

Title (en)

Carbon nanotubes fiber having low resistivity

Title (de)

Kohlennanoröhrchenfaser mit niedriger Widerstandfähigkeit

Title (fr)

Fibre de nanotubes en carbone dotée d'une faible résistance

Publication

**EP 2568064 A1 20130313 (EN)**

Application

**EP 11180343 A 20110907**

Priority

EP 11180343 A 20110907

Abstract (en)

Carbon nanotubes (CNT) fibers having a resistivity lower than  $120 \mu\Omega\cdot\text{cm}$  are prepared by a process comprising the steps of supplying a spin-dope comprising carbon nanotubes to a spinneret, extruding the spin-dope through at least one spinning hole in the spinneret to form spun carbon nanotubes fibers, coagulating the spun carbon nanotubes fibers in a coagulation medium to form coagulated carbon nanotubes fibers, wherein the carbon nanotubes fibers are drawn at a draw ratio of at least 0.8, preferably higher than 1.0, and wherein the carbon nanotubes have a length of at least  $0,5 \mu\text{m}$ , preferably of at least  $2 \mu\text{m}$ . The carbon nanotubes preferably have a G/D ratio of at least 10. In another aspect, carbon nanotubes (CNT) fibers are disclosed having a modulus of at least 150 GPa, preferably at least 200 GPa.

IPC 8 full level

**D01F 9/12** (2006.01); **D02G 3/02** (2006.01)

CPC (source: EP)

**D01F 9/12** (2013.01)

Citation (applicant)

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- WO 2009058855 A2 20090507 - UNIV RICE WILLIAM M [US], et al
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Citation (search report)

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- [Y] JP 2009197365 A 20090903 - TORAY INDUSTRIES
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- [X] WO 2010100941 A1 20100910 - TOYO BOSEKI [JP], et al & US 2011311430 A1 20111222 - ABE YUKIHIKO [JP], et al
- [X] BEHABTU N ET AL: "Carbon nanotube-based neat fibers", 1 October 2008, NANO TODAY, ELSEVIER, AMSTERDAM, NL, PAGE(S) 24 - 34, ISSN: 1748-0132, XP025711583
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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)

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DOCDB simple family (application)

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