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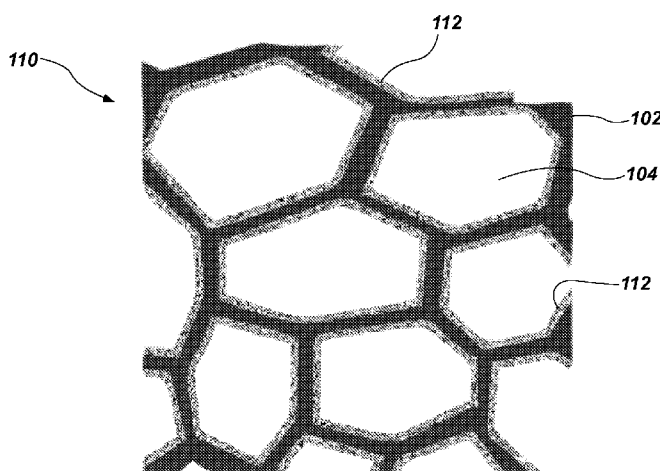


FIG. 2

(57) Abstract: Cushioning elements include a porous foam comprising a series of interconnected cell walls and an elastomeric material formed over at least a portion of the interconnected cell walls. The porous foam is configured to allow gases to pass through at least a portion thereof. Methods of forming cushioning elements may include coating interconnected cell walls of a breathable porous foam with a liquid comprising an elastomeric material, solidifying at least a portion of the elastomeric material, and providing a gas path through the elastomeric material. Other methods include pressing sheets of foam together at a pinch point, disposing a liquid between the foam over the pinch point, coating the foam with the liquid, and separating the sheets beyond the pinch point. Some methods include consolidating a plurality of portions of porous foam into a continuous cushioning material.



INTERNATIONAL SEARCH REPORT

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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)

A47C 27/00; A43B 7/06; B29K 21/00; D04B 21/14; A42B 3/00; B29C 43/32; C08L 53/02; A43B 13/20; C08K 5/00; D04B 21/10

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: cushion, breath, elastic, porous, cell, pore

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2006-0277788 A1 (FUJII TAKAO) 14 December 2006 See abstract; paragraphs [0001], [0028], [0029], and [0038]; figures 2, 3 and 4.	1,9 2-8,10-19
Y A	US 05994450 A (PEARCE TONY M.) 30 November 1999 cited in the application See abstract; claim 1; columns 11-12.	1,9 2-8,10-19
A	US 05633286 A (CHEN JOHN Y.) 27 May 1997 See abstract; columns 3-4.	1-19
A	JP 2010-023504 A (YAMAKATSU LABO CO., LTD.) 04 February 2010 See abstract; paragraphs [0007]-[0011].	1-19
A	JP 2004-162204 A (VOC DIRECT CO., LTD. et al.) 10 June 2004 See abstract; paragraphs [0011], [0012], [0026], [0027], [0030] and [0041]; figure 1.	1-19

 Further documents are listed in the continuation of Box C. See patent family annex.

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PCT/US2012/034815

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0277788 A1	14. 12. 2006	DE 102006011222 A1	28. 12. 2006
		JP 04-541975 B2	02. 07. 2010
		JP 2006-345886 A	28. 12. 2006
		JP 4541975 B2	08. 09. 2010
		US 7614163 B2	10. 11. 2009
US 05994450 A	30. 11. 1999	EP 0897518 A2	24. 02. 1999
		EP 0897518 A3	07. 04. 2004
		EP 0897518 A4	02. 02. 2005
		JP 2001-514912 A	18. 09. 2001
		US 05746063 A	05. 05. 1998
		US 05749111 A	12. 05. 1998
		US 05765386 A	16. 06. 1998
		US 05816051 A	06. 10. 1998
		US 05931018 A	03. 08. 1999
		US 06026527 A	22. 02. 2000
		US 2002-013407 A1	31. 01. 2002
		US 2003-0092826 A1	15. 05. 2003
		US 2003-0096899 A1	22. 05. 2003
		US 2003-0228446 A1	11. 12. 2003
		US 2004-0226098 A1	18. 11. 2004
		US 2004-0226099 A1	18. 11. 2004
		US 2004-0229986 A1	18. 11. 2004
		US 2005-0017396 A1	27. 01. 2005
		US 2006-0253988 A1	16. 11. 2006
		US 6173575 B1	16. 01. 2001
		US 6187837 B1	13. 02. 2001
		US 6413458 B1	02. 07. 2002
		US 6797765 B2	28. 09. 2004
		US 6865759 B2	15. 03. 2005
		US 6908662 B2	21. 06. 2005
		US 7060213 B2	13. 06. 2006
		US 7076822 B2	18. 07. 2006
WO 02-062891 A1	15. 08. 2002		
WO 98-33023 A2	30. 07. 1998		
WO 99-08571 A1	25. 02. 1999		
US 05633286 A	27. 05. 1997	AU 1999-28692 A1	06. 09. 1999
		AU 1999-28692 B2	01. 08. 2002
		AU 2001-12215 A1	30. 04. 2001
		AU 2001-12215 B2	17. 06. 2004
		CA 2324993 A1	26. 08. 1999
		CA 2324993 C	28. 08. 2007
		CA 2388450 A1	26. 04. 2001
		CN 1579352 A	16. 02. 2005
		CN 1579352 C0	16. 02. 2005
		EP 0721489 A1	07. 05. 1997
		EP 0721489 B1	05. 11. 1997
		EP 1006933 A1	14. 06. 2000

