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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	08/26/2014	8815382		8019

7590 08/06/2014

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 621 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

William L. Robinson JR., Baltimore, MD;

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

PUBLICATION NOTICE

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

OC00000006979466 1

Title: Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

Publication No.US-2014-0205745-A1
Publication Date:07/24/2014

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590 06/26/2014
WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

TITLE OF INVENTION: Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	09/26/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
TSCHEN, FRANCISCO W	1712	428-294700

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: U.S. Harvest Postal Protection Services Corporation

(B) RESIDENCE: (CITY and STATE OR COUNTRY): 5900 Greenspring Avenue Baltimore, Maryland 21209-3920

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☑ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
☑ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
☑ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
☐ Applicant certifying micro entity status. See 37 CFR 1.29
NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
☐ Applicant asserting small entity status. See 37 CFR 1.27
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
☐ Applicant changing to regular undiscounted fee status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date June 29, 2014

Typed or printed name William L. Robinson, Jr.

07/03/2014 ZJUHAR2 00000005 13067917
01 FC:2501 480.00 OP

UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 06/26/2014

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

EXAMINER
TSCHEN, FRANCISCO W

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 06/26/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

TITLE OF INVENTION: Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	09/26/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590 06/26/2014

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

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EXAMINER	ART UNIT	CLASS-SUBCLASS
TSCHEN, FRANCISCO W	1712	428-294700

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

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(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

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(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

7590 06/26/2014

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE, MD 21209

EXAMINER	
TSCHEN, FRANCISCO W	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 06/26/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.	
	Examiner FRANCISCO TSCHEN	Art Unit 1712	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *6/6/2014*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *20-22*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☒ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/FRANCISCO TSCHEN/
Examiner, Art Unit 1712

0. The present application is being examined under the pre-AIA first to invent provisions.

Specification

1. The substitute specification filed on 5/14/2014 is being entered. Although the applicant has submitted a marked up copy (as required by 37 CFR 1.121); the marked up copy is marking changes to a previously submitted specification which was not entered (see Specifications submitted on 8/12/2011 and 9/15/2011). However, it is clear that all the issues have been resolved in the latest clean-copy submission including spacing of the text. In addition the new clean-copy specification does not introduce new matter.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with William Robinson on 06/23/2014.

The application has been amended as follows:

a. On Claim 20 on line 1 the quote symbol (“) between “(Previously Presented)” and “A method" has been removed.

b. On Claim 20 last line, the quote symbol (“) after “(20%vol)." has been removed.

c. On Claim 20 on line 15 the text “Methyl Gluceth-20" has been removed and the following text inserted in its place --ethoxylated methyl glucoside--.

d. On Claim 21 on line 1 the quote symbol (“) between “(Currently Amended)” and “The method" has been removed.

e. On Claim 21 last line, the quote symbol (“) after “of these.” has been removed.

f. On Claim 22 on line 1 the quote symbol (“) between “(Previously Presented)” and “The method" has been removed.

g. On Claim 22 last line, the quote symbol (“) after “in the paper.” has been removed.

Allowable Subject Matter

4. Claims 20-22 are allowed.

5. The following is an examiner’s statement of reasons for allowance:

The claims are deemed allowable because the closest prior art that teaches utilizing a composition containing zeolites and a binder is Yoshida et al (US PGPub 2007/0298235 A1, hereinafter US’235). US’235 teaches obtaining a non-woven fabric for a gypsum board [0016] which comprises a binder [0018] the fabric comprises an

adsorbing agent which is selected from the group that contains zeolites [0021]. The zeolite and binder are applied via a coating solution [0046].

However there is no indication that the fabric (paper) is treated with an additional composition that contains hydroxypropyl cellulose (HPC) and ethoxylated methyl glucoside (EMG). The examiner notes that the ethoxylated methyl glucoside is commonly utilized in cosmetic, shampoo and compositions applied to mammalian bodies.

Therefore the reference does not teach or suggest the claimed invention because, even though the references suggest the use of zeolite and binders on glass fiber paper; there is no indication that the references would have desired an additional coating that comprised HPC and particularly EMG as required by the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANCISCO TSCHEN whose telephone number is (571)270-3824. The examiner can normally be reached on Monday - Friday 9:00-18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Michael Cleveland can be reached on (571)272-1418. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/FRANCISCO TSCHEN/
Examiner, Art Unit 1712

BACKGROUND OF THE INVENTION

1. *Field of the Invention*

This invention relates to a method of increasing the tensile, flexural and compressive strengths and the EMI/RF/Microwave and radioactive isotope shielding of concrete, cement, gypsum or other pozzolan (alumina siliceous) such as fly ash using electroplated nickel oxide or copper coated stainless steel fibers, hydroxypropylcellulose, ethoxylated methylglucoside, petroleum coke powder or graphite and silica fume and non-radioactive alkali metals such as holmium and natural zeolites such as Clinoptilolite as radioactive trapping agents.

