WHAT IS CLAIMED IS:

1. A grinding method in which a grinding apparatus is used which includes a chuck table configured to hold a plate-shaped workpiece thereon, grinding means for causing a grinding face of a grindstone to abut with an upper face of the plate-shaped workpiece held by the chuck table to reduce a thickness of the plate-shaped workpiece, grinding feeding means for moving the grinding means toward and away from the chuck table to perform grinding feeding in a grinding feeding direction, measurement means for measuring a thickness of the plate-shaped workpiece ground by the grinding means, diametrically moving means for moving the measurement means in a diametrical direction of the chuck table, and inclination adjustment means for adjusting an inclination relationship between the chuck table and the grinding means, the grinding method comprising:

a pre-grinding step of grinding the plate-shaped workpiece to a thickness, which does not reach a finish thickness set in advance, using the grinding means;

a thickness measuring step of moving the measuring means in a diametrical direction along the plate-shaped workpiece ground at the pre-grinding step by the diametrically moving means to measure a thickness of the plate-shaped workpiece along the diametrical direction;

a calculation step of calculating, when the inclination relationship between the chuck table and the grinding means is adjusted by the inclination adjustment means so that the finish thickness is uniformized along the diametrical direction on a basis of a measurement result measured at the thickness measuring step, a variation amount of a distance between an upper face of the chuck table and the grinding face of the grindstone;

a height adjustment step of causing the grinding feeding means and the inclination adjustment means to operate on a basis of the variation amount calculated at the calculation step and maintaining, during the inclination adjustment operation by the inclination adjustment means, a state in which the grinding face contacts with a ground face of the plate-shaped workpiece at the pre-grinding step; and

a finish grinding step of causing, after the height adjustment step, the grinding feeding means to feed the grinding means for grinding while the thickness of the plate-shaped workpiece is measured by the measurement means to a finish thickness set in advance to grind the plate-shaped workpiece.

2. A grinding method in which a grinding apparatus is used which includes a chuck table configured to hold a plate-shaped workpiece thereon, grinding means for causing a grinding face of a grindstone to abut with an upper face of the plate-shaped workpiece held by the chuck table to reduce a thickness of the plate-shaped workpiece, grinding feeding means for moving the grinding means toward and away from the chuck table to perform grinding feeding in a grinding feeding direction, measurement means for measuring a thickness of the plate-shaped workpiece ground by the grinding means, diametrically moving means for moving the measurement means in a diametrical direction of the chuck table, and inclination adjustment means for adjusting an inclination relationship between the chuck table and the grinding means, the grinding method comprising:

a pre-grinding step of grinding the plate-shaped workpiece to a thickness, which does not reach a finish thickness set in advance, using the grinding means;

a thickness measuring step of moving the measuring means in a diametrical direction along the plate-shaped workpiece ground at the pre-grinding step by the diametrically moving means to measure a thickness of the plate-shaped workpiece along the diametrical direction;

a calculation step of calculating, when the inclination relationship between the chuck table and the grinding means is adjusted by the inclination adjustment means so that the finish thickness is uniformized along the diametrical direction on a basis of a measurement result measured at the thickness measuring step, a variation amount of a distance between an upper face of the chuck table and the grinding face of the grindstone;

a height adjustment step of causing the grinding feeding means and the inclination adjustment means to operate on a basis of the variation amount calculated at the calculation

step so that the relative moving speed between the glidestone and the plate-shaped workpiece becomes equal to the grinding feeding means and maintaining a grinding feeding speed of the grinding means by the grinding feeding means; and

a finish grinding step of causing, after the height adjustment step, the grinding feeding means to feed the grinding means for grinding while the thickness of the plate-shaped workpiece is measured by the measurement means to a finish thickness set in advance to grind the plate-shaped workpiece.