(57) Abstract: A process for making a fiber reinforced cementitious product such as a panel which hardens to an ultra-high compressive strength composite for use in making panels with ballistic and blast resistant properties. The panel has a continuous phase resulting from curing an aqueous mixture, in the absence of silica flour, of inorganic cement binder, inorganic mineral filler having a particle size of about 150-450 microns, pozzolanic mineral filler, and polycarboxylate based superplasticizer self-leveling agent, and water. The mixture may also include alkanolamine and acid or acid salt. The continuous phase may be reinforced with fiber distributed in the continuous phase before curing to form a panel. The panel may be reinforced with a fiber reinforced skin attached to at least one surface of the core, e.g., by lamination with an adhesive, e.g., epoxy, to form a ballistic and blast resistant cementitious armor panel.
Published:

with international search report (Art. 21(3))

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))

Date of publication of the international search report:
11 February 2010
### A. CLASSIFICATION OF SUBJECT MATTER

B32B 1/00(2006.01)i, B32B 13/02(2006.01)i, B32B 13/04(2006.01)i, C04B 14/00(2006.01)i, C04B 11/30(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: B32B

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)
- eKOMPASS (KIPO internal) * blast panel*

### 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>
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<tbody>
<tr>
<td>A</td>
<td>US 2007/0240621 A1 (PIZHONG QIAO) 18 October 2007 See abstract and claims 1, 11</td>
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<tr>
<td>A</td>
<td>US 2006/0178455 A1 (GREGORY B. GIRARD et al.) 10 August 2006 See abstract and claims 1.12,19</td>
<td>1-20</td>
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<tr>
<td>A</td>
<td>US 2007/0256379 A1 (CHRISTOPHER M. EDWARDS) 8 November 2007 See abstract and claims 1-17</td>
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☐ Further documents are listed in the continuation of Box C.  
☒ See patent family annex.

* Special categories of cited documents:
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"&" document member of the same patent family

Date of the actual completion of the international search: 11 DECEMBER 2009 (11.12.2009)

Date of mailing of the international search report: 17 DECEMBER 2009 (17.12.2009)

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<tr>
<td>US 2007-240621 A1</td>
<td>18.10.2007</td>
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<td>US 2007-0258379 A1</td>
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