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kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
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ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ADHESIVE COMPOSITIONS CONTAINING GRAPHENIC CARBON PARTICLES

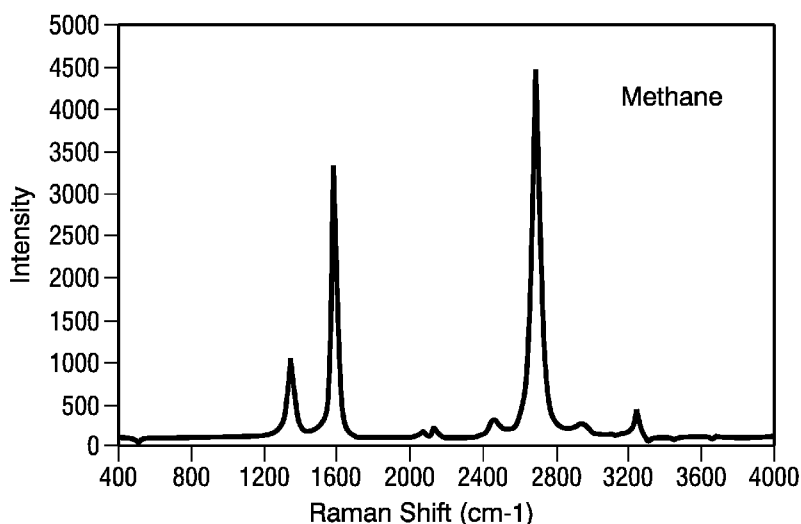


FIG. 1

(57) Abstract: Disclosed herein are adhesive compositions comprising (a) a first component; (b) a second component that chemically reacts with said first component; and (c) graphenic carbon particles having a compressed density of 0.9 or less. Disclosed herein are associated methods for forming the adhesive compositions and applying the adhesive compositions to a substrate to form a bonded substrate.





Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
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- *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/039509

A. CLASSIFICATION OF SUBJECT MATTER
INV. C09J11/04
ADD.

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)
C09J

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2011/076391 A1 (GROSS ADAM FRANKLIN [US] ET AL) 31 March 2011 (2011-03-31) claims 1,5,12	1-13,17
Y	----- MOHAMMAD A. RAFIEE ET AL: "Enhanced Mechanical Properties of Nanocomposites at Low Graphene Content", ACS NANO, vol. 3, no. 12, 22 December 2009 (2009-12-22), pages 3884-3890, XP055011262, ISSN: 1936-0851, DOI: 10.1021/nn9010472 the whole document -----	1-13,17

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 29 October 2013	Date of mailing of the international search report 10/04/2014
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Sperry, Pascal
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/039509

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-13, 17

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/039509

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2011076391	A1	31-03-2011	CN 102741334 A	17-10-2012
			EP 2483338 A1	08-08-2012
			JP 2013506029 A	21-02-2013
			US 2011076391 A1	31-03-2011
			WO 2011041044 A1	07-04-2011

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13, 17

An adhesive composition comprising a first component and a second component that chemically reacts with said first component; and graphenic carbon particles having a compressed density of 0.9 or less.

2. claims: 14-16, 18, 19

An adhesive composition comprising a first component and a second component that chemically reacts with said first component; and graphenic carbon particles, wherein a 0.5% by weight solution of said graphenic carbon particles in butyl cellosolve has a bulk liquid conductivity of at least 100 microSiemens as measured by a Fisher Scientific AB 30 conductivity meter.

3. claim: 20

A coating composition comprising a film forming polymer; and graphenic carbon particles having a compressed density of 0.9 or less.
