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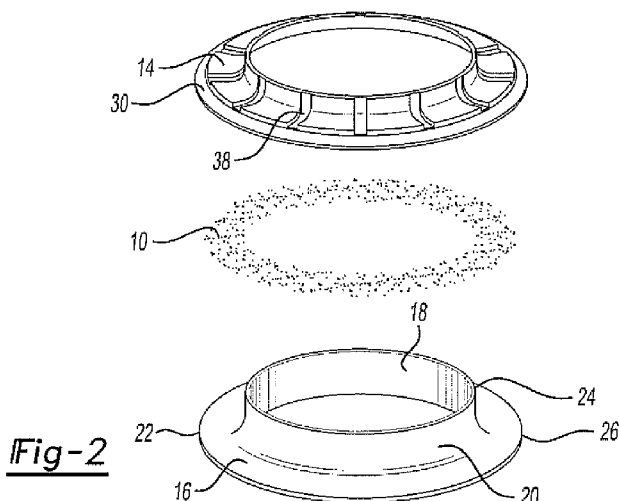
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(54) Title: BONDED MICRO CELLULAR URETHANE SUSPENSION COMPONENT



(57) Abstract: The present invention provides a method of bonding suspension components which creates strong and durable bonding layer by using a chemical coating compatible with MCU. The bonding material uses coating materials to form an intermediated property bonding layer. This bonding layer prevents corrosion on the metal suspension components. The coating has the correct chemical activity to chemically bond MCU at the molecular level during the standard curing reaction. The coating provides an intermediated property layer to improve cyclic fatigue bonding performance, and bond effectively during molding and manufacturing operations.



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<i>B60G 7/04(2006.01)i, B32B 27/40(2006.01)1, B60G 7/00(2006.01)1</i>		
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B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) B60G 7/04; F16F 7/00; F16F 9/04; F16F 15/08; F16M 13/00; F16F 1/36		
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: micro, cellular, urethane, bond, adhesive, suspension and metal		
c. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2006-0082038 A1 (SADIQ AL-DAHMAN et al.) 20 April 2006 See paragraphs 16 - 28 and Figs. 1 - 6.	1-38
Y	US 7070157 B2 (ANAND HUPRIKAR et al.) 04 July 2006 See columns 3 - 10 and Figs. 1 - 9.	1-38
A	US 6439550 B1 (KOCH, RUSSELL W.) 27 August 2002 See columns 1 - 9 and Figs. 1 - 4.	1-38
A	JP 2004-150596 A (TOKAI RUBBER IND. LTD.) 27 May 2004 See claim 1 and Figs. 1 - 4.	1-38
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified) "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		"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 "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 "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 "&" document member of the same patent family
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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 2006-0082038 A1	20.04.2006	CA 2527393 A1 US 2006-0082037 A1 US 2006-0208406 A2 US 7416175 B2	07.12.2006 20.04.2006 21.09.2006 26.08.2008
US 7070157 B2	04.07.2006	US 2005-2799 10 A1	22.12.2005
US 6439550 B1	27.08.2002	BR 9800635 A CA 2229763 A1 DE 69805226 D1 EP 0859165 A1 EP 0859165 B1 JP 10-325434 A MX 9801329 A	14.09.1999 18.08.1998 13.06.2002 19.08.1998 08.05.2002 08.12.1998 31.12.1998
JP 2004-150596 A	27.05.2004	None	