


Developing High-Thickness Photoresist Stripping Methods

Key Achievements

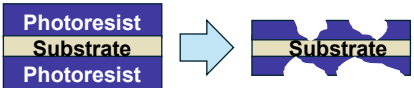
- Modified Dry Film Stripping system to handle 168 μ m thickness (originally 25 μ m)
- Pioneered the "Stop & Go Conveyor System," a first in the industry.

As is

- **25 μ m Photoresist**
: Completely removed




- **168 μ m Photoresist**
: Partially removed



Photoresist
Substrate
Photoresist

Substrate

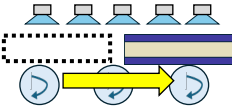
< Before Stripping >
Substrate With Photoresist
Dry Film after Developing



Breakthrough

- **Adapting New Idea**
Limited dipping time by limited length of spray zone
→ Increasing Dipping time by Stop & Go conveyor

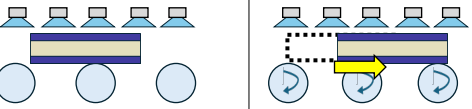
Conventional Conveyor



Stop & Go Conveyor

Step 1
Stop on conveyor for xx sec.

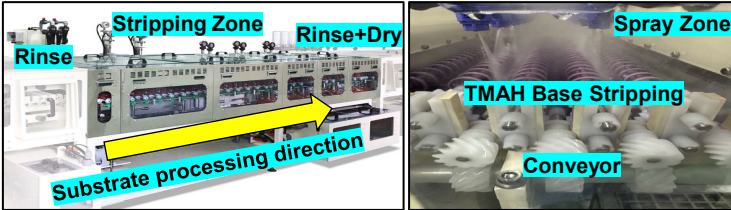
Step 2
Move for xx sec., then repeat



- **Overcoming Side-Effects**
<Smears, Spray Nozzle Marks>

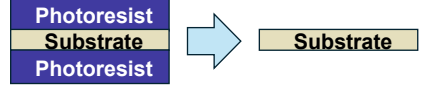
- Minimized spray exposure after most photoresist is stripped
- Optimized spray pressure for flow control

<Example Images of Stripping Machine>



To be

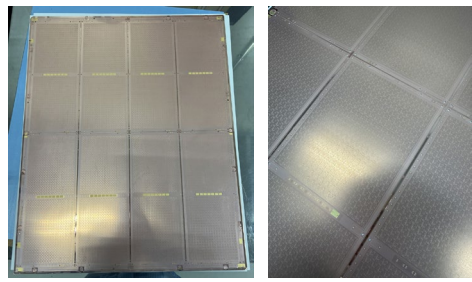
- **168 μ m Photoresist**
: Completely removed



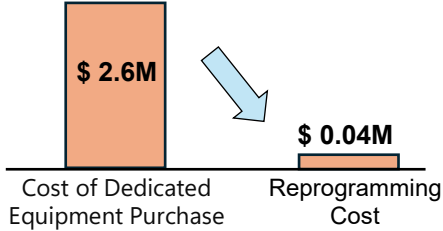
Photoresist
Substrate
Photoresist

Substrate

< After Stripping >



- **Quantitative effect**



\$ 2.6M

\$ 0.04M

Cost of Dedicated Equipment Purchase

Reprogramming Cost

- **Qualitative effect**

- Developed a new method to strip 6x thicker photoresist
- Introduced new potential with improved conveyor system