

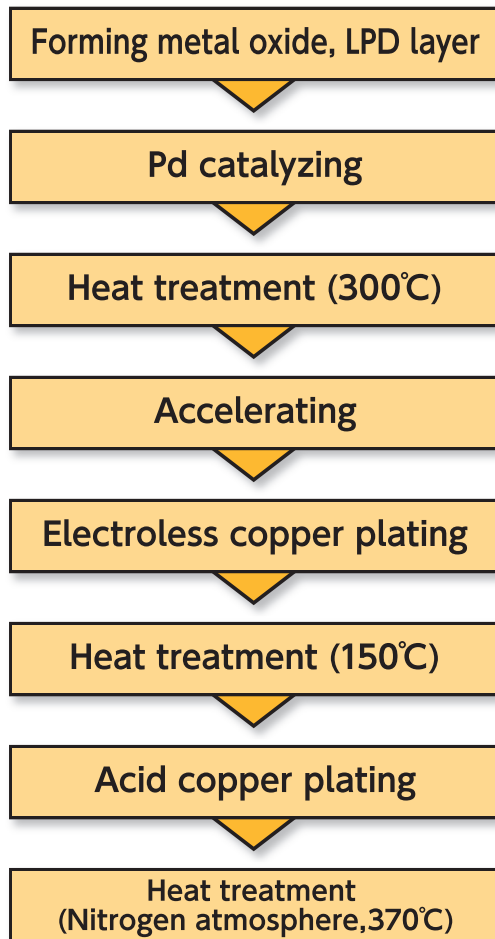
Electroless copper plating process with high adhesion on glass substrate

PLOPX

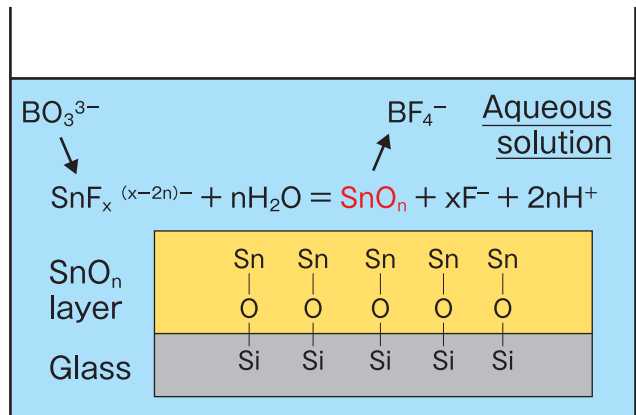
※Jointly developed with Panasonic Environment Systems & Engineering Co., Ltd.

- Electroless copper plating process from metal oxide layer by Liquid Phase Deposition (LPD method)
- High peel strength on low profile glass substrates
- Excellent in the deposition performance into TGV (Through Glass Via)

