

Title (en)

METHOD FOR MANUFACTURING A DIMENSIONALLY STABLE OBJECT FROM RENEWABLE BIOMASS

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES FORMSTABILEN GEGENSTANDES AUS NACHWACHSENDER BIOMASSE

Title (fr)

PROCÉDÉ DE FABRICATION D'UN OBJET INDÉFORMABLE À PARTIR DE BIOMASSE RENOUVELABLE

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Application

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Abstract (en)

[origin: WO2022148883A1] The invention relates to a method for manufacturing a dimensionally stable object (10), said method comprising the following steps: providing renewable biomass (15) (I), the renewable biomass (15) containing at least fibres (16) comprising lignin (17), in particular cellulose fibres comprising lignin (17), hemicelluloses, and cellulose; comminuting the renewable biomass (15) (II); adding water to the renewable biomass (15) (III); pretreating (IV) the renewable biomass (15) by substantially converting the renewable biomass (15) into biomass fibrous materials (18) while retaining a majority of the lignin (17) in the fibres (16), and while extracting and discharging at least a portion of the cellulose and hemicelluloses, the relative proportion of the lignin (17) being increased; providing the biomass fibrous materials (18) (V) in a moulding process (VI) with an object mould to form an object blank; thermally treating (VII) the object blank while relocating, at least in regions, the lignin (17) contained in the fibres (16) of the biomass fibrous materials (18) to the outer surface (23) of the fibres (16); creating an at least partially irreversible bond (VIII) of the object blank by cross-linking the fibres (16) of the biomass fibrous materials (18) to each other by means of the lignin (17). The invention also relates to a corresponding dimensionally stable object (10).

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