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/034815

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		EP 1056466 A1	06.12.2000
		EP 1056466 B1	21.01.2004
		EP 1226150 A1	31.07.2002
		EP 1887082 A2	13.02.2008
		EP 1887082 A3	11.06.2008
		JP 09-503803 A	15.04.1997
		JP 2003-512036 A	02.04.2003
		JP 2005-046247 A	24.02.2005
		US 04369284 A	18.01.1983
		US 04618213 A	21.10.1986
		US 05153254 A	06.10.1992
		US 05239723 A	31.08.1993
		US 05262468 A	16.11.1993
		US 05324222 A	28.06.1994
		US 05334646 A	02.08.1994
		US 05336708 A	09.08.1994
		US 05382615 A	17.01.1995
		US 05458982 A	17.10.1995
		US 05467626 A	21.11.1995
		US 05475890 A	19.12.1995
		US 05508334 A	16.04.1996
		US 05624294 A	29.04.1997
		US 05638724 A	17.06.1997
		US 05655947 A	12.08.1997
		US 05661992 A	02.09.1997
		US 05760117 A	02.06.1998
		US 05868597 A	09.02.1999
		US 05884639 A	23.03.1999
		US 05938499 A	17.08.1999
		US 05962572 A	05.10.1999
		US 05972616 A	26.10.1999
		US 06033283 A	07.03.2000
		US 06050871 A	18.04.2000
		US 06117176 A	12.09.2000
		US 06148830 A	21.11.2000
		US 06161555 A	19.12.2000
		US 2002-0188057 A1	12.12.2002
		US 2003-0004253 A1	02.01.2003
		US 2003-0083422 A1	01.05.2003
		US 2003-0122446 A1	03.07.2003
		US 2003-0130407 A1	10.07.2003
		US 2003-0134958 A1	17.07.2003
		US 2003-0186603 A1	02.10.2003
		US 2003-0231720 A1	18.12.2003
		US 2004-0018223 A1	29.01.2004
		US 2004-0018272 A1	29.01.2004
		US 2004-0063833 A1	01.04.2004
		US 2004-0068040 A1	08.04.2004
		US 2004-0070187 A1	15.04.2004
		US 2004-0086910 A1	06.05.2004

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/034815

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		US 2004-0116591 A1	17.06.2004
		US 2004-0146541 A1	29.07.2004
		US 2004-0225044 A1	11.11.2004
		US 2004-0249056 A1	09.12.2004
		US 2004-072942 A1	15.04.2004
		US 2005-0008669 A1	13.01.2005
		US 2005-0027288 A1	03.02.2005
		US 2005-0184619 A1	25.08.2005
		US 2007-0197949 A1	23.08.2007
		US 2007-0238835 A1	11.10.2007
		US 2008-0019465 A1	24.01.2008
		US 2009-0274618 A1	05.11.2009
		US 2010-0002809 A1	07.01.2010
		US 5334646 B1	08.09.1998
		US 5633286 B1	10.10.2000
		US 6315946 B1	13.11.2001
		US 6324703 B1	04.12.2001
		US 6333374 B1	25.12.2001
		US 6420475 B1	16.07.2002
		US 6552109 B1	22.04.2003
		US 6627275 B1	30.09.2003
		US 6649741 B1	18.11.2003
		US 6794440 B2	21.09.2004
		US 6867253 B1	15.03.2005
		US 6909220 B2	21.06.2005
		US 7022821 B1	04.04.2006
		US 7067583 B2	27.06.2006
		US 7093316 B2	22.08.2006
		US 7093599 B2	22.08.2006
		US 7105607 B2	12.09.2006
		US 7108873 B2	19.09.2006
		US 7134236 B2	14.11.2006
		US 7134929 B2	14.11.2006
		US 7159259 B2	09.01.2007
		US 7193002 B2	20.03.2007
		US 7208184 B2	24.04.2007
		US 7222380 B2	29.05.2007
		US 7226484 B2	05.06.2007
		US 7234560 B2	26.06.2007
		US 7266155 B2	04.09.2007
		US 7290367 B2	06.11.2007
		US 7291462 B2	06.11.2007
		US 7344568 B2	18.03.2008
		US 7471731 B2	30.12.2008
		US 7661164 B2	16.02.2010
		US 7930782 B2	26.04.2011
		US 7939321 B2	10.05.2011
		US 8254475 B2	28.08.2012
		WO 01-29056 A1	26.04.2001
		WO 95-09898 A1	13.04.1995

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/034815

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 95-13851 A1	26.05.1995
		WO 96-00118 A1	04.01.1996
		WO 98-14133 A1	09.04.1998
		WO 99-42120 A1	26.08.1999
JP 2010-023504 A	04.02.2010	WO 2009-153991 A1	23.12.2009
JP 2004-162204 A	10.06.2004	None	