

Title (en)
METHOD FOR SEPARATING A PLURALITY OF SLICES FROM WORKPIECES DURING A NUMBER OF SEPARATING PROCESSES BY MEANS OF A WIRE SAW, AND SEMICONDUCTOR WAFER MADE OF MONOCRYSTALLINE SILICON

Title (de)
VERFAHREN ZUM ABTRENNEN EINER VIELZAHL VON SCHEIBEN VON WERKSTÜCKEN WÄHREND EINER ANZAHL VON ABTRENNVORGÄNGEN MITTELS EINER DRAHTSÄGE UND HALBLEITERSCHEIBE AUS EINKRISTALLINEM SILIZIUM

Title (fr)
PROCÉDÉ DE SÉPARATION D'UNE PLURALITÉ DE TRANCHES DE PIÈCES AU COURS D'UN NOMBRE D'OPÉRATIONS DE SÉPARATION AU MOYEN D'UNE SCIE À FIL ET TRANCHE DE SEMI-CONDUCTEUR COMPOSÉE DE SILICIUM MONOCRISTALLIN

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Abstract (en)
[origin: WO2020239348A1] The invention relates to a method for separating a plurality of slices from workpieces during a number of separating processes by means of a wire saw, which comprises a wire gate formed of moving wire sections of a saw wire, which is clamped between two wire guide rollers, wherein each of the wire guide rollers is mounted between a fixed bearing and a floating bearing. The invention also relates to a semiconductor wafer formed of monocrystalline silicon, which is provided using the method. The method comprises delivering one of the workpieces in the presence of a working fluid during each of the separating processes along a delivery direction against the wire gate in the presence of hard materials, which act abrasively on the workpiece; controlling the temperature of the fixed bearing of the respective wire guide roller during the separating processes according to a temperature profile, which specifies a temperature according to a cutting depth; and a first changing of the temperature profile over the course of the separating processes from a first temperature profile with a constant temperature curve to a second temperature profile that is proportional to the difference between a first average shape profile and a shape profile of a reference slice, wherein the first average shape profile is determined by slices that have been separated according to the first temperature profile.

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