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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PHOTOCONDUCTOR WITH CERAMER OVERCOAT

(57) Abstract: A polyurethane-silica hybrid, or polyurethane-silica/silsesquioxane hybrid overcoat improves the life of the photoconductor drum without significantly altering the electrophotographic properties of the PC drum. Wear can be caused by a variety of factors, which include contact with the cleaner blade, paper, or intermediate transfer member or by erosion or scratching from toner components. The combination of hard and soft segments allows for a tough, wear resistant material with the added flexibility to prevent erosion from toner particles that are swept along the surface of the drum by the cleaner blade. A benzophenone ultraviolet absorber chemically linked to the silsesquioxane appears to inhibit room light fatigue and improve the electrostatic cycling of the PC drum. The overcoat also inhibits crazing.



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/21526

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G03G 5/147 (2006.01)

USPC - 430/66

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)

IPC(8) G03G 5/147 (2006.01) keyword limited (see below)

USPC 430/66; 430/56 keyword limited (see below)

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

Internet Search - Google (<http://www.google.com/search?hl=en&q=ceramer>)(<http://www.google.com/search?hl=en&lr=&q=ceramer+polyurethane&btnG=Search>)

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

USPTO WEST (PGPB,USPT,EPAB,JPAB) Search Terms: polyphenylene sulfone; polyphenylene sulfone; polyphenylene sulphone; polyphenylene sulphone; ceramer; phenylene; photoconductor; polyurethane; silica; silsesquioxane

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	US 4,917,980 A (BADESHA et al) 17 April 1990 (17.04.1990) col 1 ln 46-58, col 6, ln 3-14	1-7 ----- 8-20
Y	US 6,299,799 B1 (CRAIG et al) 9 October 2001 (09.10.2001) col 10 ln 66 col 11 ln 6	8-20
Y	US 4,278,804 A (ASHBY et al) 14 July 1981 (14.07.1981) claim 1	8-20
A	US 2003/0044407 A1 (CHANG et al) 6 March 2003 (06.03.2003) para 0058, 0106	1-20
A	US 5,968,656 A (EZENYILIMBA et al) 19 October 1999 (19.10.1999) col 3 ln 51-55	1-20

 Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

25 November 2006 (25.11.2006)

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