

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 May 2009 (22.05.2009)

PCT

(10) International Publication Number
WO 2009/064594 A3

- (51) International Patent Classification:
D03D 25/00 (2006.01) B29C 70/24 (2006.01)
- (21) International Application Number:
PCT/US2008/080941
- (22) International Filing Date: 23 October 2008 (23.10.2008)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
11/937,802 9 November 2007 (09.11.2007) US
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AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,
- (88) Date of publication of the international search report:
2 July 2009

(54) Title: HYBRID THREE-DIMENSIONAL WOVEN/LAMINATED STRUTS FOR COMPOSITE STRUCTURAL APPLICATIONS

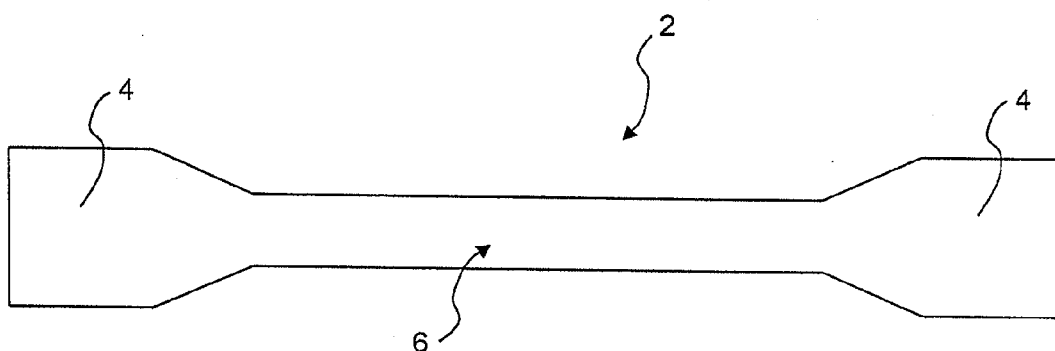


FIG. 1

(57) Abstract: A woven preform used to reinforce a composite structure which includes a central portion (6,10) having a plurality of interwoven layers. The preform also includes first and second end portions (4,12) having a plurality of independent woven layers (50) that are integrally woven with the plurality of interwoven layers in the central portion (6,10) and which extend along the entire length the preform. Interspersed between the plurality of independent woven layers (50) in the first and second end portions are bias plies (26). The first and second end portions can have through thickness reinforcements (71) comprising reinforcement fibers that traverse through the independent woven layers and the bias plies, locking them together.

WO 2009/064594 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/080941

A. CLASSIFICATION OF SUBJECT MATTER
INV. D03D25/00 B29C70/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
D03D B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2007/061586 A (ALBANY INT TECHNIWEAVE INC [US]; GOERING JONATHAN [US]) 31 May 2007 (2007-05-31) claims 1-61; figures 1-5	1-42
Y	US 4 622 254 A (NISHIMURA AKIRA [JP] ET AL) 11 November 1986 (1986-11-11) abstract; figures 1-12; examples 1-4 column 2, lines 7-10 column 3, lines 32-47 column 6, lines 11-48	1-42

Further documents are listed in the continuation of Box C.

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Date of the actual completion of the international search

Date of mailing of the international search report

8 May 2009

25/05/2009

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/080941

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
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US 4622254	A	11-11-1986	NONE	