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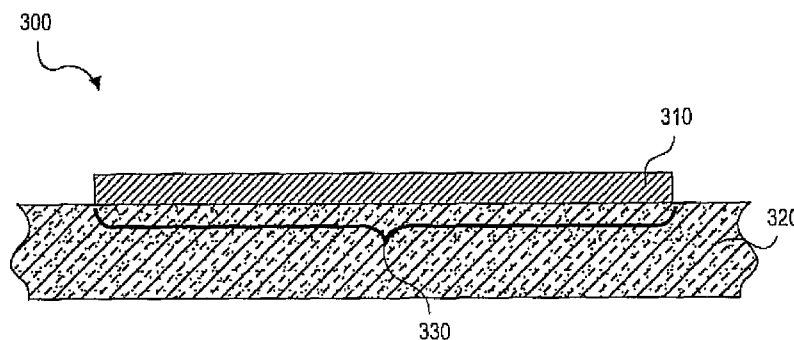


FIG. 3

(57) Abstract: Provided are superhydrophobic coatings, devices and articles including superhydrophobic coatings, and methods for preparing the superhydrophobic coatings. The exemplary superhydrophobic device can include a substrate component and one or more superhydrophobic coatings disposed over the substrate component, wherein at least one of the one or more superhydrophobic coatings has a water contact angle of at least about 150° and a contact angle hysteresis of less than about 1°. The one or more superhydrophobic coatings can include an ultra high water content acid catalyzed polysilicate gel, the polysilicate gel including a three dimensional network of silica particles having surface functional groups derivatized with a silylating agent and a plurality of pores.



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A. CLASSIFICATION OF SUBJECT MATTER*C09D 183/02(2006.01)i, C09D 5/00(2006.01)i, C09K 3/18(2006.01)i*

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C09D 183/02; B32B 15/08; B32B 15/18; C08G 59/40; C08G 77/44; C08K 5/04; C08L 83/08; C09C 1/30; C09C 3/12; C09D 183/10; C09D 201/00; C09D 3/82

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

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

eKOMPASS(KIPO internal) & Keywords: superhydrophobic, polysilicate gel, alkoxy silane, water, acid, functional groups and silylating agent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0068671 A2 (DOW CORNING LIMITED) 05 January 1983 See Abstract, example 1-5 and claims 1-11	1-21
A	US 7309528 B2 (Dow Corning GmbH) 18 December 2007 See Abstract, example 1-7 and claims 1-16	1-21
A	EP 1412415 A1 (DOW CORNING TORAY SILICONE CO.,LTD.) 28 April 2004 See Abstract, example 1-3 and claims 1-12	1-21
A	EP 1186641 A2 (DOW CORNING TORAY SILICONE CO., LTD.) 13 March 2002 See Abstract, example 1-4 and claims 1-7	1-21
A	EP 1874875 A1 (NUPLEX RESINS B.V.) 09 January 2008 See Whole Document	1-21
A	EP 0185526 A2 (MITSUI SEKIYU KAGAKU KOGYO KABUSHIKI KAISHA) 25 June 1986 See Abstract, example 1-52 and claims 1-21	1-21
A	EP 0122483 A1 (TORAY SILICONE COMPANY LIMITED) 24 October 1984 See Abstract, example 1-11 and claims 1-7	1-21

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

* Special categories of cited documents:

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"&" document member of the same patent family

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