2. *Discussion of the Related Art*

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wallboard.

Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost. Ultra fine fly ash can be added to silica fume to enhance the strength of concrete.

3. *Statement of Need*

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.

There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium.

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

General Background

Electric utilities in the United States generate over 100 million tons of petroleum coke ash and coal fly ash as a by-product each year. Fly ash in particular is typically disposed of in landfills. Course fly ash ground to approximately 3.8 μm can produce high strength concrete and 25% cement replacement gave the highest compressive strength (100.3 MPa). A replacement of 25% cement will result in a 27% reduction in greenhouse gases produced from production of cement (680 Kg/ton of cement).

The cement industry is responsible for producing 5% of global CO_2 emissions; 60% due to decarbonization of non-renewable materials such as limestone and 40% due to heating cement kilns to 1500 °C using non-renewable fossil fuels.

Adding .90 vol.% stainless steel fibers (by weight) to cement improves strength by 23% equal to 2-3 times that of non-reinforced concrete. The dominant mechanisms of EM/RF/Microwave shielding for micron size (>100 nm) steel fibers is absorption.

Nickel filaments of diameter 0.4 μm, as made by electroplating 0.1 μm diameter carbon filaments with nickel, have been shown to be particularly effective. They are known as nickel filaments because they are mostly nickel rather than carbon. A shielding effectiveness of 87 dB at 1 GHz has been attained in a polymer-matrix composite containing just 7 vol.% nickel filaments. Nickel is more attractive than copper, partly due to its superior oxidation resistance.

Shielding of 40dB or more in the magnetic field ranging from 150 kHz to 16 MHz is needed for a 99 % EMI block. This degree of shielding effectiveness is sufficient to for the construction of electromagnetic interference structures.

Binding Properties of Calcium Hydroxide or Hydrated Lime ($CaCO_3$) with HPC.

Calcium hydroxide or hydrated lime is the product of the hydration of lime and water:

$$Ca(OH)_2 <=======> CaO + H_2O$$

Lime is a soft, white amorphous powder with alkaline or slightly bitter taste. It has been shown that lime is solubilised in the presence of sugars and it has been observed in set Portland cements as hexagonal plate crystals (Lea, 1970). Lime reacts with carbon dioxide (CO_2) to form calcium carbonate ($CaCO_3$). This reaction which takes place in the presence of moisture is the cause of hardening of high calcium lime mortars.

Binding Properties of HPC with Steel Fiber and Cement

HPC and Ethoxylated methyl glucoside (moisture barrier) binds together at the 1-3' C-Terminal Domain. How does HPC bind to calcium in concrete? In the presence of water calcium located at the N-Terminal Cellulose Binding Domain in HPC will bind to calcium bonds at the 1-4' β calcium bonding sites in cement.

The use of hydroxypropylcellulose or methylcellulose (0.4% to 0.8% by weight of cement) as an admixture in cement paste or concrete was found to increase the shear bond strength with steel reinforcing bar and steel fiber. The bond strength increased with increasing hydroxypropylcellulose or methylcellulose amounts. The contact electrical resistivity between cement and fiber or between concrete and reinforcing bar was not changed by addition of hydroxypropylcellulose or methylcellulose.

Trapping of Radioactive Fission Products (Isotopes) Using Non-Radioactive Stable Metallic Elements

Holmium (hoʊlmiəm/ *HOHL-mee-əm*) is a chemical element with the symbol **Ho** and atomic number 67. Part of the lanthanide series, holmium is a relatively soft and malleable silvery-white metallic element, which is stable in dry air at room temperature. A rare earth metal, it is found in the minerals monazite and gadolinite. Holmium has the highest magnetic strength of any element and therefore is used for the pole pieces of the strongest static magnets. Because holmium strongly absorbs nuclear fission-bred neutrons, it is also used in nuclear control rods.

Zeolite chemistry is the distribution of silicon and aluminum atoms among the T sites. According to Lowenstein's Rule, AL-O-AL linkages in zeolitic frameworks are Forbidden. As a result, all aluminate tetrahedra must be linked to four silicate tetrahedra, and in general this is proved to be the case, but recent investigations into Zeolites synthesized at high temperatures have shown non-Lowenstein distributions in Sodalite materials. Aluminum ions are formed by losing three (3) electrons making it neutrally charged. The combination of negatively charged silica and aluminum produces negatively charged ions that will absorb electromagnetic waves. Negative ions are a type of antioxidant present in nature that is reported to react with and break down toxins in the bloodstream.

The range of Si/Al ratios varies between zeolites. ZSM-5 is a high silicate zeolite, whereas zeolite X/Y can be prepared in high silicate forms, or high aluminate forms, but is usually produced with a Si/Al ratio close to unity with a fully ordered **Si-Al** distribution over the tetrahedral sites, in accordance with Lowenstein's rule.

