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(71) Applicant (for all designated States except US): **LUNA INNOVATIONS INCORPORATED** [US/US]; 1 Riverside Circle, Suite 400, Roanoke, VA 24016 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KOENE, Bryan** [CA/US]; 1835 Augusta National Road, Blacksburg, VA 24060 (US).

(74) Agent: **DAVIDSON, Bryan, H.**; Nixon & Vanderhye P.C., 901 North Glebe Road, 11th Floor, Arlington, VA 22203-1808 (US).

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12 April 2012

(54) Title: COATING SYSTEMS CAPABLE OF FORMING AMBIENTLY CURED HIGHLY DURABLE HYDROPHOBIC COATINGS ON SUBSTRATES

(57) Abstract: A coating system is provided having (A) at least one fluorochemical silane compound having a perfluorinated segment and at least one silane group per molecule; (B) at least one non-fluorinated compound having an element M selected from the group consisting of Si, Ti, Zr, B, Al, Ge, V, Pb, Sn and Zn, and having at least two hydrolysable groups per molecule; (C) at least one cross-linking silicon compound having at least one hydrolysable group, and at least one reactive functional group capable of engaging in a crosslinking reaction; (D) ceramic particles; (E) at least one acid catalyst; and (F) at least one ambient cure catalyst capable of ambient temperature polymerization of the at least one reactive functional group of component (C).



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**A. CLASSIFICATION OF SUBJECT MATTER*****C09D 183/02(2006.01)i, C09D 7/12(2006.01)i, C08J 7/04(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)

C09D; G02B; C07F; B32B; C09D; C07F; C08G

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) &amp; Keywords: fluoro silane, non-fluorinated, MTMS, GPTMS, cross linking silicon, catalyst, cure catalyst.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6716534 B2 ( MOORE; GEORGE G. I. et al. ) 06 April 2004 See the whole document.	1-23
A	WO 2005-066666 A1 ( 3M INNOVATIVE PROPERTIES COMPANY ) 21 July 2005 See the whole document.	1-23
A	US 7294731 B1 ( FLYNN; RICHARD M. et al. ) 13 November 2007 See the whole document.	1-23
A	US 2004-0092675 A1 ( MOORE; GEORGE G. I. et al. ) 13 May 2004 See the whole document.	1-23



Further documents are listed in the continuation of Box C.



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

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"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

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"&amp;" document member of the same patent family

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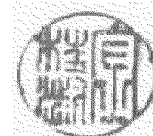
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Information on patent family members

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**PCT/US2011/036929**

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