

Title (en)
Device and method for manufacturing optical elements

Title (de)
Verfahren und Vorrichtung zum Herstellen von optischen Elementen

Title (fr)
Dispositif et procédé de fabrication d'éléments optiques

Publication
EP 1977860 A1 20081008 (DE)

Application
EP 08102962 A 20080327

Priority
CH 5412007 A 20070404

Abstract (en)
The method involves providing blanks (20), and processing blanks with abrasive fluid jet (32) for carrying materials of blanks. The fluid jet exhibits a radiation diameter, which is larger than the dimension of the blanks in a plane perpendicular to the direction of the fluid jet. The fluid jet is aligned under two different incident angles on the blanks for processing of the blanks in such a manner that a desired stripping profile is reached. An abrasive material such as cerium oxide and silicon carbide, is attached to the fluid jet. Independent claims are also included for the following: (1) a device for manufacturing optical elements e.g. aspherical mini and micro lenses (2) a computer program product, in which a base cutting profile is stored.

Abstract (de)
In einem Verfahren zum Herstellen von optischen Elementen wird auf einem Rohling (20) mit einem abrasiven Flüssigkeitsstrahl (32) Material abgetragen. Der Flüssigkeitsstrahl (32) weist eine Strahldicke (d) auf, die grösser ist als die Dimension (D) des Rohlings (20) in einer Ebene (E) senkrecht zur Richtung (R) des Flüssigkeitsstrahls. Indem der Flüssigkeitsstrahl (32) unter unterschiedlichen Einfallswinkeln (\pm) auf den Rohling (20) geführt wird, können vordefinierte Abtragprofile in asphärischer Form erzielt werden.

IPC 8 full level
B24C 1/04 (2006.01); **B24C 1/08** (2006.01)

CPC (source: EP US)
B24C 1/04 (2013.01 - EP US); **B24C 1/08** (2013.01 - EP US)

Citation (applicant)
O. W. FÄHNLE/H; VAN BRUG/H.; J. FRANKENA: "Fluid Jet Polishing of optical surfaces", APPLIED OPTICS, vol. 37, no. 28, 1998, pages 6771 - 6773

Citation (search report)
• [Y] WO 0249804 A1 20020627 - QED TECHNOLOGIES INC [US]
• [Y] WO 0112386 A1 20010222 - KONINKL PHILIPS ELECTRONICS NV [NL]
• [A] US 2003060132 A1 20030327 - KUROGOUCHI TOSHIO [JP]

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA MK RS

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DOCDB simple family (application)
EP 08102962 A 20080327; AT 08102962 T 20080327; US 6207408 A 20080403