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(71) Applicant *(for all designated States except US)*: **JAMES HARDIE INTERNATIONAL FINANCE B.V.** [NL/NL]; Atrium, 8th Floor, Strawinskylaan 3077, NL-1077 ZX Amsterdam (NL).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **HOJAJI, Hamid** [US/US]; 2140 Bonnie Brae Avenue, Claremont, California 91711 (US). **MELMETH, David, Leslie** [AU/US]; 905 W. Solano Street, Upland, California 91784 (US).

(74) Agent: **DELANEY, Karoline, A.**; Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, Fourteenth Floor, Irvine, California 92614 (US).

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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.

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(54) Title: ALKALI RESISTANT GLASS COMPOSITIONS

(57) Abstract: An alkali resistant glass composition having improved durability to withstand highly alkali environments at elevated temperatures, such as curing of cementitious products in an autoclave, is conveniently formed from economical and abundant materials. The glass composition includes increased levels of calcium and iron, and relatively low levels of alkali metals, as compared to many other alkali resistant glass products, and comprises essentially of, by weight, >35% Si2O3, 1-25% CaO, 1-15% Fe2O3, 1-10% R2O, and an amount of Al2O3 such that the ratio of Si2O3:Al2O3 is greater than or equal to 1. Alkali resistance can be improved by forming a passivity layer on the surface of glass articles by treating the articles hydrothermally in a basic environment. Optionally zirconia and/or titania may be added to the composition to further improve alkali resistance.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. C03C3/087 C03C13/00

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)
C03C

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 practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 304 604 A (DAERR ET AL) 8 December 1981 (1981-12-08)	8-14, 17-20, 31,32
Y	claims 1,5; examples	7,15,16, 21-24,33
X	GB 1 493 203 A (JENAER GLASWERK SCHOTT & GEN) 30 November 1977 (1977-11-30)	1-6, 25-30
Y	the whole document	7,15,16, 21-24,33
X	GB 2 019 386 A (CAPE INSULATION LTD) 31 October 1979 (1979-10-31)	8-14, 17-20, 31,32
	claims 1,5,13; examples	
	-/--	

[X] Further documents are listed in the continuation of Box C.

[X] 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

"E" earlier document but published on or after the international filing date

"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.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 July 2006	08/08/2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Kervinen, K

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/006799

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Section Ch, Week 199613 Derwent Publications Ltd., London, GB; Class L01, AN 1996-127572 XP002391705 -& RU 2 039 019 C1 (AS UKR MATERIALS SCI BASALT FIBRES LAB) 9 July 1995 (1995-07-09) abstract; examples -----	8-14, 17-20, 31,32
X	DATABASE WPI Section Ch, Week 199312 Derwent Publications Ltd., London, GB; Class F01, AN 1993-098670 XP002391706 -& SU 1 724 613 A1 (UKR UKRSTROMNIIPROEKT DES INST) 7 April 1992 (1992-04-07) abstract -----	8-14, 17-20

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 1-6, 25-28 (all in part)

The present claims 1-6 and 25-28 relate to an extremely large number of possible products.
Support and disclosure in the sense of Article 6 and 5 PCT is to be found for only a very small proportion of the products claimed, see page 9, line 22-page 11, line 7 and examples. The non-compliance with the substantive provisions is to such an extent, that the search was performed taking into consideration the non-compliance in determining the extent of the search of claims 1 and 25-28 (PCT Guidelines 9.19 and 9.23).

The search of claims 1-6 and 25-28 was restricted to those claimed products which appear to be supported and a generalisation of their structural formulae, [see claims 7-15, 20-24, 31-33 and examples].

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1-6, 25-28 (all in part)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/006799

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