The inclusion of aluminum into the zeolite structure has two major effects: An increase in the net negative charge - which are neutralized from protons hydrogen bonded to the lone pairs of the bridging oxygens. These acidic sites play a significant role in the zeolite catalytic activity. The materials become hydrophilic. **Zeolites** are not only influenced by pH but also they are capable of affecting the solution pH. It was found out that clinoptilolite

tends to neutralize the solution by acting as H+ acceptor or H+ donor (Rivera et al., 2000; Ersoy and Çelik, 2002). The pH of solution can also affect removal efficiency by affecting the integrity of zeolite. Clinoptilolite is known to partially degrade and lose its ion exchange capacity in alkaline media (Mier et al., 2001). Also, clinoptilolite structure breaks down in highly acidic solutions (Tsitsishvili, 1992). On the other hand, as the solution pH increases, the number of negatively charged sites increases (Benhammou et al., 2005), Clinoptilolite-deionized water suspensions at neutral, acidic and basic pH values exhibited a buffer pH around 9±1. This was also observed by Trgo and Peric (2003) and at all initial pH's examined (2-11) in deionized water-clinoptilolite suspensions pH became stable between 8 and 9. Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents. The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material. Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, clinoptilolite and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic wash coated polymer and used to cover building materials such as wall board and ceiling

tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with deflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13067917	ROBINSON, WILLIAM L.
	Examiner	Art Unit
	FRANCISCO TSCHEN	1712

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
427	limited by text	6/7/2012	FT
427	407.3,411,415; limited by text	6/7/2012	FT
428	294.7	6/7/2012	FT
442	42,78,180; limited by text	6/7/2012	FT
52	474; limited by text	6/7/2012	FT
442	180; limited by text	6/16/2014	FT

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	6/7/2012	FT
See EAST Search Notes	6/7/2012	FT
Google Scholar zeolite, radiactive absorbing coatings	6/7/2012	FT
US Harvest Energy and Tech Corp brochures	6/7/2012	FT
Reviewed applications: 12/656741,60/690071, 61006403, 61064115, 61129912, 61136183, 61193842, 61202133	6/7/2012	FT
Consulted SPE Jenn Chriss and Examiner, Elizabeth Cole	6/7/2012	FT
Updated Inventor Search	4/30/2014	FT
Discussed case with applicant regarding Office of Petitions Decision	4/30/2014	FT
Updated EAST SEarch	4/30/2014	FT
CPC Text Search (G21F1/103,1/12,1/10,1/00; D21H13/24,13/40, 13/16; E04C2/043)	4/30/2014	FT
Updated Inventor Search	6/16/2014	FT
Updated EAST Search	6/16/2014	FT

/FRANCISCO TSCHEN/ Examiner.Art Unit 1712	

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
Updated CPC Search	6/16/2014	FT
Consulted Specification and Claims Issue with SPE Tim Meeks	6/16/2014	FT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
	Interference Searched: UPAD text search, See EAST interference Search Printout	6/16/2014	FT
	Interference Search: UPAD Class Search (427/407.3,411,415; 428/294.7; 442/42,78,180; 52/474)	6/16/2014	FT

/FRANCISCO TSCHEN/ Examiner.Art Unit 1712	

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13067917	ROBINSON, WILLIAM L.
	Examiner	**Art Unit**
	FRANCISCO TSCHEN	1712

CPC		
Symbol	**Type**	**Version**

CPC Combination Sets				
Symbol	**Type**	**Set**	**Ranking**	**Version**

/FRANCISCO TSCHEN/ Examiner.Art Unit 1712	04/30/2014	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	3	
/MICHAEL CLEVELAND/ Supervisory Patent Examiner.Art Unit 1712	06/24/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	-

Issue Classification

Application/Control No.	Applicant(s)/Patent Under Reexamination
13067917	ROBINSON, WILLIAM L.
Examiner	**Art Unit**
FRANCISCO TSCHEN	1712

US ORIGINAL CLASSIFICATION

CLASS	SUBCLASS
428	294.7

CROSS REFERENCE(S)

CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
427	407.3	415			
442	78	180			

INTERNATIONAL CLASSIFICATION

CLAIMED	NON-CLAIMED
B 3 2 B 13 / 02 (2006.0)	
B 0 5 D 7 / 24 (2006.0)	
B 3 2 B 17 / 08 (2006.0)	
G 2 1 F 1 / 10 (2006.0)	

/FRANCISCO TSCHEN/ Examiner.Art Unit 1712	04/30/2014	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	3	
/MICHAEL CLEVELAND/ Supervisory Patent Examiner.Art Unit 1712	06/24/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	-

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13067917	ROBINSON, WILLIAM L.
	Examiner	**Art Unit**
	FRANCISCO TSCHEN	1712

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		17												
	2		18												
	3		19												
	4	1	20												
	5	2	21												
	6	3	22												
	7														
	8														
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	11														
	12														
	13														
	14														
	15														
	16														

