

Title (en)

METHOD FOR SEPARATING ULTRATHIN GLASS

Title (de)

VERFAHREN ZUM TRENNEN VON DÜNNSTGLAS

Title (fr)

PROCÉDÉ DE SÉPARATION D'UN VERRE ULTRAMINCE

Publication

EP 4210892 A1 20230719 (DE)

Application

EP 21769065 A 20210818

Priority

- DE 102020123786 A 20200911
- EP 2021072964 W 20210818

Abstract (en)

[origin: WO2022053275A1] The present invention relates to a method for separating ultrathin glass (1), wherein material modifications (3) are introduced into the ultrathin glass (1) along a separation line (2) by means of ultrashort laser pulses from an ultrashort pulse laser and the ultrathin glass (1) is subsequently separated along the separation line (2) within the scope of a separation step, wherein the ultrashort laser pulses are focused into the ultrathin glass (1) such that the resultant focal zone (46) which is elongate in the beam direction extends over the entire thickness (D) of the ultrathin glass (1) and the ultrashort laser pulses have a non-radially-symmetric beam cross section (4) perpendicular to the beam propagation.

IPC 8 full level

B23K 26/0622 (2014.01); **B23K 26/06** (2014.01); **B23K 26/062** (2014.01); **B23K 26/073** (2006.01); **B23K 26/53** (2014.01); **C03B 33/02** (2006.01); **C03B 33/04** (2006.01)

CPC (source: EP KR US)

B23K 26/0006 (2013.01 - EP KR US); **B23K 26/06** (2013.01 - EP); **B23K 26/0624** (2015.10 - EP KR US); **B23K 26/0665** (2013.01 - US); **B23K 26/0736** (2013.01 - EP KR US); **B23K 26/53** (2015.10 - EP KR US); **C03B 33/0222** (2013.01 - EP KR US); **C03B 33/04** (2013.01 - EP KR US); **B23K 2103/54** (2018.07 - EP KR US)

Citation (search report)

See references of WO 2022053275A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102020123786 A1 20220317; CN 116367955 A 20230630; EP 4210892 A1 20230719; KR 20230061536 A 20230508; US 2023271872 A1 20230831; WO 2022053275 A1 20220317

DOCDB simple family (application)

DE 102020123786 A 20200911; CN 202180069492 A 20210818; EP 2021072964 W 20210818; EP 21769065 A 20210818; KR 20237011726 A 20210818; US 202318181589 A 20230310