

Title (en)
Hybrid protective composite

Title (de)
Hybrides Schutzkomposit

Title (fr)
Composite hybride de protection

Publication
EP 1496331 A1 20050112 (EN)

Application
EP 04024471 A 19990810

Priority

- EP 99942041 A 19990810
- US 21736098 A 19981221

Abstract (en)
An article which is knife and ice pick penetration resistant and is made from a plurality of layers (12) of woven fabric comprising polybenzoxazole or polybenzothiazole fibers, and a plurality of layers (14) of tightly-woven penetration resistant fabric. <??>Said tightly-woven penetration resistant fabric may include polyamide, e.g. para-aramid or polyolefin, e.g. polyethylene or polybenzoxazole or polybenzothiazole fibers. <IMAGE>

IPC 1-7
F41H 5/04

IPC 8 full level
B32B 5/26 (2006.01); **B32B 27/00** (2006.01); **B32B 27/34** (2006.01); **F41H 1/02** (2006.01); **F41H 5/04** (2006.01)

CPC (source: EP KR)
F41H 5/04 (2013.01 - KR); **F41H 5/0485** (2013.01 - EP)

Citation (applicant)

- WO 9320400 A2 19931014 - DOW CHEMICAL CO [US]
- US 5578358 A 19961126 - FOY BRIAN E [US], et al
- WO 9300564 A1 19930107 - DU PONT [US]
- US 5472769 A 19951205 - GOERZ JR DAVID J [US], et al
- EP 0670466 A1 19950906 - MEHLER VARIO SYSTEM GMBH [DE]
- US 4172938 A 19791030 - MERA HIROSHI [JP], et al
- US 3869429 A 19750304 - BLADES HERBERT
- US 3819587 A 19740625 - KWOLECK S

Citation (search report)

- [E] WO 9947880 A1 19990923 - DU PONT [US]
- [YA] WO 9805917 A1 19980212 - SECOND CHANCE BODY ARMOR INC [US]
- [YA] GB 2198628 A 19880622 - SECR DEFENCE
- [A] WO 9749849 A2 19971231 - DU PONT [US]
- [A] WO 9632621 A2 19961017 - DU PONT [US]
- [AD] WO 9300564 A1 19930107 - DU PONT [US]
- [AD] WO 9320400 A2 19931014 - DOW CHEMICAL CO [US]
- [A] WO 9311290 A1 19930610 - DU PONT [US]
- [A] WO 9106821 A1 19910516 - PERSONNEL ARMOURED DESIGNS LIM [GB]
- [AD] US 5578358 A 19961126 - FOY BRIAN E [US], et al
- [A] WO 9414023 A1 19940623 - DU PONT [US]
- [A] WO 9817136 A1 19980430 - SECOND CHANCE BODY ARMOR INC [US]

Designated contracting state (EPC)
DE FR GB IT NL

DOCDB simple family (publication)
WO 0037876 A1 20000629; AU 5550599 A 20000712; AU 755697 B2 20021219; BR 9917018 A 20050412; BR 9917018 B1 20101019;
CA 2346980 A1 20000629; CA 2346980 C 20040511; CN 1118677 C 20030820; CN 1331794 A 20020116; DE 69927712 D1 20051117;
DE 69927712 T2 20060706; DE 69927712 T3 20120516; DE 69939883 D1 20081218; EP 1141649 A1 20011010; EP 1141649 B1 20051012;
EP 1141649 B2 20111123; EP 1496331 A1 20050112; EP 1496331 B1 20081105; HK 1040279 A1 20020531; IL 142522 A0 20020310;
JP 2002533651 A 20021008; JP 3794924 B2 20060712; KR 100471335 B1 20050221; KR 20010089661 A 20011008; RU 2217682 C2 20031127;
TW I227197 B 20050201

DOCDB simple family (application)
US 9917937 W 19990810; AU 5550599 A 19990810; BR 9917018 A 19990810; CA 2346980 A 19990810; CN 99814833 A 19990810;
DE 69927712 T 19990810; DE 69939883 T 19990810; EP 04024471 A 19990810; EP 99942041 A 19990810; HK 02101608 A 20020301;
IL 14252299 A 19990810; JP 2000589891 A 19990810; KR 20017007805 A 20010620; RU 2001120340 A 19990810; TW 88112622 A 19990726