

Title (en)

HIGH TENACITY AND MODULUS POLYACRYLONITRILE FIBER AND METHOD

Publication

**EP 0144793 B1 19881012 (EN)**

Application

**EP 84113512 A 19841109**

Priority

US 55798483 A 19831205

Abstract (en)

[origin: EP0144793A2] Polyacrylonitrile (PAN) fibers are prepared by forming a 2-15 weight % solution of PAN of Mw at least 500,000, extruding, cooling to below the gel temperature, extracting and drying. At least one of the gel fiber, the fiber containing extraction solvent and the dried gel is stretched. The product PAN fibers have a Mw at least 500,000 (eg. 1,000,000-4,000,000 or 1,500,000-2,500,000), a tenacity at least 5 g/den (e.g., at least 7 g/den) and a secant modulus at least 100 g/den (e.g. at least 125 g/den).

IPC 1-7

**D01F 6/18**; **D01D 5/00**

IPC 8 full level

**D01D 5/00** (2006.01); **D01D 5/06** (2006.01); **D01F 6/18** (2006.01); **D02J 1/22** (2006.01)

CPC (source: EP)

**D01F 6/18** (2013.01); **D01F 6/38** (2013.01)

Citation (examination)

EP 0044534 A2 19820127 - HOECHST AG [DE]

Citation (opposition)

Opponent : ALLIED-SIGNAL INC

- DE 1469044 B2 19750731
  - GB 698714 A 19531021 - GLANZSTOFF AG
  - US 3558761 A 19710126 - TABARA YOSHIJIRO, et al
  - GB 594999 A 19471125 - DU PONT
  - SOWJETISCHE BEITRÄGE ZUR FASERFORSCHUNG UND TEXTILTECHNIK, 1972, pages 407 - 411, XP055269358
  - SOWJETISCHE BEITRÄGE ZUR FASERFORSCHUNG UND TEXTILTECHNIK, 1977, pages 590 - 591, XP055269370
  - SOWJETISCHE BEITRÄGE ZUR FASERFORSCHUNG UND TEXTILTECHNIK, 1970, pages 118, XP055269379
- Opponent : Bayer AG
- US 3080210 A 19630305 - UCCI POMPELIO A
  - US 3088793 A 19630507 - KNUDSEN JOHN P, et al
  - GB 1193170 A 19700528 - MONSANTO CO [US]
  - DE 2631499 A1 19770210 - CESKOSLOVENSKA AKADEMIE VED
  - DE 2053471 A1 19710513
  - DE 3004699 A1 19800821 - STAMICARBON
  - S. DOBREC OV ET AL., SOWJETISCHE BEITRÄGE FASERFORSCHUNG UND TEXTILTECHNIK, vol. 9, 1972, pages 407 - 411
  - P. M. LATZKE ET AL., TEXTILIEN PRÜFEN UNTERSUCHEN - AUSWERTEN, 1974, Berlin

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US5510072A; CN109440214A; DE102009019120A1; GB2184057A; GB2184057B

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

**EP 0144793 A2 19850619**; **EP 0144793 A3 19850911**; **EP 0144793 B1 19881012**; CA 1234662 A 19880405; DE 3474573 D1 19881117; JP H064923 B2 19940119; JP S60139809 A 19850724

DOCDB simple family (application)

**EP 84113512 A 19841109**; CA 469250 A 19841204; DE 3474573 T 19841109; JP 25729184 A 19841205