

Title (en)
Compound material element for a hook-and-loop fastener

Title (de)
Verbundstoffelement für einen Klettverschluss

Title (fr)
Élément composite pour une fermeture autogrippante

Publication
EP 2455522 B1 20160316 (DE)

Application
EP 10191766 A 20101118

Priority
EP 10191766 A 20101118

Abstract (en)
[origin: EP2455522A1] The composite element has textile material (2) that is laminated onto carrier (1) such as film. The textile material has a basic structure formed from threads (L1,L2) or fibers, which is knitted with embedded threads (L3). The embedded threads are incorporated into basic structure by knitting form loops (3) provided for making a connection with Velcro(RTM: hook-and-loop fastener). Several portions of threads or fibers of basic structure are formed from polyamide.

IPC 8 full level
D04B 21/04 (2006.01); **A44B 18/00** (2006.01)

CPC (source: EP US)
A44B 18/0069 (2013.01 - EP US); **D04B 21/04** (2013.01 - EP US); **D10B 2403/0112** (2013.01 - EP US); **D10B 2501/0632** (2013.01 - EP US); **Y10T 428/23914** (2015.04 - EP US)

Citation (opposition)
Opponent : Mattes & Ammann GmbH & Co KG

- WO 03102286 A1 20031211 - SITIP SPA [IT], et al
- DE 4220908 A1 19940105 - GIRMES GMBH [DE]
- DE 29900924 U1 20000629 - COROPLAST FRITZ MUELLER GMBH [DE]
- DE 69521511 T2 20020328 - JAPAN VILENE CO LTD [JP]
- WO 2004050970 A2 20040617 - MILLIKEN & CO [US]
- EP 1579779 A1 20050928 - NORDENIA DEUTSCHLAND GRONAU [DE]
- DE 29609782 U1 19970925 - SCHAEFER POSAMENTE GMBH [DE]
- EP 2191801 A2 20100602 - NORDENIA DEUTSCHLAND GRONAU [DE]
- EP 1690967 A1 20060816 - NORDENIA DEUTSCHLAND GRONAU [DE]
- DE 19506038 A1 19960829 - HOECHST TREVIRA GMBH & CO KG [DE]
- DE 19506037 A1 19960829 - HOECHST TREVIRA GMBH & CO KG [DE]
- US 5231738 A 19930803 - HIGASHINAKA YAKITOSHI [JP]
- RÖSLER J. ET AL.: "Mechanisches Verhalten der Werkstoffe, 2. Auflage", July 2006, TEUBNER VERLAG, pages: 290, XP055501218
- BONNET M.: "Kunststoffe in der Ingenieurranwendung: verstehen und zuver- lässig auswählen. 1. Auflage", August 2009, VIEWEG - TEUBNER, article "Kleben", pages: 227,229, XP0555012219
- MARKERT & HOLTHAUS: "Maschen-ABC, 10. Auflage", June 1999, DEUTSCHER FACHVERLAG, pages: 5,128 - 129, XP055501090
- "Kaschierung (Fertigungstechnik)", WIKIPEDIA, 20 May 2010 (2010-05-20), pages 1, XP055501212
- "Kaschierung (Fertigungstechnik)", WIKIPEDIA, 26 February 2017 (2017-02-26), XP055501214, Retrieved from the Internet <URL:https://de.wikipedia.org/w/index.php?title=Kaschierung_(Fertigungstechnik)&oldid=163020405>
- FESSMANN & ORTH: "Angewandte Chemie und Umwelttechnik, 2 Aufl.", 2002, ECOMED, pages: 104 - 105, XP055501216

Cited by
CN104005147A; EP2883472B2

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