Title: CARBON NANOTUBE-REINFORCED NANOCOMPOSITES

Abstract: A combination of MWNTs (herein, MWNTs have more than 2 walls) and DWNTs significantly improves the mechanical properties of polymer nanocomposites. A small amount of DWNTs reinforcement (<1 wt. %) significantly improves the flexural strength of epoxy matrix nanocomposites. A same or similar amount of MWNTs reinforcement significantly improves the flexural modulus (stiffness) of epoxy matrix nanocomposites. Both flexural strength and flexural modulus of the MWNTs and DWNTs-coreinforced epoxy nanocomposites are further improved compared with same amount of either DWNTs or MWNTs-reinforced epoxy nanocomposites. In this epoxy/DWNTs/MWNTs nanocomposite system, SWNTs may also work instead of DWNTs. Besides epoxy, other thermostet polymers may also work.
before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

Published: with international search report

(88) Date of publication of the international search report: 31 July 2008
INTERNATIONAL SEARCH REPORT

International application No.
PCT/US07/65630

A. CLASSIFICATION OF SUBJECT MATTER
IPC: B32B 27/38( 2006.01), 27/84( 2006.01)

USPC: 428/413.264/108

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)
U.S.: 428/413.264/108

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)

SCIENCE DIRECT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>

D. Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search
07 May 2008 (07.05.2008)

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 144, Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Date of mailing of the international search report 16 JUN 2008

Authorized officer
Jerry Lorengo
Telephone No. (571) 282-1700