/FRANCISCO TSCHEN/ Examiner.Art Unit 1712	04/30/2014	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	3	
/MICHAEL CLEVELAND/ Supervisory Patent Examiner.Art Unit 1712	06/24/2014	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	-

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	509	((WILLIAM) near2 (ROBINSON)).INV.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L2	11	((WILLIAM) near2 (ROBINSON)).INV. and baltimore	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L3	12	442/180.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L4	562365	442/180.ccls. cellulose	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L5	171	442/180.ccls. and cellulose	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L6	0	442/180.ccls. and glucoside	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L7	107	442/180.ccls. and surfactant	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L8	5	((WILLIAM) near2 (ROBINSON)).INV. and zeolite	US-PGPUB; USPAT	OR	ON	2014/06/16 13:48
L9	88	D21H13/16.cpc.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L10	714	E04C2/043.cpc.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L11	525	D21H13/40.cpc.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L12	268	D21H13/24.cpc.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L13	68	G21F1/00.cpc.	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
L14	36849	"90" and zeolite	US-PGPUB; USPAT	OR	OFF	2014/06/16 13:48
S1	479	((WILLIAM) near2 (ROBINSON)).INV.	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:44
S2	0	((WILLIAM) near2 (ROBINSON)).INV. and batimore	US-PGPUB;	OR	OFF	2012/06/05 13:45

			USPAT			
S3	10	((WILLIAM) near2 (ROBINSON)).INV. and baltimore	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:45
S4	479	((WILLIAM) near2 (ROBINSON)).INV. andbuilding	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:46
S5	24	((WILLIAM) near2 (ROBINSON)).INV. and building	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:46
S6	0	((WILLIAM) near2 (ROBINSON)).INV. and gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:47
S7	2650	clinoptilolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:48
S8	123	clinoptilolite and gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:48
S9	88	clinoptilolite and boehmite and water	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:49
S10	5	clinoptilolite same boehmite and water	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:49
S11	673	(zeolite adj type adj (X A Y))	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:55
S12	15031	"ZSM-3" EMT "EMC-2" "ZSM-18" "ZSM-5" "ZSM-11"	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:35
S13	11601	chabazite offretite erionite mordenite gmelinite mazzite	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:36
S14	3441	(S11 S12 S13) and (radiation)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:37
S15	2	(S11 S12 S13) and (radiation adj absorbing)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:37
S16	0	EMI and (S1 S2 S3)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S17	0	(electromagnetic adj interference) and (S1 S2 S3)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S18	41575	(electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S19	11	(intentional adj electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S20	1	"6524846".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:30
S21	22	(chabazite offretite erionite mordenite gmelinite mazzite) and	US-PGPUB;	OR	OFF	2012/06/05 15:47

		(electromagnetic adj interference)	USPAT			
S22	104	(S11 S12 S13) and (electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:52
S23	54	(S11 S12 S13) and (electromagnetic adj interference) and paper	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:52
S24	794	(glass adj fiber) adj paper	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S25	794	(glass adj fiber adj paper)	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S26	329	(glass adj fiber adj paper) and coating	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S27	7	(glass adj fiber adj paper) same zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:57
S28	0	(glass adj fiber adj paper) and clinoptilolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:20
S29	0	(glass adj fiber adj paper) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S30	3074	zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S31	1214	zeolite same boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S32	961	zeolite with boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S33	724	radiation same zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:28
S34	1	"20060137276".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:34
S35	37	radiation same zeolite and "427".clas.	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:46
S36	2	10/532635.app.	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:49
S37	30137	gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S38	2995	gypsum and (glass adj fiber)	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S39	248	gypsum and (glass adj fiber) and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S40	0	gypsum and (glass adj fiber) and zeolite and beohmite	US-PGPUB;	OR	OFF	2012/06/05 16:50

			USPAT			
S41	8	gypsum and (glass adj fiber) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S42	2	gypsum.ab. and (glass adj fiber) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S43	243	hydroxypropylcellulose and gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S44	240	hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S45	25	hydroxypropylcellulose same (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S46	2697	gypsum.ab. hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S47	0	gypsum.ab. and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S48	5	gypsum and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S49	0	EMI and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S50	241823	EMI attenuation	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S51	179	EMI adj attenuation	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S52	2	(EMI adj attenuation) with coating	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S53	429	(EMI near3 attenuation)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:07
S54	0	(EMI near3 attenuation) and hydroxypropylcellulose	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:08
S55	174	(EMI) and hydroxypropylcellulose	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:08
S56	0	"13352456".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:12
S57	1	13/352456.app.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:12
S58	0	methyl adj gluceth adj S20	DERWENT	OR	OFF	2012/06/05 18:17
S59	108	methyl adj gluceth	DERWENT	OR	OFF	2012/06/05 18:17

