Title (en)

CARBON FIBER BUNDLE THAT DEVELOPS EXCELLENT MECHANICAL PERFORMANCE

Title (de)

KOHLENSTOFFFASERBÜNDEL MIT HERVORRAGENDER MECHANISCHER LEISTUNG

Title (fr)

FAISCEAU DE FIBRES DE CARBONE QUI DÉVELOPPE UNE EXCELLENTE PERFORMANCE MÉCANIQUE

Publication

EP 2441866 B1 20150218 (EN)

Application

EP 10786212 A 20100610

Priority

- JP 2010059828 W 20100610
- JP 2009139336 A 20090610

Abstract (en)

[origin: EP2441866A1] Provided is a carbon fiber bundle for obtaining a fiber-reinforced resin having high mechanical characteristics. A carbon fiber bundle formed of single carbon fibers, each of which has no uneven surface structure of 0.6 μm or more in length extending in the longitudinal direction of the single fiber; which has an uneven structure having a difference in height (Rp-v) of 5 to 25 nm between the highest portion and the lowest portion of the surface of the single fiber and having an average roughness Ra of 2 to 6 nm; and which has a ratio of the major axis to the minor axis (major axis / minor axis) of a cross-section of the single fiber of 1.00 to 1.01, wherein a mass of the single fiber per unit length falls within the range of 0.030 to 0.042 mg/m; a strand strength is 5900 MPa or more; a strand elastic modulus measured by the ASTM method is 250 to 380 GPa; and a knot tenacity is 900 N/mm 2 or more.

IPC 8 full level

D01F 9/22 (2006.01); **D01F 6/18** (2006.01)

CPC (source: EP KR US)

D01F 6/18 (2013.01 - EP US); **D01F 9/12** (2013.01 - KR); **D01F 9/22** (2013.01 - EP US); **D01F 9/32** (2013.01 - EP US); **D01F 11/12** (2013.01 - EP US); **D01F 11/14** (2013.01 - EP US); **D01F 11/16** (2013.01 - EP US); **D02J 3/02** (2013.01 - KR); **D06M 10/06** (2013.01 - EP US); **D06M 10/10** (2013.01 - EP US); **D06M 11/76** (2013.01 - EP US); **D06M 15/53** (2013.01 - EP US); **D06M 15/55** (2013.01 - EP US); **D06M 15/568** (2013.01 - EP US); D06M 2101/40 (2013.01 - EP US); Y10T 428/2918 (2015.01 - EP US)

Cited by

US10145030B2; EP3663338A4; US2016032496A1; US11925538B2; US11744744B2; WO2019026011A1; WO2014170107A1; WO2019026009A1; US10792194B2; US11690767B2; US11701268B2

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