

displacement of the workpiece in an axial direction is measured and the axial displacement of the wire guide rolls is regulated in such a way that it corresponds to that measured.

JP 10 166 354 A2 describes a method comprising measuring an axial displacement of the wire guide roll. For this purpose, the distance between a sensor and a measurement plate is measured, wherein the measurement plate is fixed to the wire guide roll.

According to an aspect of the present invention, there is provided~~The present invention relates to~~ a method for slicing wafers from a workpiece, comprising during a sawing operation moving wire sections - arranged in a parallel fashion - of a sawing wire relative to the workpiece, thus giving rise to the wafers, wherein the wire sections are tensioned between two wire guide rolls each having a grooved coating having a specific thickness;~~and~~ measuring an axial change in the length of the coating of one of the wire guide rolls, said change being brought about by temperature change, with the aid of rings fixed exclusively to the coating at the ends of the coating, by measuring distances between sensors and the rings; measuring an axial change in the length of a fixed bearing of said wire guide roll; and cooling the wire guide rolls and fixed bearings thereof in a manner independent of one another and in a manner dependent on the measured axial change in lengths~~distances~~.

The inventors of the present invention have ascertained that the measurement of the distance between the sensor and a measurement plate fixed to the wire guide roll is unfavorable because this disregards a thermally governed change in the length of the coating of the wire guide roll. The change in the length of the coating should be taken into account because its contribution to the displacement of the wire sections from desired positions provided is greater than the contribution owing to a change in the length of the wire guide roll.

Patent claims

1. A method for slicing wafers from a workpiece, comprising
5 during a sawing operation moving wire sections - arranged in a parallel fashion - of a sawing wire relative to the workpiece, thus giving rise to the wafers, wherein the wire sections are tensioned between two wire guide rolls each having a grooved coating
10 having a specific thickness; ~~and~~ measuring an axial change in the length of the coating of one of the wire guide rolls, said change being brought about by temperature change, with the aid of rings fixed exclusively to the coating at the ends of the coating,
15 by measuring distances between sensors and the rings; measuring an axial change in the length of a fixed bearing of said wire guide roll; and cooling the wire guide rolls and fixed bearings thereof in a manner independent of one another and in a manner dependent on
20 the measured distancesaxial change in lengths.

2. The method as claimed in claim 1, comprising cooling the wire guide rolls in such a way that thermally governed changes in the length of the coating
25 of the wire guide rolls during the difference with respect to distances that existed between the sensors and the rings before the sawing operation becomes smaller or zero.

30 3. The method as claimed in claim 1, comprising cooling the wire guide rolls in such a way that ~~the reaction to a~~ thermally governed change in the length of the workpiece is compensated for by a comprises an
~~equidirectional thermally governed change in the length~~
35 ~~of the coating of the wire guide rolls.~~

~~4. The method as claimed in any of claims 1 to 3, comprising cooling the wire guide rolls and a fixed bearing of the wire guide rolls in a manner independent~~
40 ~~of one another.~~

54. The method as claimed in any of claims 1 to 43, comprising clamping the coating onto an underlying core of the wire guide rolls.