

Title (en)

Method for making shaped objects from a vegetable raw material by injection-moulding

Title (de)

Verfahren zur Herstellung von Gegenständen aus rohem, pflanzlichem Material durch Spritzgiessen

Title (fr)

Procédé de moulage d'un objet par injection à partir de matière première végétale

Publication

**EP 0988948 A1 20000329 (FR)**

Application

**EP 99390018 A 19990914**

Priority

FR 9811551 A 19980916

Abstract (en)

The injection molding process, using a material which is primarily of vegetable origin, initially heats it to a viscous liquid state or a pulp, to be injected under pressure into the mold. The primary material is an oilcake of sunflower or rape seed which has oil extracted so that the oil content is ≤ 25 wt.%. The moisture content is set at 2-40%. The granules have an average dia. of 0.1-1.2 mm, and the protein content of the fibers is evenly distributed. The oilcake has a max. 2 wt.% of oil, as a result of the attrition of the sunflower or rape seeds. The material has a hydration of 2-15%, to be heated to a temp. of 110-200 degrees C, to be pressed into a cold mold or at a mold temp. of ≤ 65 degrees C. Where the material has a hydration of 20-40%, it is heated to a temp. of 30-100 degrees C and pressed into a hot mold with a temp. of 90-140 degrees C. The sunflower or rape seeds are used without husks. The oilcake is enriched with vegetable proteins. The granules have an average dia. of 0.2-0.7 mm with a cut dia. of 0.8 mm. The material is homogenized and oil extracted partially in a twin-screw extruder. The extruder, from upstream to downstream, has an injector (6,7) for water and/or an alcohol solvent, a crushing zone (Z2) with at least one kneading crusher (8), a zone of crushing pressure (Z3), a bleed (11,12) for the liquid phase, at least one reverse pitch module (10) to apply an axial compression to the solid material, and an extrusion opening (14) for the solid matter.

Abstract (fr)

L'invention concerne un procédé de moulage par injection dans lequel on amène par chauffage une matière première à l'état visqueux ou pâteux et on l'injecte sous pression dans un moule. Le procédé se caractérise en ce qu'on utilise comme matière première un tourteau de tournesol ou de colza, au moins partiellement déshuilé, ayant un taux d'hydratation compris entre 2 et 40% et une répartition granulométrique telle que le diamètre médian D50 soit compris entre 0,1 mm et 1,2 mm, les particules protéiques et fibreuses étant dispersées de façon sensiblement homogène.

<IMAGE>

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CPC (source: EP)

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Citation (search report)

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