

WHAT IS CLAIMED IS:

1. A plate-shaped workpiece processing method for processing a plate-shaped workpiece having a division line and a metal member formed on said division line or in an area corresponding to said division line, said plate-shaped workpiece processing method comprising:

a holding step of holding said plate-shaped workpiece on a chuck table in the condition where said metal member is oriented downward;

a first cutting step of cutting said plate-shaped workpiece along said division line by using a first cutting blade after performing said holding step, thereby forming a first cut groove having a bottom not reaching said metal member; and

a second cutting step of cutting said plate-shaped workpiece along said first cut groove by using a second cutting blade after performing said first cutting step, thereby forming a second cut groove fully cutting said plate-shaped workpiece along said division line so as to divide said metal member, wherein said second cutting blade contacts said metal member during said second cutting step;

said second cutting step including the step of

supplying a cutting fluid containing an organic acid and an oxidizing agent to said plate-shaped workpiece, wherein the metal member is modified by the organic acid to suppress the ductility thereof, thereby suppressing generation of burrs, and a film property on a surface of the metal member is changed by the oxidizing agent.

2. The plate-shaped workpiece processing method according to claim 1, wherein said second cutting blade has a thickness smaller than a thickness of said first cutting blade.

3. The plate-shaped workpiece processing method according to claim 1, wherein the metal member is formed on an entire back surface of the plate-shaped workpiece, and a plurality of devices are formed on a front surface of the plate-shaped workpiece.

4. The plate-shaped workpiece processing method according to claim 1, whereby a thickness of an uncut portion at the bottom of the first cut groove is between approximately 20 μm and approximately 30 μm .

5. The plate-shaped workpiece processing method

according to claim 1, wherein the metal member is formed of copper.

6. The plate-shaped workpiece processing method according to claim 1, wherein the metal member is formed of aluminum.

7. A plate-shaped workpiece processing method for processing a plate-shaped workpiece having a division line and a metal member formed on said division line or in an area corresponding to said division line, said plate-shaped workpiece processing method comprising:

- a holding step of holding said plate-shaped workpiece on a chuck table in the condition where said metal member is oriented downward;

- a first cutting step of cutting said plate-shaped workpiece along said division line by using a first cutting blade after performing said holding step, thereby forming a first cut groove having a bottom not reaching said metal member; and

- a second cutting step of cutting said plate-shaped workpiece along said first cut groove by using a second cutting blade after performing said first cutting step, thereby forming a second cut groove fully cutting said

plate-shaped workpiece along said division line so as to divide said metal member, wherein said second cutting blade contacts said metal member during said second cutting step;

said second cutting step including the step of supplying a cutting fluid containing an organic acid and an oxidizing agent to said plate-shaped workpiece, and

wherein said second cutting blade is the same as said first cutting blade.

8. The plate-shaped workpiece processing method according to claim 7, wherein the metal member is modified by the organic acid to suppress the ductility thereof, thereby suppressing generation of burrs, and a film property on a surface of the metal member is changed by the oxidizing agent.

9. The plate-shaped workpiece processing method according to claim 7, wherein the metal member is formed on an entire back surface of the plate-shaped workpiece, and a plurality of devices are formed on a front surface of the plate-shaped workpiece.

10. The plate-shaped workpiece processing method according to claim 7, whereby a thickness of an uncut portion at the bottom of the first cut groove is between approximately 20 μm and approximately 30 μm .

11. The plate-shaped workpiece processing method according to claim 7, wherein the metal member is formed of copper.

12. The plate-shaped workpiece processing method according to claim 7, wherein the metal member is formed of aluminum.