

Title (en)

METHOD AND DEVICE FOR REMOVING A CUT-OUT FROM A LAYER OF MATERIAL

Title (de)

VERFAHREN UND EINRICHTUNG ZUM ABLÖSEN EINES AUSSCHNITTS EINER MATERIALSCHICHT

Title (fr)

PROCEDE ET DISPOSITIF POUR DETACHER UNE PARTIE DECOUPEE D'UNE COUCHE DE MATERIAU

Publication

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Application

EP 99971581 A 19991028

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Abstract (en)

[origin: DE19849658A1] The invention relates to a method for removing a cut-out which is placed on a support (40) from a layer of material (30) which extends in a layer plane and has a particular layer thickness, by means of a laser pulse (16) which penetrates through the support (40). The aim of the invention is to provide a means of removing the cut-outs from a layer of material (30) with as little thermal stress and as few thermal side effects as possible. To this end, the laser pulse (16) produces burnt material in a partial layer volume (50) of the cut-out which is adjacent to the support and is located within a stretch of the beam cross section (Q) of the laser pulse (16) in the layer plane and extends crosswise to the layer plane over part of the layer thickness (D), said burnt material being in a thermodynamic state of non-equilibrium with a density resembling that of a solid and especially, a temperature above the critical temperature. A coherent, solid partial layer (60) remains in the cut-out on the side of the partial layer volume (50) facing the support (40). This is moved away from the support (40) by the burnt material.

IPC 1-7

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IPC 8 full level

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