

Abstract

Method for slicing off a multiplicity of wafers from workpieces during a number of slicing operations by means of a wire saw, and semiconductor wafer of monocrystalline silicon

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A subject of the invention is a method for slicing off a multiplicity of wafers from workpieces during a number of slicing operations by means of a wire saw which
10 comprises a wire web of moving wire sections of a sawing wire which is stretched between two wire guide rollers, with each of the wire guide rollers being mounted between a fixed bearing and a movable bearing.

Another subject of the invention is a semiconductor wafer of monocrystalline silicon which is obtainable by the method. The method comprises the feeding of one of the
15 workpieces in the presence of a working fluid during each one of the slicing operations along a feed direction against the wire web in the presence of hard substances which act abrasively on the workpiece;

the temperature-controlling of the fixed bearing of the respective wire guide roller during the slicing operations according to a temperature profile which mandates a
20 temperature as a function of a depth of cut;

a first switching of the temperature profile in the course of the slicing operations from a first temperature profile with constant temperature course to a second temperature profile which is proportional to the difference of a first average shape profile and a shape profile of a reference wafer, with the first average shape profile being
25 determined from wafers which have been sliced off in accordance with the first temperature profile.

30 Drawing for the Abstract: Fig. 4