

Title (en)  
METHOD FOR REDUCING THE THICKNESS OF SOLID-STATE LAYERS PROVIDED WITH COMPONENTS

Title (de)  
VERFAHREN ZUM DÜNNEN VON MIT BAUTEILEN VERSEHENEN FESTKÖRPERSCHICHTEN

Title (fr)  
PROCÉDÉ D'AMINCISSEMENT DE COUCHES DE SOLIDES POURVUES DE COMPOSANTS

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Application  
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Abstract (en)  
[origin: WO2018192689A1] The present invention therefore relates to a method for separating at least one solid body layer (2) from a donor substrate (1). According to the invention, the method preferably comprises at least the steps of: providing the donor substrate (1), wherein the donor substrate (1) has crystal lattice planes (6) which are inclined in relation to a planar main surface (8), wherein the main surface (8) delimits the donor substrate (1) in the longitudinal direction of the donor substrate (1) on one side, wherein a crystal lattice plane normal is inclined in relation to a main surface normal in a first direction, providing at least one laser, introducing laser radiation of the laser into the interior of the donor substrate (1) via the main surface (8) for changing the material properties of the donor substrate (1) in the region of at least one laser focus, wherein the laser focus is formed by laser beams of the laser which are emitted by the laser, wherein the change in the material property by changing the point of entry of the laser radiation into the donor substrate (1) forms a linear shape (103), wherein the changes in the material property are generated on at least one generating plane (4), wherein the crystal lattice planes (6) of the donor substrate (1) are oriented in an inclined manner in relation to the generating plane (4), wherein the linear design (103) is inclined in relation to a sectional line (10) which is produced at the interface between the generating plane (4) and the crystal lattice plane (6), wherein, owing to the changed material property, the donor substrate (1) tears in the form of subcritical cracks, separating the solid body layer (2) by introducing an external force into the donor substrate (1) for connecting the subcritical crack or so much material on the generating plane (4) being changed by means of the laser radiation that the solid body layer (2) becomes detached from the donor substrate (1) with connection of the subcritical crack.

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