S60	0	(methyl adj gluceth) and gypsum	DERWENT	OR	OFF	2012/06/05 18:17
S61	0	(methyl adj gluceth) and drywall	DERWENT	OR	OFF	2012/06/05 18:17
S62	0	(methyl adj gluceth) and HPC	DERWENT	OR	OFF	2012/06/05 18:17
S63	9	(methyl adj gluceth) and hydroxypropylcellulose	DERWENT	OR	OFF	2012/06/05 18:18
S64	4	"HiQ-40"	DERWENT	OR	OFF	2012/06/05 18:20
S65	233	428/294.7.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:23
S66	1	"5272240".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:46
S67	1	"5272740".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:46
S68	0	paint.ab. and (methyl adj gluceth adj S20)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:20
S69	0	paint.ab. and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:20
S70	18	coating.ab. and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:21
S71	9083	electromagnetic adj shielding	US-PGPUB; USPAT	OR	OFF	2012/06/06 10:40
S72	88	(electromagnetic adj shielding) and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 10:40
S73	3	427/407.3.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:33
S74	0	427/407.3.ccls. and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:33
S75	12	427/411.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S76	0	427/415.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S77	0	427/415.ccls. and methyl adj gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S78	1286	methyl adj gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S79	112	S78 and construction	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S80	61	S78 and paint	US-	OR	OFF	2012/06/06

			PGPUB; USPAT			13:35
S81	0	S78 and paint.ab.	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:36
S82	0	S78 and paint.ti.	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:36
S83	9	ethoxylated adj methylglucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 10:10
S84	2	alucol	US-PGPUB; USPAT	OR	OFF	2012/06/07 10:28
S85	93	ethoxylated adj methyl adj glucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 12:11
S86	0	"200740298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S87	0	"200700298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S88	1	"20070298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S89	1183945	woven nonwoven weav$3 non?woven paper paper?making papermaking	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S90	1450645	glass fiberglass fiber?glass fibreglass fibre?glass	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S91	366945	S89 and S90	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S92	48058	S89 near3 S90	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:29
S93	87083	S89 with S90	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:29
S94	42	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside))	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:29
S95	104	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside) EMG (glucam adj "e-20") "mg-20" "mg-10")	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S96	0	S92 and (ethoxylated adj methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S97	74	S92 and (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S98	51	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside) (glucam adj "e-20") "mg-20" "mg-	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:33

		10")				
S99	1	"4956394".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:33
S100	330	surfactant same (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:34
S101	230	surfactant with (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:34
S102	124	S96 S97 S98	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S103	673	(zeolite adj type adj (X A Y))	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S104	15050	"ZSM-3" EMT "EMC-2" "ZSM-18" "ZSM-5" "ZSM-11"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S105	11608	chabazite offretite erionite mordenite gmelinite mazzite	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S106	21159	S103 S104 S105	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S107	183	S106 and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S108	312	boehmite and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S109	13	S107 and S108 and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S110	0	"068239-42-9"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42
S111	657	"beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42
S112	76	methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42
S113	0	ethoxylated adj methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:43
S114	76	methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:43
S115	0	42/180.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:58
S116	693	442/180.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:58
S117	3	442/78.ccls.	US-PGPUB;	OR	OFF	2012/06/07 14:59

			USPAT			
S118	12	442/180.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:59
S119	483626	442/180.ccls. cellulose	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S120	148	442/180.ccls. and cellulose	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S121	0	442/180.ccls. and glucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S122	98	442/180.ccls. and surfactant	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S123	0	silsesquozane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:38
S124	24	silsesquoxane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:38
S125	8971	silsesquioxane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:40
S143	0	((WILLIAM) near2 (ROBINSON)).INV. and (RFI or EMI)	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:40
S144	5	((WILLIAM) near2 (ROBINSON)).INV. and zeolite	US-PGPUB; USPAT	OR	ON	2014/04/30 10:40
S145	87	D21H13/16.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
S146	711	E04C2/043.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
S147	518	D21H13/40.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
S148	266	D21H13/24.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
S149	66	G21F1/00.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
S150	5702	G21F.cpcl.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
S151	110	G21F1/10.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
S152	76	G21F1/103.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
S153	76	G21F1/12.cpc.	US-PGPUB;	OR	OFF	2014/04/30 10:53

			USPAT			
S154	1	S151 and zeolite	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:54
S155	36416	"90" and zeolite	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:54
S156	266	S150 and zeolite	US-PGPUB; USPAT	OR	ON	2014/04/30 10:54
S157	0	S150 and ethoxylated adj methyl adj glucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:55
S158	0	S150 and methyl adj glucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:56
S159	0	S150 and methylglucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:56
S160	65	S150 and glucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:56
S161	252	S150 and cellulose	US-PGPUB; USPAT	OR	ON	2014/04/30 11:02
S162	3	S150 and hydroxy near2 cellulose	US-PGPUB; USPAT	OR	ON	2014/04/30 11:02
S163	1	"20070254099".pn.	US-PGPUB; USPAT	OR	OFF	2014/05/01 14:20

6/16/2014 2:10:15 PM
C:\Users\ftschen\Documents\EAST\Workspaces\13067917.wsp

OK TO ENTER: /F.T./ 06/16/2014

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

An Application for Utility Patent Filed in:

THE UNITED STATES PATENT OFFICE

On behalf of the Inventor:

William L. Robinson, Jr.

