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[Continued on next page]

(54) Title: REINFORCED ELASTOMERS

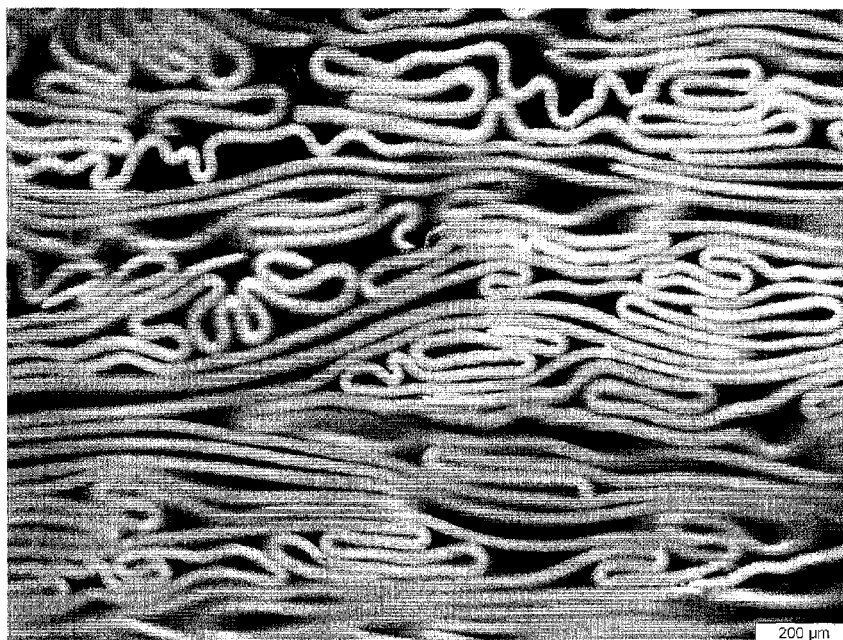


FIGURE 1

(57) Abstract: An elastomer having discrete pieces of porous material distributed throughout the elastomer. Preferably, the porous material is expanded polytetrafluoroethylene (PTFE), and the tensile stress of the composition is greater than about 1 MPa, preferably greater than 1.5 MPa, at 50% elongation; greater than 2 MPa, preferably greater than 3 MPa and most preferably greater than 4 MPa, at 100% elongation.



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INTERNATIONAL SEARCH REPORT

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PCT/US2011/023987**A. CLASSIFICATION OF SUBJECT MATTER***C08L 27/18(2006.01)i, C08K 7/22(2006.01)i, C08L 67/00(2006.01)i, C08L 83/04(2006.01)i, C08L 27/12(2006.01)i*

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)

C08L 27/18; B29C 67/20; B29C 67/24; C08L 27/16; A61F 2/06; B29K 27/18; B29C 55/00

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: elastomer, silicone, porous material, polytetrafluoroethylene, expended PTFE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 04882113 A (TU ROGER et al.) 21 November 1989 See column 6 lines 42-56, examples 1-3, claim 1, 4	1, 2, 11-18, 23-28
A	WO 1997-003812 A1 (W.L. GORE & ASSOCIATES, INC.) 06 February 1997 See page 3 line 36-page 4 line7, claims 1-3, 7-11	1-37
A	US 04507439 A (STEWART CHARLES W.) 26 March 1985 See the whole document	1-37
A	US 2004-0024442 A1 (KRZYSZTOF SOWINSKI et al.) 05 February 2004 See the whole document	1-37

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

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Date of the actual completion of the international search

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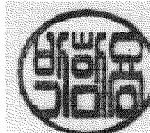
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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 04882113 A	21.11.1989	None	
WO 1997-003812 A1	06.02.1997	None	
US 04507439 A	26.03.1985	EP 0148512 A1 EP 0148512 B1 EP 0148512 B1 JP 60-133060 A US 04596855A A	17.07.1985 22.02.1989 12.06.2002 16.07.1985 24.06.1986
US 2004-0024442 A1	05.02.2004	AU 2003-237158 A1 CA 2483967 A1 EP 1526878 A1 JP 2005-530549 A JP 2005-530549 T US 2006-0259133 A1 US 7789908 B2 WO 04-000375 A1	06.01.2004 31.12.2003 04.05.2005 13.10.2005 13.10.2005 16.11.2006 07.09.2010 31.12.2003