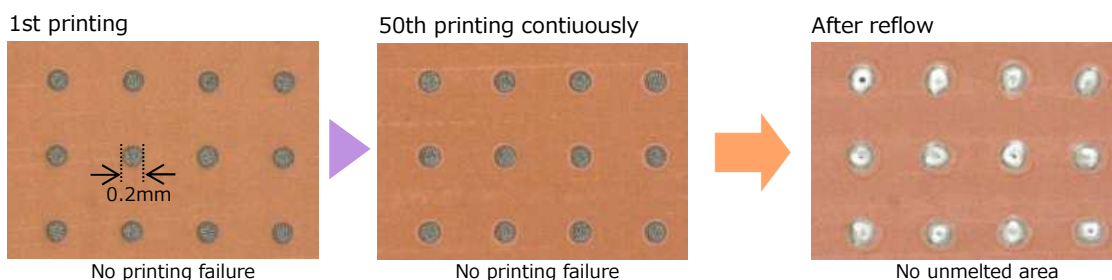
Strong wettable durability inhibits head in pillow defect

We checked quantification of wettability with an exclusive apparatus to measure wetting force and wetting speed.



Secured fine printability and fine solubility required for BGA package

Fine solubility even at air reflow

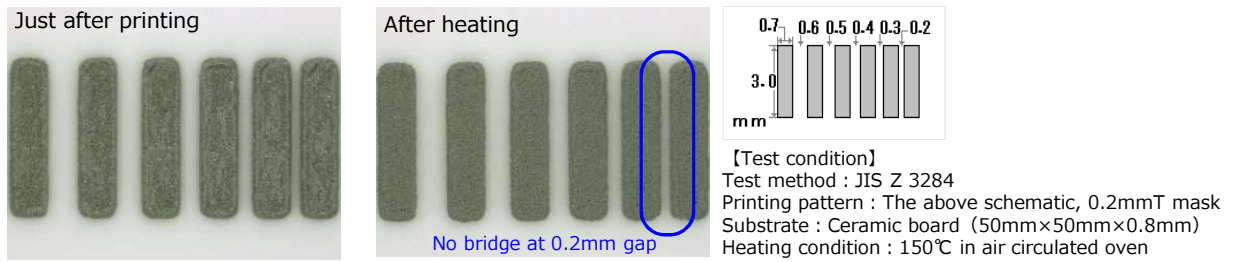


[Test board]
 · Substrate : FR-4
 · Mask : 0.2mmΦ and 0.12mmT

[Reflow condition]
 · Air reflowing
 · Preheating 100sec at 180 to 190°C
 · Peak temp. 240°C, 26sec for 220°C

◆ Inhibiting heat slump and solder ball occurrence

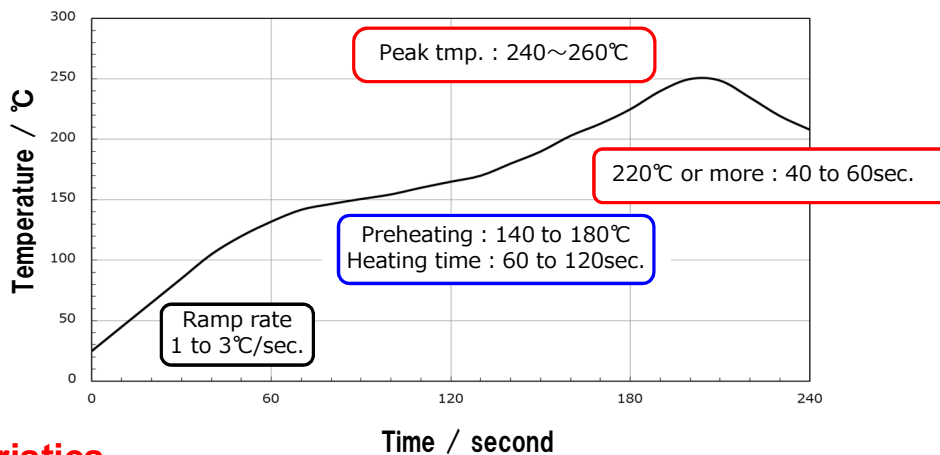
Excellent depression effect for heat slump



Excellent depression effect for solder ball occurrence



◆ Recommended heating profile



◆ Characteristics

Items		Representative value		Test method
Alloy composition		Sn-3.0Ag-0.5Cu		—
Particle size		IPC Type.4	IPC Type.5	—
Flux content		11.5 wt%	12.0 wt%	JIS Z 3197
Fluid characteristics	Viscosity	200 Pa · s		JIS Z 3284
	TI value	0.60		
Halide content		0.02%		JIS Z 3197
Flux type		ROL0		IPC J-STD-004
Tack time at 100gf or more		24 hours		JIS Z 3284

*The above values are not guaranteed figures but representative ones.