(Substitute)

Citizen of the United States of America

Further respectfully possessing as legal residential and postal address:

5914 Greenspring Avenue, Baltimore, Maryland 21209-3920

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William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

Paper No.

Application No.:	**13/067,917**	**Date Mailed:**	**2014-05-23**
First Named Inventor:	Robinson, William, L.	Examiner:	TSCHEN, FRANCISCO W
Attorney Docket No.:		Art Unit:	1712
Confirmation No.:	8019	Filing Date:	2011-07-07

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PTO-90c (Rev.08-06)

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Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.
		Art Unit 2800

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *14 May, 2014* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☐ E. Other: _____.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period if the non-compliant amendment is an** after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **two months** from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /DOROTHY BELL/ Telephone No: (571)272-1552

Status Identifier To The Elected Claims

Examiner Tschen,

Pursuant to Item #4 of the Notice of Non-Compliant Amendment (37 CFR 1.121) the Applicant/Inventor hereby cancels Claims 1-19 and submits the following Claims (20-22) with the required status identifiers:

Claim 20. (Previously Presented) "A method for producing building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention aid binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then,

c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and Methyl Gluceth-20 (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol)."

Claim 21. (Currently Amended) "The method of producing building materials according

to Claim 20, in which the zeolite radiation absorbent is selected from the group consisting of zeolites type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L. charbazite, offretite, erionite, mordenite gmelinite, mazzite, clinoptilolite and ~~TiO2 and~~ mixtures of these."

Claim 22. (Previously presented) "The method of producing building materials according to Claim 20, in which the retention aid binder is selected from the group consisting of boehmite, Alucol, or Alumina Sol are added to the slurry to bind the absorbent particles to the glass fibers in the paper."

William L. Robinson, Jr.
Applicant/Inventor
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

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Document Description: Transmittal Letter

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TRANSMITTAL FORM

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Total Number of Pages in This Submission: 4

Application Number	13/067,917
Filing Date	July 7, 2011
First Named Inventor	Robinson, William L., Jr.
Art Unit	1712
Examiner Name	Franscisco Tschen
Attorney Docket Number	

ENCLOSURES (Check all that apply)

- Fee Transmittal Form
- ✓ Fee Attached
- ✓ Amendment/Reply
- After Final
- Affidavits/declaration(s)
- Extension of Time Request
- Express Abandonment Request
- Information Disclosure Statement
- Certified Copy of Priority Document(s)
- Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53
- Drawing(s)
- Licensing-related Papers
- Petition
- Petition to Convert to a Provisional Application
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- Landscape Table on CD
- After Allowance Communication to TC
- Appeal Communication to Board of Appeals and Interferences
- Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- Proprietary Information
- ✓ Status Letter
- Other Enclosure(s) (please identify below):

Remarks

Status Identifiers-To The Amended Elected Claims

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature	/William L. Robinson, Jr./		
Printed name	William L. Robinson, Jr.		
Date	June 6, 2014	Reg. No.	

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/William L. Robinson, Jr./

Typed or printed name	William L. Robinson, Jr.	Date	June 6, 2014

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Status Identifier To The Elected Claims

Examiner Tschen,

Pursuant to Item #4 of the Notice of Non-Compliant Amendment (37 CFR 1.121) the Applicant/Inventor hereby submits the following Claims (20-22) with the required status identifiers:

Claim 20. "A method for producing building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention aid binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then,

c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and Methyl Gluceth-20 (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol)." (Currently amended)

Claim 21. "The method of producing building materials according to Claim 20, in which

the zeolite radiation absorbent is selected from the group consisting of zeolites type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L. charbazite, offretite, erionite, mordenite gmelinite, mazzite, clinoptilolite and ~~TiO2 and~~ mixtures of these." (Currently amended)

Claim 22. "The method of producing building materials according to Claim 20, in which the retention aid binder is selected from the group consisting of boehmite, Alucol, or Alumina Sol are added to the slurry to bind the absorbent particles to the glass fibers in the paper." (Currently amended)

William L. Robinson, Jr.
Applicant/Inventor
(443) 320-3123 – Phone
(410) 504-5258 – PH/Fax

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Total Number of Pages in This Submission	4

Application Number	13/067,917
Filing Date	July 7, 2011
First Named Inventor	Robinson, William L., Jr.
Art Unit	1712
Examiner Name	Franscisco Tschen
Attorney Docket Number	

ENCLOSURES *(Check all that apply)*

- Fee Transmittal Form
- Fee Attached
- ✓ Amendment/Reply
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- Proprietary Information
- ✓ Status Letter
- Other Enclosure(s) (please identify below):

Remarks

Status Identifiers To The Amended Elected Claims

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature			
Printed name	William L. Robinson, Jr.		
Date	May 29, 2014	Reg. No.	

