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(54) Title: GEOPOLYMER COMPOSITIONS

(57) Abstract: The present invention relates to geopolymer compositions, methods of producing the compositions, and uses thereof. The geopolymer compositions broadly are comprised of a geopolymer binder and an aggregate and, once cured, can exhibit compressive strengths in excess of that of Portland cement-based concrete formulations. The geopolymer composition of the present invention adheres to most surfaces and can be used in the formation of a mortarless building block, floor screed, bench, building bloc brick, support column or pre-molded column, beam, paving stone, tiles, stone accouterment for a garden, counter-top, bathtub, sink, a geopolymer slab, a structural geopolymer composition, a reinforced geopolymer composition, a steel reinforced geopolymer composition, or as a substitute for structural concrete in foundations, beams, columns, or slab with the addition as necessary of steel reinforcement.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 10/00011

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - C04B 28/00, 28/06, 28/08 (2010.01) USPC - 106/692, 106/789, 106/817 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) USPC: 106/692, 106/789, 106/817 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) PubWEST(USPT,PGPB,EPAB,JPAB); Google Web; Google Patents Search Terms: blast furnace slag, bauxite, sodium, silicate, plasticizer, calcium carbonate, calcite, geopolymer		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/0094863 A1 (Burge et al.) 20 May 2004 (20.05.2004) para [0029]; [0033]; [0042]-[0047]	1-3, 25-28
Y	US 2007/0125272 A1 (Johnson) 07 June 2007 (07.06.2007) para [0036]-[0041]; [0055]	1-3, 25-28
Y	US 5,798,151 A (Andersen et al.) 25 August 1998 (25.08.1998) col 33, ln 15-16; col 46, ln 19-45	25-28
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>		
* 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 application or patent 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 01 June 2010 (01.06.2010)		Date of mailing of the international search report 17 JUN 2010
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201		Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

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Box No. 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.:
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:

3. Claims Nos.: 4-24; 29-36
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. 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 additional fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.