technical information

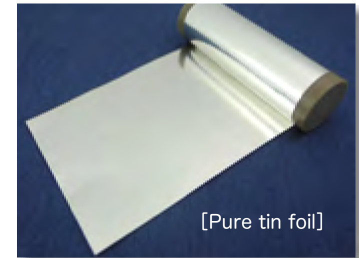
<Sound Excitation Bonding>

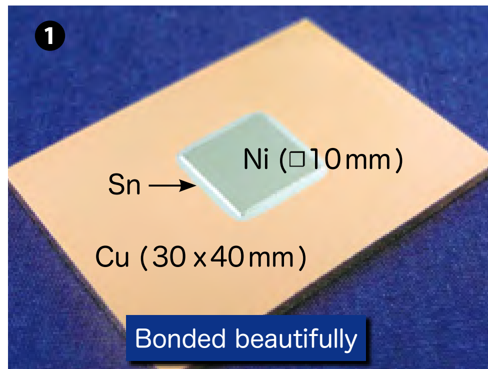
The tin diffusions into nickel and copper are processed in atmosphere & room temperature conditions, with [Sound Power] energy.

Pure tin foil 20 μm thick sandwiched between Nickel and Copper plates bonds them together at once, by just [SoundPower] energy. The energy excites atoms for diffusion and alloy.

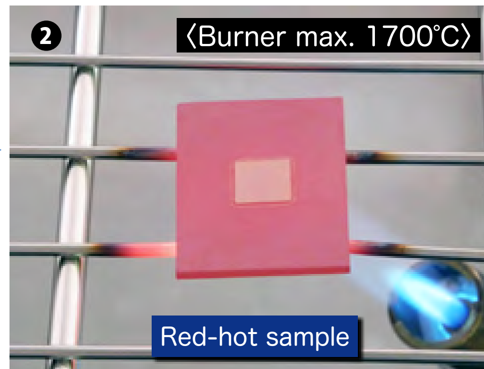
(1)No warp and bend. (2)No stress & no whiskers of tin. (3)No void at the interface.

[SoundPower] energy excites atoms and makes alloys!!

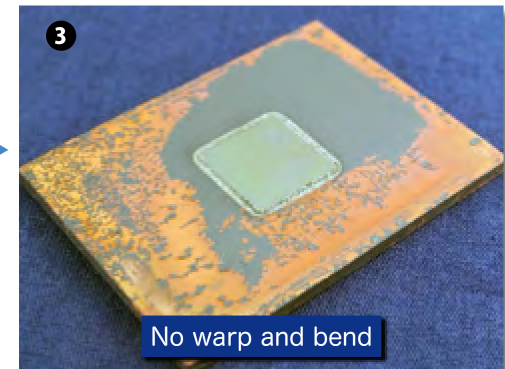




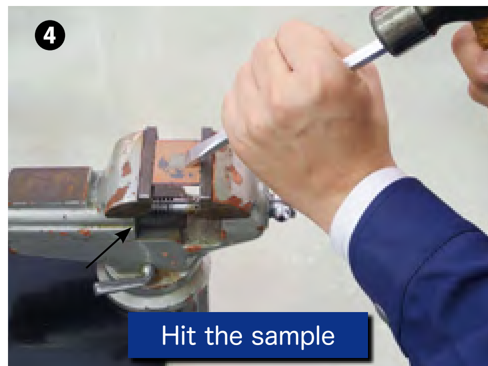
[Nickel/Sn/Cu Bonded sample]



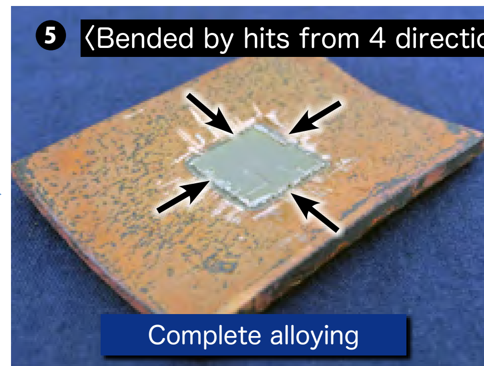
[Heat up rapidly from room temp. to 700℃ or more]



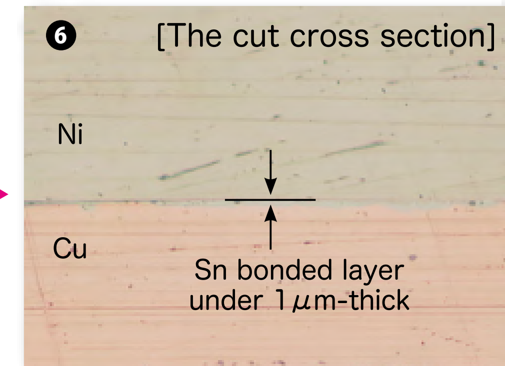
[Cool down rapidly after keeping the temp.]



[Hit shock test with chisel and hammer]



[No separation even if heat & hit shocks]



(Patent)

[Material] Upper : Nickel plate (□10mm/t 0.2mm)　Middle : Pure tin foil (□10mm/t 20 μm)
Lower : Copper plate (30x40mm/t 2mm)

[Environment] Temperature : Room
Atmosphere : N_2 gas
(❶ Less oxidation can be seen beautifully, but no need for bonding)

SoundPower® Laboratory

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