

Title (en)

LENS SPHERICAL SURFACE GRINDING METHOD USING DISH-SHAPED GRINDSTONE

Title (de)

VERFAHREN ZUM SCHLEIFEN EINER SPHÄRISCHEN LINSENFLÄCHE MIT EINEM TELLERFÖRMIGEN SCHLEIFSTEIN

Title (fr)

PROCÉDÉ DE MEULAGE DE SURFACE SPHÉRIQUE DE VERRE D'OPTIQUE UTILISANT UNE MEULE EN FORME D'ASSIETTE

Publication

EP 2529886 A1 20121205 (EN)

Application

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Priority

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Abstract (en)

A spherical core type lens grinding device (1) performs an operation wherein a dish-shaped grindstone (8) provided with a spherical grindstone surface (8a) which is equipped with diamond abrasive grains, is pressed against a surface-to-be-ground (7a) of a lens blank (7) to be ground, and wherein the dish-shaped grindstone (8) is rotated and is simultaneously swung, resulting in said surface-to-be-ground (7a) being ground to a spherical surface. In an initial-stage grinding process, grinding is performed at first processing pressure and first rotational speed. In an intermediate-stage grinding process, grinding is performed at second processing pressure and second rotational speed. In a last-stage grinding process, grinding is performed at third processing pressure and third rotational speed. The second processing pressure is a pressure at which the spherical grindstone surface (8a) can bite into the lens blank (7). The biting amount of the dish-shaped grindstone (8) is obtained from the hardness of the lens blank (7) and the contact area between the surface-to-be-ground (7a) and the spherical grindstone surface (8a). The second processing pressure is calculated from the biting amount thus obtained. A coarse grinding process and a precision grinding process are unified into a single process. Therefore, the surface of the lens blank can be ground to a spherical surface by using only a dish-shaped grindstone used for precision grinding.

IPC 8 full level

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