Title (en)

A COMPOSITE MATERIAL OF CONTINUOUS FIBER AND ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE

Title (de)

VERBUNDWERKSTOFF AUS ENDLOSFASER-POLYETHYLEN MIT ULTRAHOHEM MOLEKULARGEWICHT

Title (fr)

MATERIAU COMPOSITE CONSTITUE DE FIBRES CONTINUES ET DE POLYETHYLENE DE TRES HAUT POIDS MOLECULAIRE

Publication

EP 1759043 A2 20070307 (EN)

Application

EP 05760353 A 20050609

Priority

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- US 57842004 P 20040609

Abstract (en)

[origin: US2005287891A1] A composite material composed of continuous high strength fibers such as carbon, aramid or glass, and ultra high molecular weight polyethylene (UHMW PE), wherein the UHMW PE comprises a continuous matrix among and surrounding the fibers. The resultant composite material exhibits extraordinarily high strength, stiffness and other fiber dominated properties in the directions parallel to the fibers and exhibits its lowest strength and stiffness in directions perpendicular to the fibers. It also exhibits superb abrasion resistance, good impact strength, excellent chemical resistance, a low coefficient of friction and other beneficial properties of UHMW PE.

IPC 8 full level

D03D 15/00 (2006.01); **B29C 70/46** (2006.01); **B32B 27/32** (2006.01); **D02J 1/18** (2006.01); **D04H 3/04** (2012.01); **D04H 3/12** (2006.01)

CPC (source: EP US)

B29C 70/465 (2013.01 - EP US); **B32B 27/32** (2013.01 - EP US); **D02J 1/18** (2013.01 - EP US); **D04H 3/04** (2013.01 - EP US); **D04H 3/12** (2013.01 - EP US); B29K 2023/0683 (2013.01 - EP US); Y10T 442/20 (2015.04 - EP US); Y10T 442/30 (2015.04 - EP US); Y10T 442/60 (2015.04 - EP US); Y10T 442/643 (2015.04 - EP US); Y10T 442/644 (2015.04 - EP US)

Citation (search report)

See references of WO 2005123999A2

Designated contracting state (EPC)

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