

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/094129 A2

(51) International Patent Classification⁷: **B29C 55/06**,
67/24, 47/36

(21) International Application Number:
PCT/EP2004/004687

(22) International Filing Date: 26 April 2004 (26.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0309315.0 24 April 2003 (24.04.2003) GB

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

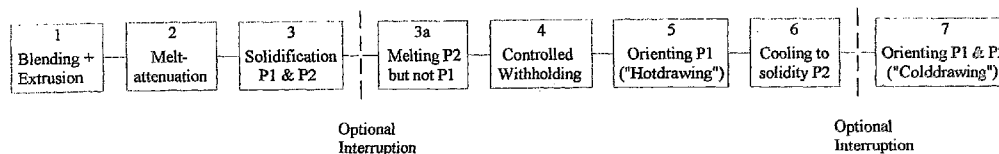
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF MANUFACTURING AN ORIENTED FILM FROM ALLOYED THERMOPLASTIC POLYMERS, AP-
PARATUS FOR SUCH MANUFACTURE AND RESULTING PRODUCTS



(57) Abstract: A blend of two partly incompatible polymers is extruded to form a film under conditions such that the alloy in the blend comprises fibrils extending mainly in one direction, the width and thickness of each fibril having a mean lower than 5 µm, the fibrils being formed of the polymer component having a higher melting point, and the fibrils being surrounded by a matrix of the second polymer, which has a lower coefficient of elasticity. The special morphology is achieved by providing grids in a grid chamber upstream of the exit orifice of the extrusion die, and by sequential hot stretching at a temperature at which the higher melting polymer is at least partly crystalline, and cold stretching, at which both polymers are substantially solid. The second, cold stretching step, is carried out under conditions to give an elongation at break at 20°C of at least 25%. The films are of particular value for forming crosslaminates having high shock resistance. Preferably the polymer forming fibrils is polypropylene and the polymer forming the matrix is an ethylene polymer, preferably LLDPE.



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