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e 2014-05-23

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

Paper No.

Application No.:	**13/067,917**	**Date Mailed:**	**2014-05-23**
First Named Inventor:	Robinson, William, L.	Examiner:	TSCHEN, FRANCISCO W
Attorney Docket No.:		Art Unit:	1712
Confirmation No.:	8019	Filing Date:	2011-07-07

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Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.
		Art Unit 2800

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *14 May, 2014* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
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  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
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  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
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  - ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☐ E. Other: _____.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period if the non-compliant amendment is an** after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

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Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /DOROTHY BELL/ Telephone No: (571)272-1552

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Status Identifier To The Elected Claims

Examiner Tschen,

Pursuant to Item #4 of the Notice of Non-Compliant Amendment (37 CFR 1.121) the Applicant/Inventor hereby submits the following Claims (20-22) with the required status identifiers:

Claim 20. "A method for producing building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention aid binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then,

c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and Methyl Gluceth-20 (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol)." (Currently amended)

Claim 21. "The method of producing building materials according to Claim 20, in which

the zeolite radiation absorbent is selected from the group consisting of zeolites type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L. charbazite, offretite, erionite, mordenite gmelinite, mazzite, clinoptilolite and ~~TiO2 and~~ mixtures of these." (Currently amended)

Claim 22. "The method of producing building materials according to Claim 20, in which the retention aid binder is selected from the group consisting of boehmite, Alucol, or Alumina Sol are added to the slurry to bind the absorbent particles to the glass fibers in the paper." (Currently amended)

William L. Robinson, Jr.
Applicant/Inventor
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

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Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

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Application Number	13/067,917
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Art Unit	1712
Examiner Name	Franscisco Tschen
Attorney Docket Number	

ENCLOSURES *(Check all that apply)*

- Fee Transmittal Form
- Fee Attached
- ✓ Amendment/Reply
- After Final
- Affidavits/declaration(s)
- Extension of Time Request
- Express Abandonment Request
- Information Disclosure Statement
- Certified Copy of Priority Document(s)
- Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53
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- Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- Proprietary Information
- ✓ Status Letter
- Other Enclosure(s) (please identify below):

Remarks

Status Identifiers To The Amended Elected Claims

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	
Signature	/William L. Robinson, Jr./
Printed name	William L. Robinson, Jr.
Date	May 29, 2014
Reg. No.	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature

/William L. Robinson, Jr./

Typed or printed name	William L. Robinson, Jr.	Date	May 29, 2014

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Legal Instruments Examiner (LIE), if applicable /DOROTHY BELL/ Telephone No: (571)272-1552

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Date	May 29, 2014	Reg. No.	

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Typed or printed name	William L. Robinson, Jr.	Date	May 29, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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e 2014-05-23

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

Paper No.

Application No.:	**13/067,917**	**Date Mailed:**	**2014-05-23**
First Named Inventor:	Robinson, William, L.	Examiner:	TSCHEN, FRANCISCO W
Attorney Docket No.:		Art Unit:	1712
Confirmation No.:	8019	Filing Date:	2011-07-07

Please find attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.
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Legal Instruments Examiner (LIE), if applicable /DOROTHY BELL/ Telephone No: (571)272-1552

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

An Application for Utility Patent Filed in:

THE UNITED STATES PATENT OFFICE

On behalf of the Inventor:

William L. Robinson, Jr.

(Original)

Citizen of the United States of America

Further respectfully possessing as legal residential and postal address:

5914 Greenspring Avenue, Baltimore, Maryland 21209-3920

(410) 504-5258 – Ph/Fax

Attachments: Substitute Specifications
Replacement Claims
Revised References

William L. Robinson Jr. Method And Use Of Organic And July 7, 2011
Mineral Admixtures For EMI And Radioactive Isotope Shielding
Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And
Electrically Conductive Or Resistive, High Performance, High Strength Concrete

ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and ~~metal and mineral additives e.g. electroplated nickel oxide or copper coated stainless steel fibers, ultra fine coal fly ash, silica fume and carbon based materials such as graphite and petroleum coke~~

Office Action Summary

Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.	
Examiner FRANCISCO TSCHEN	Art Unit 1712	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/16/2014*.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☒ An election was made by the applicant in response to a restriction requirement set forth during the interview on *29 May 2012*; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-22* is/are pending in the application.
5a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *20-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☒ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.
3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *4/29/2014*.
4) ☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 11-13) Office Action Summary

Doc Code: TRAN.LET

Document Description: Transmittal Letter

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Typed or printed name	William L. Robinson, Jr.	Date	May 13, 2014

Application	:	**13/067,917**
Applicant	:	ROBINSON, WILLIAM L. JR.
Filed	:	July 7, 2011
TC/A.U.	:	1712
Examiner	:	Francisco Tschen

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450
VIA FACSIMILE: (571) 273-8300

RE: Amendment

Sir/Madame:

The attached information is being submitted in response to the Office Action Summary received from Examiner Tschen dated 4/29/2014 (see attached copy of the OAS). Per our discussion, Claims #1-19 have been cancelled. Election of this invention is made with traverse (37 CFR 1.143). The TiO_2 absorbent mentioned in Claim #16 has been added to Replacement Claim #21. The Claim of Benefit From Earlier Filing Dates has been deleted. A marked up copy of the original patent application and the substitute specifications are also attached.

