

Title (en)

GLASS EXTRUSION ASSEMBLY AND GLASS EXTRUSION METHOD FOR THE DIRECT MANUFACTURING OF COMPACT, THREE-DIMENSIONAL AND GEOMETRICALLY DEFINED SEMIFINISHED PRODUCTS AND COMPONENTS MADE OF GLASS

Title (de)

GLASEXTRUSIONSANORDNUNG UND GLASEXTRUSIONSVERFAHREN ZUR DIREKTEN HERSTELLUNG KOMPAKTER, DREIDIMENSIONALER SOWIE GEOMETRISCH DEFINIERTER HALBZEUGE UND BAUTEILE AUS GLAS

Title (fr)

ENSEMBLE D'EXTRUSION DE VERRE ET PROCÉDÉ D'EXTRUSION DE VERRE POUR LA FABRICATION DIRECTE DE PRODUITS SEMI-FINIS COMPACTS, TRIDIMENSIONNELS ET GÉOMÉTRIQUEMENT DÉFINIS, ET COMPOSANTS CONSTITUÉS DE VERRE

Publication

EP 4240701 A1 20230913 (DE)

Application

EP 21811243 A 20211029

Priority

- DE 102020129314 A 20201106
- DE 2021100866 W 20211029

Abstract (en)

[origin: WO2022096061A1] The invention relates to a glass extrusion assembly comprising a peripheral mirror system (3), a switchable heatable nozzle (4) having an outlet opening (41), and a transport system (2). The nozzle (4) is situated in a process chamber surrounding a heatable platform (42). The nozzle (4) and the platform (42) can be positioned in three axes relative to one another by a movement unit. The peripheral mirror system (3) is situated outside the process chamber (5). For extrusion, the glass fibre (7, 8) to be extruded can be continuously introduced from a material feed unit (1) into the nozzle (4) by means of the transport system (2), through the peripheral mirror system (3), via an inlet opening (51) of the process chamber (5). For the purpose of heating, the nozzle (4) can be irradiated using at least one controlled laser (63), wherein, in the operating state, a thermocouple monitors the heating temperature during the heating of the nozzle (4), such that the glass fibre heated by the laser light is above its melting point in the form of a flowable fluid in the nozzle (4) and can flow out of the outlet opening (41) towards the platform (42). The sub-systems can be controlled/operated simultaneously and precisely by an open-loop and closed-loop control unit and by this glass extrusion assembly being operated as intended.

IPC 8 full level

C03B 19/02 (2006.01); **B29C 64/118** (2017.01); **B29C 64/295** (2017.01); **B29C 64/393** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 50/02** (2015.01)

CPC (source: EP)

B29C 64/118 (2017.08); **B29C 64/295** (2017.08); **B29C 64/393** (2017.08); **B33Y 10/00** (2014.12); **B33Y 30/00** (2014.12); **B33Y 50/02** (2014.12); **C03B 19/025** (2013.01); **C03B 37/01274** (2013.01); **C03B 2201/32** (2013.01); **C03B 2203/42** (2013.01)

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)

WO 2022096061 A1 20220512; DE 102020129314 A1 20220512; EP 4240701 A1 20230913

DOCDB simple family (application)

DE 2021100866 W 20211029; DE 102020129314 A 20201106; EP 21811243 A 20211029