

Title (en)

PROCESS FOR THE FABRICATION OF POLYETHYLENE FIBRES BY THE HIGH SPEED SPINNING OF ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE

Publication

EP 0407901 B1 19930113 (DE)

Application

EP 90112905 A 19900706

Priority

DE 3923139 A 19890713

Abstract (en)

[origin: JPH03119105A] PURPOSE: To obtain the filament suitable for reinforcing plastics having high strength and high modulus by extruding a soln. of superhigh molecular polyethylene into a spinning duct under specified conditions and drawing off the product without stretching. CONSTITUTION: (A) A polyethylene with a molecular weight Mw of $\geq 1 \times 10^6$ and (B) a solvent (such as paraffin oil) are mixed to obtain a 1-6 wt.% soln. It is extruded into a spinning duct at an extrusion temp. Tg=180-250 deg.C at an extrusion rate Vg=5-150 m/min through a spinning nozzle having nozzle aperture of diminishing cross sections toward the nozzle exit side, wherein the duct is kept at 100-250 deg.C. Gas is blown on filaments below the heating section. Filaments are drawn at a rate Vw of ≥ 500 m/min. Further, the solvent is removed without stretching, the filaments to obtain the objective filaments.

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D01D 5/04; **D01F 6/04**

IPC 8 full level

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