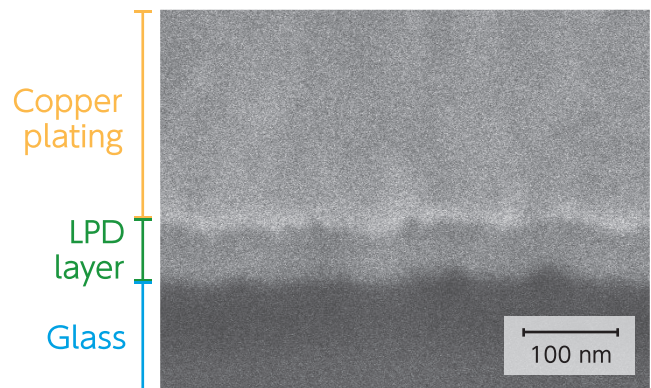
Treatment process



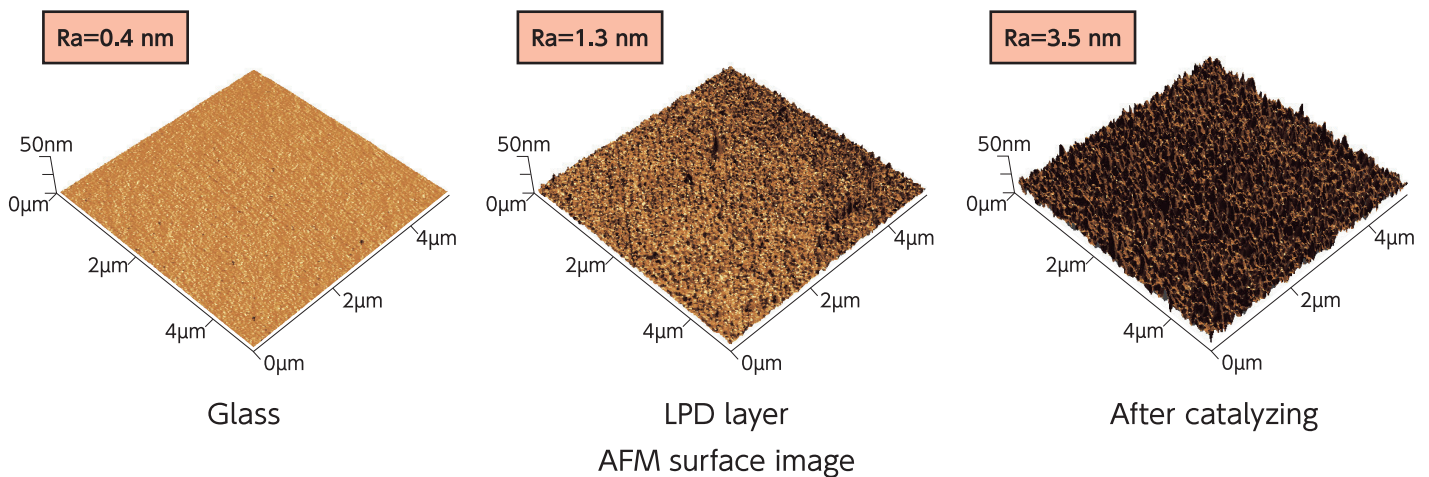
Form flat and smooth metal oxide layer



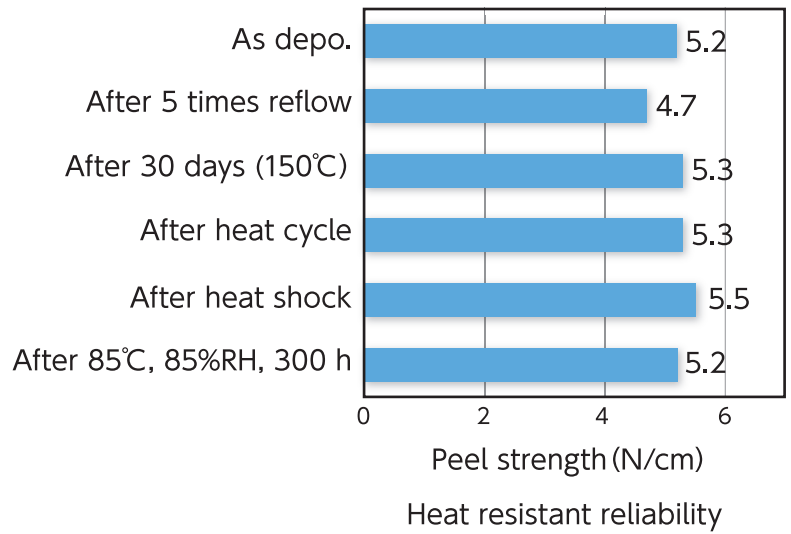
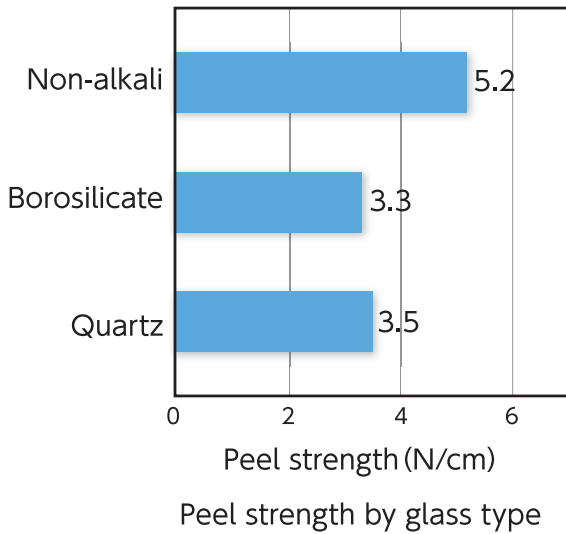
Schematic diagram of LPD method



SEM image of cross section

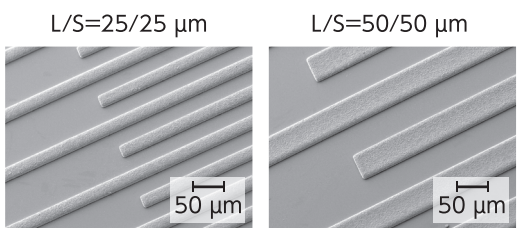


High peel strength on glass substrate

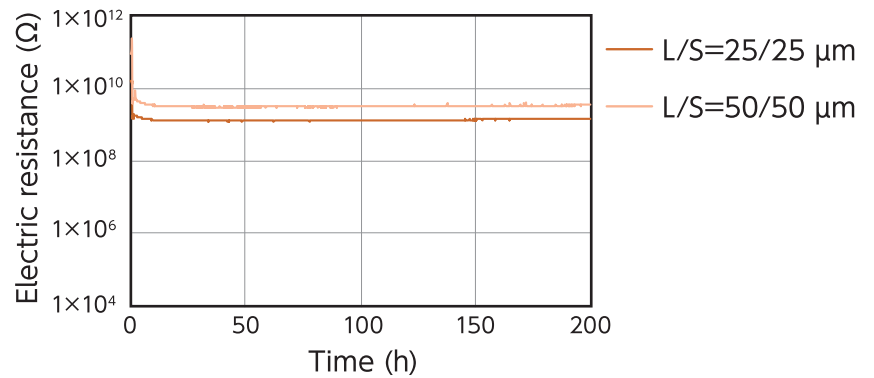


Reflow : over 250°C, 30 s, maximum temperature 270°C
 Heat cycle : -40°C, 30 min→25°C, 5 min→90°C, 30 min→25°C, 5 min×200 cycles
 Heat shock:300°C, 1 h→0°C, 5 min(2 times treatment)

Excellent in insulation reliability



Form comb pattern on glass substrate



Migration test
 Test condition: 110°C, 85%RH, 3.5 V, 200 h

Excellent in the deposition performance into TGV

