

Title (en)
IMPROVED PITCH CARBON FIBER SPINNING PROCESS

Publication
EP 0383339 A3 19910828 (EN)

Application
EP 90103030 A 19900216

Priority
US 31151189 A 19890216

Abstract (en)
[origin: EP0383339A2] Use of a ribbon shaped flow configuration at the entrance (15) to a round spinneret (10) used for spinning carbon fibers from mesophase pitch promotes the formation of random microstructure and prevents formation of axial cracking in the fibers.

IPC 1-7
D01D 4/02; **D01F 9/145**

IPC 8 full level
D01F 9/14 (2006.01); **D01D 4/02** (2006.01); **D01F 9/145** (2006.01); **D01F 9/15** (2006.01); **D01F 9/155** (2006.01)

CPC (source: EP KR)
D01D 4/02 (2013.01 - EP); **D01D 5/253** (2013.01 - KR); **D01F 9/12** (2013.01 - KR); **D01F 9/145** (2013.01 - EP)

Citation (search report)

- [Y] US 4859381 A 19890822 - MORITA HIROAKI [JP], et al
- [YD] US 4576811 A 19860318 - RIGGS DENNIS M [US], et al
- [XD] EP 0168639 A2 19860122 - TEIJIN LTD [JP]
- [A] US 4859382 A 19890822 - HARAGUCHI KAZUTOSHI [JP], et al
- [A] FR 2554834 A1 19850517 - KASHIMA OIL [JP]

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EP4045703A4; CN104047066A

Designated contracting state (EPC)
DE ES FR GB IT NL

DOCDB simple family (publication)
EP 0383339 A2 19900822; **EP 0383339 A3 19910828**; **EP 0383339 B1 19950510**; AU 4984490 A 19900823; AU 626176 B2 19920723; CA 2009528 A1 19900816; CA 2009528 C 20010109; DE 69019193 D1 19950614; DE 69019193 T2 19951012; ES 2072324 T3 19950716; JP 2897137 B2 19990531; JP H02242918 A 19900927; KR 0140867 B1 19980701; KR 900013119 A 19900903

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EP 90103030 A 19900216; AU 4984490 A 19900216; CA 2009528 A 19900207; DE 69019193 T 19900216; ES 90103030 T 19900216; JP 3260890 A 19900215; KR 900001826 A 19900215