

Title (en)

FIBER PRODUCTION METHOD AND CARBON FIBER PRODUCTION METHOD

Title (de)

FASERHERSTELLUNGSVERFAHREN UND KOHLENSTOFFFASERHERSTELLUNGSVERFAHREN

Title (fr)

PROCÉDÉ DE PRODUCTION DE FIBRES ET PROCÉDÉ DE PRODUCTION DE FIBRES DE CARBONE

Publication

EP 3760768 A1 20210106 (EN)

Application

EP 18908160 A 20181102

Priority

- JP 2018032781 A 20180227
- JP 2018040807 W 20181102

Abstract (en)

A method of producing a fiber, the method including discharge, from a spinneret 1, a spinning dope solution containing a fiber-forming polymer dissolved in a solvent, once allowing the solution to run in air, and then guiding the solution into the liquid of a coagulation bath 4 to allow coagulation, wherein a gas-phase portion formed in a vertically downward direction from a discharge surface of the spinneret 1 to the liquid surface of the coagulation bath 4 has an air flow rate per unit time (Af) which satisfies, in relation to the amount of the solvent in the spinning dope solution per unit time (As) in the gas-phase-portion volume (Vh), the relational expression $0.0008 \text{ m}^3 \leq Af/(As/Vh) \leq 0.0015 \text{ m}^3$, and the hourly average of the absolute humidity at each of four points in an outer periphery of the spinneret in the gas-phase portion is not more than 20 g/m^3 . A method of producing a fiber, which, in dry-jet wet spinning, suppresses occurrence of dew condensation in the spinneret, and reduces deterioration of the appearance caused by winding on rollers in the subsequent process or by fuzzing or yarn break in the stretching process, to enable significant improvement of the productivity and the appearance as a whole, is provided.

IPC 8 full level

D01D 5/06 (2006.01); **D01F 6/18** (2006.01); **D01F 9/22** (2006.01)

CPC (source: EP KR US)

D01D 5/06 (2013.01 - EP KR US); **D01D 10/02** (2013.01 - KR); **D01F 6/18** (2013.01 - KR US); **D01F 6/38** (2013.01 - EP); **D01F 9/22** (2013.01 - US); **D01F 9/225** (2013.01 - EP KR)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3760768 A1 20210106; **EP 3760768 A4 20211117**; CN 111684114 A 20200918; CN 111684114 B 20220823; JP 7234634 B2 20230308; JP WO2019167344 A1 20201217; KR 20200123776 A 20201030; RU 2020126570 A 20220328; US 2020407885 A1 20201231; WO 2019167344 A1 20190906

DOCDB simple family (application)

EP 18908160 A 20181102; CN 201880088422 A 20181102; JP 2018040807 W 20181102; JP 2018560240 A 20181102; KR 20207019124 A 20181102; RU 2020126570 A 20181102; US 201816970428 A 20181102