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[54] **ELECTRICALLY CONDUCTIVE Si_3N_4—C SERIES AMORPHOUS MATERIAL AND A METHOD OF PROCESSING THE SAME**

[76] Inventors: **Toshio Hirai**, 4-91, Takamori 3-chome; **Takashi Goto**, 2-12-304, Kuromatsu 3-chome, both of Izumi City, Japan

[21] Appl. No.: **642,700**

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Related U.S. Application Data

[60] Continuation of Ser. No. 428,274, Sep. 29, 1982, abandoned, which is a division of Ser. No. 170,168, Jul. 18, 1980, Pat. No. 4,393,097.

[30] **Foreign Application Priority Data**

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[51] **Int. Cl.**[4] **B32B 9/00**

[52] **U.S. Cl.** **428/446**; 252/502; 428/367; 428/408; 428/688; 428/698

[58] **Field of Search** 428/408, 448, 688, 698; 427/94, 95, 241, 255.2; 252/502, 367

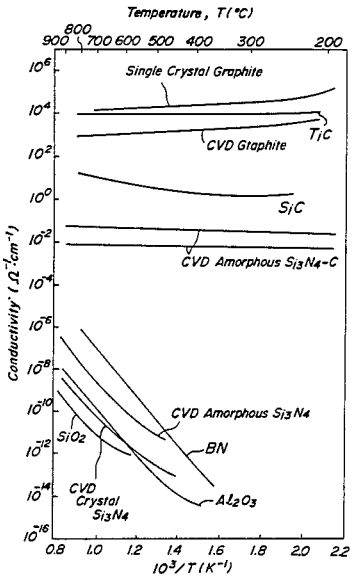
[56] **References Cited**

U.S. PATENT DOCUMENTS

4,036,653	7/1977	Jacobson	423/266
4,158,717	6/1979	Nelson	428/446
4,187,344	2/1980	Fredriksson	428/698
4,393,097	7/1983	Hirai et al.	428/698

Primary Examiner—George F. Lesmes
Assistant Examiner—William M. Atkinson
Attorney, Agent, or Firm—Parkhurst & Oliff

[57] **ABSTRACT**

Electrically conductive Si_3N_4—C series amorphous material having excellent thermal and mechanical characteristics is produced in a massive size by chemical vapor deposition.

10 Claims, 20 Drawing Figures