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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: SHAPED, FRACTURED ABRASIVE PARTICLE, ABRASIVE ARTICLE USING SAME AND METHOD OF MAKING

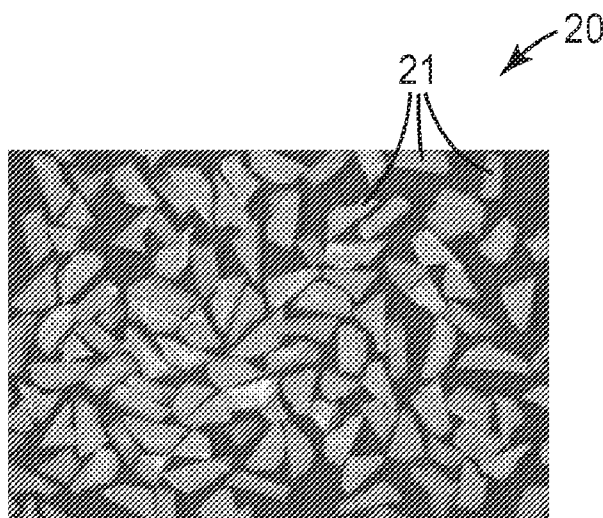


FIG. 4

(57) Abstract: Precursor alpha alumina abrasive particles in a mold are subjected to a drying process that cracks or fractures at least a majority of the precursor abrasive particles into at least two pieces thereby producing abrasive shards having a smaller size than the mold cavity from which they were made. The smaller abrasive shards, once formed, could be reassembled like jigsaw puzzle pieces to reproduce the original cavity shape of the mold from which they were made. The cracking or fracturing of the precursor abrasive particles is believed to occur by ensuring that the surface tension of the abrasive dispersion to the walls of the mold is greater than the internal attractive forces of the abrasive dispersion as the abrasive dispersion is dried within the mold cavity.



- *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))*

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A. CLASSIFICATION OF SUBJECT MATTER**B24D 3/00(2006.01)i, B24D 11/00(2006.01)i**

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 : B24D 3/00, B24D 11/00

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

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKIPASS(KIPO Internal) & keywords : "abrasive", "angle"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0064805 A1 (CULLER, S. R. et al.) 24 March 2005 See abstract and figures 1& 2	1-37
A	US 5454844 A (HIBBARD, L. D. et al.) 03 October 1995 See abstract and figure 1	1-37
A	US 2002/0026752 A1 (CULLER, S. R. et al.) 07 March 2002 See abstract and figures 3& 4	1-37
A	US 2003/0126800 A1 (SETH, B. B.; WAGNER, G. P.) 10 July 2003 See abstract and figure 1	1-37



Further documents are listed in the continuation of Box C.



See patent family annex.

* 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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"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

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2008/087192

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