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(71) Applicant (for all designated States except US): **EIKOS, INC.** [US/US]; 2 Master Drive, Franklin, MA 02038 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GLATKOWSKI, Paul, J.** [US/US]; 4 Pinecrest Road, Littleton, MA 01460 (US). **LANDRAU, Nelson** [US/US]; 17 Devens Street, Marlboro, MA 01752 (US). **LANDIS, David, Jr, H.** [US/US]; 4 Kenmore Court, Barrington, RI 02806 (US). **PICHE, Joseph, W.** [US/US]; 89 Richmond Street, Raynham, MA 02767 (US). **CONROY, Jeffrey** [US/US]; 37 Linden Avenue, Rumford, RI 02916 (US).

(74) Agents: **REMENICK, James** et al.; Heller Ehrman White & McAuliffe LLP, 1666 K Street, N.W., Suite 300, Washington, D.C. 20006-1228 (US).

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(54) Title: CONFORMAL COATINGS COMPRISING CARBON NANOTUBES

(57) Abstract: The invention is directed to conformal coatings that provide excellent shielding against electromagnetic interference (EMI). A conformal coating comprises an insulating layer and a conducting layer containing electrically conductive material. The insulating layer comprises materials for protecting a coated object. The conducting layer comprises materials that provide EMI shielding such as carbon black, carbon buckyballs, carbon nanotubes, chemically-modified carbon nanotubes and combinations thereof. The insulating layer and the conductive layer may be the same or different, and may be applied to an object simultaneously or sequentially. Accordingly, the invention is also directed to objects that are partially or completely coated with a conformal coating that provides EMI shielding.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/23413

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G21F 1/10; H01B 1/02, 1/04, 1/16, 1/20, 1/24

US CL : 523/137; 428/376, 377, 378, 460, 461, 462; 252/500, 502, 510, 511, 512, 514

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. : 523/137; 428/376, 377, 378, 460, 461, 462; 252/ 510, 511, 512, 514;

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A ✓	US 6,265,466 B1 (GLATKOWSKI et al) 24 July 2001 (24.07.2001), whole article.	1-65
X ✓	US 5,366,664 A (VARADAN et al) 22 November 1994 (22.11.1994), Abstract, Column 2, lines 9-38; Column 3, line 4 - Column 6, line 56; Column 7, line 48 - Column 8, line 45;	1-3, 5-6, 13-16, 18
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Y		18, 22, 24, 27, 30-31, 35, 38-39, 4-42, 45-46, 54, 60-65
X ✓	US 5,639,989 A (HIGGINS) 17 June 1997 (17.06.1997), Abstract, Column 2, lines 25-44; Column 3, lines 18-23; Column 4, lines 3-5, 31-35; Column 7, lines 14-45.	1-2, 4-6, 16
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Y		13-15, 18, 22, 24, 27, 30, 35, 38-42, 45
X ✓	JP 2000-026760 A (SUZUKI SOGYO CO LTD), 25 January 2000 (25.01.2000), Abstract, Claims 1-3, Section 0002, 0005, 0008-0013, 0018-0020.	48-49, 51-52, 57-58, 60-62, 64
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Y		1-8, 10, 13-19, 20-24, 26-28, 30-36, 38-43, 45-46, 54-56, 65



Further documents are listed in the continuation of Box C.



See patent family annex.

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"O"	document referring to an oral disclosure, use, exhibition or other means		
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Box PCT
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Dr. Yogendra Gupta

Telephone No. 703-308-0661

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y, P ✓	US 20020046872 A (SMALLEY et al) 25 April 2002 (25.04.2002), whole article.	1,6-12, 17, 20, 23, 25, 29, 33, 36-38, 44, 47-50, 57-60
Y, P ✓	JP 2002-179900 (DAICEL CHEM IND LTD) 26 June 2002 (26.06.2002), Abstract.	1, 6, 13-15, 18, 62, 64