

Title (en)

PROCESS FOR PRODUCING MOULDED ARTICLES FROM CARBON OR GRAPHITE BY 3D PRINTING

Title (de)

VERFAHREN ZUM HERSTELLEN VON FORMTEILEN AUS CARBON ODER GRAPHIT MITTELS 3D-DRUCK

Title (fr)

PROCÉDÉ DE FABRICATION DE PIÈCES MOULÉES EN CARBONE OU GRAPHITE PAR IMPRESSION 3D

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Application

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Abstract (en)

[origin: WO2023280821A1] The invention relates to a process for simple production of moulded articles from carbon or graphite by 3D printing. This is achieved by producing a free-flowing polymer mixture from a UV-transparent and polymerizable polymer or cellulose and a UV-crosslinkable resin, and wherein sugar and/or cellulose is mixed into the polymeric mixture until the mixture has such a consistency that it can be introduced into and processed by a 3D printer, and homogenizing the mixture at room temperature, or elevated temperature up to about 60°C, filling a 3D printer with the mixture, and layer-by-layer printing of a moulded article with the 3D printer under the simultaneous action of UV radiation for layer-by-layer crosslinking of the UV-crosslinkable resin, cleaning the moulded article, introducing the UV-precured moulded article into an oven and stabilizing the UV-precured moulded article in air at a defined stabilization temperature until all the volatile constituents have outgassed from the prefabricated moulded article, followed by high-temperature treatment of the moulded article for carbonization or graphitization in an oven under protective gas.

IPC 8 full level

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