

WHAT IS CLAIMED IS:

1. A package substrate processing method for processing a package substrate having a division line, a metal electrode being formed on said division line, said package substrate processing method comprising:

a cutting step of cutting said package substrate along said division line by using a cutting blade, wherein said cutting step includes rotating said cutting blade and passing said cutting blade through said metal electrode, and also wherein, during said cutting step, said rotating cutting blade passes completely through said package substrate; and

a burr removing step of removing burrs produced from said metal electrode in said cutting step by spraying a fluid to said package substrate along said division line after performing said cutting step, wherein during said burr removing step, the fluid is provided at a pressure of between 30 MPa and 35 MPa;

said cutting step including a step of supplying a cutting liquid containing an organic acid and an oxidizing agent to a cutting area where said package substrate is to be cut by said cutting blade, and

wherein:

during said cutting step, the cutting fluid is

supplied from at least one nozzle block that is configured and arranged to move with a cutting unit that includes said cutting blade, and

during said burr removing step, the fluid used for removing burrs produced from said metal electrode is supplied from a fluid spraying unit that is configured and arranged to move separately from the cutting unit, and

further wherein:

the package substrate includes a plurality of said division lines;

said cutting step is performed on a first one of said division lines;

after performing the cutting step on the first one of said division lines, said cutting step is performed on a second one of said division lines, where said second one of said division line is adjacent to said first one of said division lines; and

said burr removing step is performed on said first one of said division lines while said cutting step is performed on said second one of said division lines.

2. The package substrate processing method according to claim 1, wherein:

said cutting step is performed by moving the cutting

unit in a first direction; and

said burr removing step is performed by moving the fluid spraying unit in a second direction, where the second direction is opposite of the first direction.

3. A package substrate processing method for processing a package substrate having a division line, an electrode being formed on said division line, said package substrate processing method comprising:

a tape attaching step of attaching an adhesive tape to said package substrate before performing said cutting step; and

a holding step of holding said package substrate through said adhesive tape on a holding unit after performing said tape attaching step;

a cutting step of cutting said package substrate along said division line by using a cutting blade, wherein said cutting step includes a step of supplying a cutting liquid containing an organic acid and an oxidizing agent to a cutting area where said package substrate is to be cut by said cutting blade, and further wherein said cutting step is performed after performing said holding step;

said cutting step being performed by fully cutting said package substrate attached to said adhesive tape

along said division line to a depth where said cutting blade reaches said adhesive tape in a condition where said package substrate is held through said adhesive tape on said holding unit; and

a burr removing step of removing burrs produced from said electrode in said cutting step by spraying a fluid to said package substrate along said division line after performing said cutting step;

said burr removing step being performed by spraying said fluid in a condition where said adhesive tape is attached to said package substrate, and

wherein

during said cutting step, the cutting fluid is supplied from at least one nozzle block that is configured and arranged to move with a cutting unit that includes said cutting blade, and

during said burr removing step, the fluid used for removing burrs produced from said metal electrode is supplied from a fluid spraying unit that is configured and arranged to move separately from the cutting unit, and

further wherein:

the package substrate includes a plurality of said division lines;

said cutting step is performed on a first one of said division lines;

after performing the cutting step on the first one of said division lines, said cutting step is performed on a second one of said division lines, where said second one of said division line is adjacent to said first one of said division lines; and

said burr removing step is performed on said first one of said division lines while said cutting step is performed on said second one of said division lines.

4. The package substrate processing method according to claim 3, wherein said electrode comprises a metal electrode, and further wherein said cutting step includes rotating said cutting blade and passing said cutting blade through said metal electrode.

5. The package substrate processing method according to claim 3, wherein, during said burr removing step, the fluid is provided at a pressure of a value that is greater than 25 MPa and less than 40 MPa.

6. The package substrate processing method according to claim 3, wherein, during said burr removing step, the fluid is provided at a pressure of between 30 MPa and 35 MPa.

7. The package substrate processing method

according to claim 3, wherein:

said cutting step is performed by moving the cutting unit in a first direction; and

said burr removing step is performed by moving the fluid spraying unit in a second direction, where the second direction is opposite of the first direction.

8. A package substrate processing method for processing a package substrate having a division line, an electrode being formed on said division line, said package substrate processing method comprising:

a holding step of holding said package substrate on a jig table having a groove corresponding to said division line;

a cutting step of cutting said package substrate along said division line by using a cutting blade, said cutting step being performed by fully cutting said package substrate along said division line to the depth where said cutting blade reaches said groove of said jig table in a condition where said package substrate is held on said jig table, and further wherein said cutting step is performed after performing said holding step; and

a burr removing step of removing burrs produced from said electrode in said cutting step by spraying a fluid to said package substrate along said division line

after performing said cutting step, said burr removing step being performed by spraying said fluid to said package substrate held on said jig table, and

wherein said cutting step includes a step of supplying a cutting liquid containing an organic acid and an oxidizing agent to a cutting area where said package substrate is to be cut by said cutting blade, and

wherein:

during said cutting step, the cutting fluid is supplied from at least one nozzle block that is configured and arranged to move with a cutting unit that includes said cutting blade, and

during said burr removing step, the fluid used for removing burrs produced from said metal electrode is supplied from a fluid spraying unit that is configured and arranged to move separately from the cutting unit, and

further wherein:

the package substrate includes a plurality of said division lines;

said cutting step is performed on a first one of said division lines;

after performing the cutting step on the first one of said division lines, said cutting step is performed on

a second one of said division lines, where said second one of said division line is adjacent to said first one of said division lines; and

said burr removing step is performed on said first one of said division lines while said cutting step is performed on said second one of said division lines.

9. The package substrate processing method according to claim 8, wherein said electrode comprises a metal electrode, and further wherein said cutting step includes rotating said cutting blade and passing said cutting blade through said metal electrode.

10. The package substrate processing method according to claim 8, wherein, during said burr removing step, the fluid is provided at a pressure of a value that is greater than 25 MPa and less than 40 MPa.

11. The package substrate processing method according to claim 8, wherein, during said burr removing step, the fluid is provided at a pressure of between 30 MPa and 35 MPa.

12. The package substrate processing method according to claim 8, wherein:

said cutting step is performed by moving the cutting unit in a first direction; and

said burr removing step is performed by moving the

fluid spraying unit in a second direction, where the second direction is opposite of the first direction.