Title: INVESTMENT CASTING SLURRY COMPOSITION AND METHOD OF USE

Abstract: A composition and method for forming investment casting shells includes using colloidal silica, zircon flour, and fused silica in a slurry (32) which is applied to a pattern (30). After the slurry is applied to the pattern, it is allowed to partially or completely solidified. After the shell (34) has solidified, the pattern may be melted or otherwise removed. A molten material (36) is introduced into the shell and allowed to cool to form an article. Finally, the shell is broken away or otherwise removed from the article. The improved shell slurry composition and corresponding method minimized pattern-to-pour cycle times and is environmentally friendly.
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
18 January 2007

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.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: B22C 9/00(2006.01); B28B 7/36(2006.01)

USPC: 164/516, 519, 517, 518, 361; 106/38.9
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.: 164/516, 519, 517, 518, 361; 106/38.9

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)
Please See Continuation Sheet

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>
<tbody>
<tr>
<td>Y</td>
<td>US 4,700,768 A (BROIHANNE et al) 20 October 1987 (20.10.1987), column 3, lines 45+.</td>
<td>3, 15-18, 27, 32-33, 35</td>
</tr>
<tr>
<td>Y</td>
<td>US 6,013,125 A (QURAISHI et al) 11 January 2000 (11.01.2000), column 11, lines 18+.</td>
<td>11-14, 34, 42</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,629,369 A (GUERRA, JR.) 13 May 1997 (13.05.1997), column 5, lines 31+.</td>
<td>64-74</td>
</tr>
</tbody>
</table>

See patent family annex.

Date of the actual completion of the international search
23 October 2006 (23.10.2006)

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Form PCT/ISA/210 (second sheet) (April 2005)
Continuation of B. FIELDS SEARCHED Item 3:
WEST

slurry composition, investment casting and shell, colloidal silica and viscosity