

CLAIMS

[Claim 1] A substrate processing method, comprising:

rotating a laminated substrate manufactured by bonding a first substrate and a second substrate;

5 applying a filler, having thermosetting property, to a gap between a peripheral portion of the first substrate and a peripheral portion of the second substrate; and

curing the filler,

wherein applying the filler and curing the filler are continuously performed in a same processing chamber.

10

~~[Claim 2] The substrate processing method according to claim 1, wherein applying the filler comprises injecting the filler by use of a syringe mechanism,~~

~~the syringe mechanism includes:~~

~~— a syringe body filled with the filler; and~~

15 ~~— a piston movable in the syringe body, and~~

~~— a tip opening of the syringe body is opposite to the gap.~~

~~[Claim 3] The substrate processing method according to claim 1, wherein applying the filler comprises ejecting the filler by use of ejection mechanism,~~

20 ~~— the ejection mechanism includes an ejector filled with the filler, and~~

~~— the ejector has an ejection port opposite to the gap.~~

~~[Claim 4] The substrate processing method according to claim 1, wherein~~

~~— applying the filler comprises conveying the filler by use of a conveyance~~

25 ~~mechanism, and~~

the conveyance mechanism includes:

a tube having a discharge port and filled with the filler; and

a filler conveyance member which extends from the discharge port, and

which is in close proximity to or contacts the gap.

[Claim-5_2] The substrate processing method according to ~~any one of claims 1 to 4~~
claim 1, wherein curing the filler comprises curing the filler by use of a lamp heater.

5

[Claim-6_3] The substrate processing method according to ~~claim-5_2~~, wherein the
lamp heater irradiates a light having a wavelength of 1 μm or more from above or below
the laminated substrate toward the filler.

10 [Claim-7_4] The substrate processing method according to ~~any one of claims 1 to 4~~
claim 1, wherein curing the filler comprises curing the filler by use of a heat-gun.

[Claim-8_5] A substrate processing apparatus, comprising:

15 a substrate holder configured to hold and rotate a laminated substrate
manufactured by bonding a first substrate and a second substrate;

an application module configured to apply a filler, having thermosetting
property, to a gap between a peripheral portion of the first substrate and a peripheral
portion of the second substrate;

a cure module configured to cure the filler; and

20 a processing chamber in which the substrate holder, the application module, and
the cure module are disposed,

wherein applying and curing of the filler are continuously performed in the
processing chamber while rotating the laminated substrate-.

25 ~~[Claim 9] The substrate processing apparatus according to claim 8, wherein the
application module includes a syringe mechanism,~~

~~the syringe mechanism includes:~~

~~a syringe body filled with the filler; and~~

_____ a piston movable in the syringe body, and
_____ a tip opening of the syringe body is oppose to the gap.

[Claim 10] _____ The substrate processing apparatus according to claim 8, wherein the
5 application module includes an ejection mechanism,
_____ the ejection mechanism includes an ejector filled with the filler, and
_____ the ejector has an ejection port opposite to the gap.

[Claim 11] _____ The substrate processing apparatus according to claim 8, wherein
10 _____ the application module includes a conveyance mechanism, and
the conveyance mechanism includes:

a tube having a discharge port and filled with the filler; and
a filler conveyance member which extends from the discharge port, and
which is in close proximity to or contacts the gap.

15
[Claim-12_6] The substrate processing apparatus according to ~~any one of claims 8 to~~
11 claim 5, wherein the cure module includes a lamp heater, and

the lamp heater includes:

a lamp; and
20 an optical device that directs heat from the lamp to the filler.

[Claim-13_7] The substrate processing apparatus according to claim-8_6, wherein the
lamp is configured to irradiate a light having a wavelength of 1 μm or more, and
the lamp heater is disposed above or below the laminated substrate.

25
[Claim-14_8] The substrate processing apparatus according to ~~any one of claims 8 to~~
11 claim 5, wherein the cure module includes a heat-gun configured to blow a heated gas
toward the filler.