

Title (en)

Method and device for machining thin sheets and thin, single or double curved plates or shells

Title (de)

Verfahren und Anordnung zur Bearbeitung von Dünnscheiben und dünnwandigen, einfach oder doppelt gekrümmten Platten oder Schalen

Title (fr)

Procédé et équipement pour l'usinage de tôles minces et de plaques ou coupes minces simplement ou doublement courbées.

Publication

EP 1537951 A3 20060201 (DE)

Application

EP 04400066 A 20041129

Priority

DE 10357268 A 20031201

Abstract (en)

[origin: EP1537951A2] Thin plate machining method comprises using a vacuum to generate a surface tension over surface of workpiece being clamped to fix same and then machining the workpiece whereby the cutting speed and feed speed are set so that a defined local heating occurs in the contact zone between workpiece and tool where the temperature peak is greater or equal to the melting temperature of the surface of the diffuser. Thin plate machining method comprises using a vacuum to generate a surface tension over surface of workpiece being clamped to fix same and then machining the workpiece whereby the cutting speed and feed speed are set so that a defined local heating occurs in the contact zone between workpiece and tool where the temperature peak is greater or equal to the melting temperature of the surface of the diffuser. After a complete machining of the work piece the vacuum tension is released and the workpiece lifted from the clamping device. An independent claim is included for an assembly where a vacuum table has a base plate with bores opening on top side of base plate where a diffuser is provided consisting of a thin-walled air permeable heat-reactive layer. Independent claim describes such layer having several perforations adapted to outline of workpiece.

IPC 8 full level

B25B 11/00 (2006.01)

CPC (source: EP US)

B25B 11/005 (2013.01 - EP US); **Y10T 29/5107** (2015.01 - EP US); **Y10T 408/03** (2015.01 - EP US); **Y10T 409/303808** (2015.01 - EP US); **Y10T 409/304032** (2015.01 - EP US); **Y10T 409/309016** (2015.01 - EP US)

Citation (search report)

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- [DYA] DE 4030113 A1 19920326 - WISSNER ROLF [DE]
- [A] DE 20117390 U1 20020425 - WISSNER ROLF [DE]
- [A] US 4808046 A 19890228 - PILKINGTON DONALD J [GB], et al
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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1537951 A2 20050608; **EP 1537951 A3 20060201**; **EP 1537951 B1 20110126**; AT E496733 T1 20110215; CA 2488728 A1 20050601; CA 2488728 C 20090915; DE 10357268 B3 20050609; DE 502004012146 D1 20110310; US 2005210646 A1 20050929; US 2009263203 A1 20091022; US 7244082 B2 20070717; US 7938601 B2 20110510

DOCDB simple family (application)

EP 04400066 A 20041129; AT 04400066 T 20041129; CA 2488728 A 20041201; DE 10357268 A 20031201; DE 502004012146 T 20041129; US 76404 A 20041201; US 81125107 A 20070608