

Title (en)
SHEET OF COMPLEX, MULTI-LAYER MATERIAL WHICH CAN BE USED TO PRODUCE PROTECTIVE CLOTHING, PARTICULARLY FOR FIRE FIGHTERS

Title (de)
KOMPLEXES SCHICHTMATERIAL FÜR SCHUTZBEKLEIDUNG, INSBESONDERE FÜR FEUERWEHRBEKLEIDUNG

Title (fr)
MATERIAU COMPLEXE MULTICOUCHES EN FEUILLE UTILISABLE POUR LA REALISATION DE VETEMENTS DE PROTECTION, NOTAMMENT POUR SAPEURS-POMPIERS

Publication
EP 1441612 B1 20061213 (FR)

Application
EP 02795365 A 20021106

Priority
• FR 0203789 W 20021106
• FR 0114571 A 20011107

Abstract (en)
[origin: WO03039280A1] The invention relates to a sheet of complex, multi-layer material which can be used to produce protective clothing, particularly for fire fighters. The inventive material is characterised in that it is produced by means of weaving or knitting. In this way, a structure is created having two stacked faces (1, 2) which are intermittently interconnected in such a way as to form pockets. According to the invention, one of the aforementioned layers shrinks under the effect of heat and the link between said layers is provided by the intermittent binding of a selection of threads in order to form the pockets.

IPC 8 full level
A41D 13/02 (2006.01); **A41D 31/02** (2006.01); **A41D 31/00** (2006.01); **B32B 5/26** (2006.01); **B32B 7/08** (2006.01); **D03D 15/567** (2021.01)

CPC (source: EP US)
A41D 31/08 (2019.02 - EP US); **A41D 31/085** (2019.02 - EP US); **D03D 15/567** (2021.01 - EP US); **D10B 2401/046** (2013.01 - EP US); **Y10S 428/92** (2013.01 - EP US); **Y10S 428/921** (2013.01 - EP US); **Y10T 442/20** (2015.04 - EP US); **Y10T 442/2525** (2015.04 - EP US); **Y10T 442/3179** (2015.04 - EP US); **Y10T 442/3293** (2015.04 - EP US); **Y10T 442/3854** (2015.04 - EP US); **Y10T 442/3976** (2015.04 - EP US); **Y10T 442/3992** (2015.04 - EP US); **Y10T 442/45** (2015.04 - EP US)

Cited by
ES2265740A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)
WO 03039280 A1 20030515; AT E347821 T1 20070115; AU 2002360160 B2 20080214; BR 0214062 A 20041013; CA 2464629 A1 20030515; CA 2464629 C 20100622; CN 1239108 C 20060201; CN 1578632 A 20050209; DE 60216801 D1 20070125; DE 60216801 T2 20071108; DK 1441612 T3 20070402; EP 1441612 A1 20040804; EP 1441612 B1 20061213; ES 2278074 T3 20070801; FR 2831771 A1 20030509; FR 2831771 B1 20040827; HU P0402044 A2 20081028; JP 2005507468 A 20050317; JP 4304071 B2 20090729; NO 20041863 D0 20040506; NO 20041863 L 20040607; NZ 532392 A 20061130; PT 1441612 E 20070330; US 2004266293 A1 20041230; US 7396784 B2 20080708

DOCDB simple family (application)
FR 0203789 W 20021106; AT 02795365 T 20021106; AU 2002360160 A 20021106; BR 0214062 A 20021106; CA 2464629 A 20021106; CN 02821586 A 20021106; DE 60216801 T 20021106; DK 02795365 T 20021106; EP 02795365 A 20021106; ES 02795365 T 20021106; FR 0114571 A 20011107; HU P0402044 A 20021106; JP 2003541385 A 20021106; NO 20041863 A 20040506; NZ 53239202 A 20021106; PT 02795365 T 20021106; US 49480704 A 20040527