

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number
WO 2004/012931 A3

(51) International Patent Classification⁷: **E04B 1/82**, 1/84

(21) International Application Number:

PCT/US2003/023955

(22) International Filing Date: 31 July 2003 (31.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/400,554	2 August 2002 (02.08.2002)	US
10/237,702	9 September 2002 (09.09.2002)	US
10/237,577	9 September 2002 (09.09.2002)	US

(71) Applicant: **CTA ACOUSTICS, INC.** [US/US]; 296 Robert Cox Road, P.O. Box 448, Corbin, KY 40702-0448 (US).

(72) Inventor: **BARGO, Matthew, II**; 296 Robert E. Cox Road, Corbin, KY 40701 (US).

(74) Agents: **COLE, James, E.** et al.; Middleton Reutlinger, 2500 Brown & Williamson Tower, Louisville, KY 40202 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

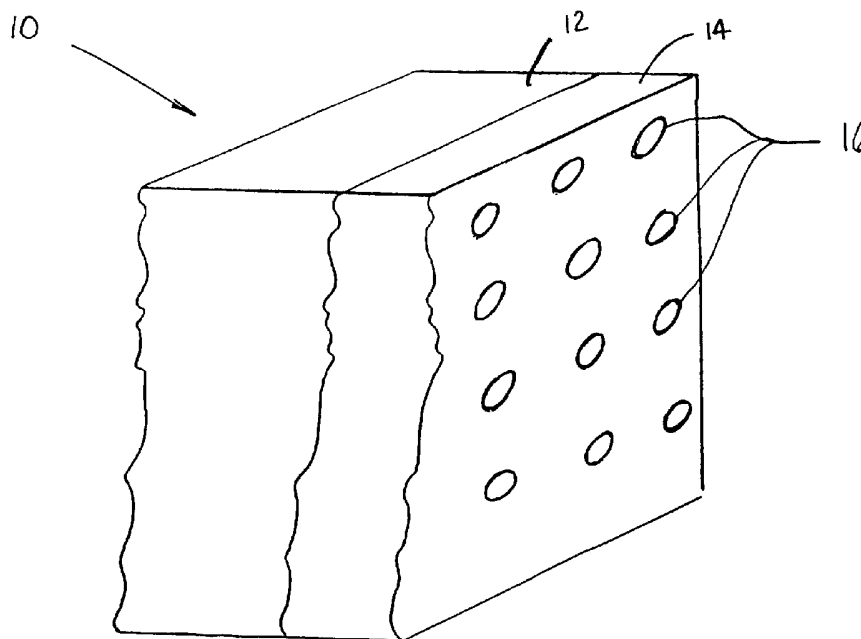
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH,

[Continued on next page]

(54) Title: ACOUSTICAL INSULATION LAMINATE WITH POLYOLEFIN LAYER AND PROCESS FOR MAKING



(57) Abstract: An acoustical insulation laminate (10) having a porous polyolefin layer and a process for making the laminate. The laminate preferably includes a porous multiple density polyolefin film (14), a sound absorbing material (12) and may include a face cloth (18) on one or both sides of the laminate. The porous polyolefin film (14) is preferably disposed between a sound source and the sound absorbing material (12) improving the total noise reduction coefficient of the sound absorbing material (12) alone while reducing the weight of laminates having similar noise reduction capabilities.

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

17 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/23955

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : E04B 1/82, 1/84

US CL : 181/291, 292, 286, 288, 294

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)

U.S. : 181/291, 292, 286, 288, 294

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 practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,536,556 A (Juriga) 16 July 1996 (16.07.1996), figures 2-6; column 3, lines 46-63; column 7, lines 59-67.	1-4, 6, 8-11, 13-15, 17, 20, 21, 25, 27, 35, 37, 38, 41, 42, 58, 61, 63, 66, 67, 72, 73, 75, 77, 78, 80, 81 ----- 7, 19, 23, 33, 39, 40, 41, 42, 43, 44, 46, 47, 59, 60, 62, 64, 65, 66, 68, 69, 70, 74, 75, 76, 79, 82, 83
X --- Y	US 5,981,046 A (Masui et al) 09 November 1999 (09.11.1999), figure 10; column 19, lines 36-46.	48, 51 ----- 7, 19, 23, 33
Y	US 5,094,318 A (Maeda et al) 10 March 1992 (10.03.1992), column 2, lines 39-52.	39, 54, 59



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:		"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

08 November 2003 (08.11.2003)

Date of mailing of the international search report

16 MAR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Patrick Miller

Telephone No. 703-306-3431

INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,109,389 A (Hiers et al) 29 August 2000 (29.08.2000), column 11, lines 24-27.	40, 46, 47, 55, 60
Y	US 5,055,341 A (Yamaji et al) 08 October 1991 (08.10.1991), column 19, lines 31-49; column 20, lines 1-17.	43, 44, 64, 65, 76
Y	US 5,300,360 A (Kocsis et al) 05 April 1994 (05.04.1994), column 7, lines 5-11.	49, 50, 62, 79
Y	US 5,108,833 A (Noguchi et al) 28 April 1992 (28.04.1992), column 5, lines 16-37.	52, 53
Y	US 5,670,235 A (Stricker et al) 23 September 1997 (23.09.1997), column 8, lines 1-25.	56, 70, 83
Y	US 5,456,513 A (Schmidt) 10 October 1995 (10.10.1995), column 5, lines 45-46.	69, 74
A	US 4,966,799 A (Lucca et al) 30 October 1990 (30.10.1990), figure 2.	1-84