This Substitute specification is being submitted pursuant to 37 CFR 1.52, 1.121 (b)(3), and 1.125. The statement that this ***Specification Contains No New Matter*** is required per 37 CFR 1.125(b).

Therefore, Applicant respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

William L. Robinson, Jr.
Applicant/Inventor
5914 Greenspring Avenue
Baltimore, Maryland 21209-3920
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

Attachments: Substitute Specifications
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☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☒ An election was made by the applicant in response to a restriction requirement set forth during the interview on *29 May 2012*; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-22* is/are pending in the application.

5a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *20-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☒ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *4/29/2014*.

4) ☐ Other: _____.

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

An Application for Utility Patent Filed in:

THE UNITED STATES PATENT OFFICE

On behalf of the Inventor:

William L. Robinson, Jr.

(Original)

Citizen of the United States of America

Further respectfully possessing as legal residential and postal address:

5914 Greenspring Avenue, Baltimore, Maryland 21209-3920

ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and ~~metal and mineral additives e.g. electroplated nickel oxide or copper coated stainless steel fibers, ultra fine coal fly ash, silica fume and carbon based materials such as graphite and petroleum coke powder and radio stable alkali paramagnetic metals such as Holmium or~~ zeolites for electromagnetic; radio and microwave frequency and radioisotope shielding of building materials such as wall liners, gypsum wallboard and high performance, high strength concrete.

~~***Claim of Benefit of Earlier Filing Dates***~~

~~This application claims benefit of the earlier filing dates, February 16, 2010 Provisional Application No.(s) 12/545,741 and International Patent No.s 1-2008-00779 (Vietnam National Patent) and 1-2011-144133 (Japan National Patent) in the name of the present Applicant, William L. Robinson, JR. of Baltimore, Maryland and entitled "Method And Use Of Minerals Extracted From Fly Ash For EMI/RF/Microwave And X-Ray Shielding And Production Of Synthetic Diamonds and Thin Diamond Film Semiconductors and Diamond Wafers and Electrical Energy Storage Systems."~~

BACKGROUND OF THE INVENTION

1. ***Field of the Invention***

This invention relates to a method of increasing the tensile, flexural and compressive strengths and the EMI/RF/Microwave and radioactive isotope shielding of concrete, cement, gypsum or other pozzolan (alumina siliceous) such as fly ash using electroplated nickel oxide or copper coated stainless steel fibers, hydroxypropylcellulose, ethoxylated methylglucoside, petroleum coke powder or graphite and silica fume and non-radioactive alkali metals such as holmium and natural zeolites such as Clinoptilolite as radioactive trapping agents.

2. ***Discussion of the Related Art***

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wall board.

Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics

which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash or zeolites can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost.

Ultra fine fly ash can be added to silica fume to enhance the strength of concrete

3. ***Statement of Need***

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.

There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

General Background

Electric utilities in the United States generate over 100 million tons of petroleum coke ash and coal fly ash as a by-product each year. Fly ash in particular is typically disposed of in landfills. Course fly ash ground to approximately 3.8 μm can produce high strength concrete and 25% cement replacement gave the highest compressive strength (100.3

MPa). A replacement of 25% cement will result in a 27% reduction in greenhouse gases produced from production of cement (680 Kg/ton of cement).

The cement industry is responsible for producing 5% of global CO_2 emissions; 60% due to decarbonization of non-renewable materials such as limestone and 40% due to heating cement kilns to 1500 °C using non-renewable fossil fuels.

Adding .90 vol.% stainless steel fibers (by weight) to cement improves strength by 23% equal to 2-3 times that of non-reinforced concrete. The dominant mechanisms of EM/RF/Microwave shielding for micron size (>100 nm) steel fibers is absorption. Nickel filaments of diameter 0.4 μm, as made by electroplating 0.1 μm diameter carbon filaments with nickel, have been shown to be particularly effective. They are known as nickel filaments because they are mostly nickel rather than carbon. A shielding effectiveness of 87 dB at 1 GHz has been attained in a polymer-matrix composite containing just 7 vol.% nickel filaments. Nickel is more attractive than copper, partly due to its superior oxidation resistance.

Shielding of 40dB or more in the magnetic field ranging from 150 kHz to 16 MHz is needed for a 99 % EMI block. This degree of shielding effectiveness is sufficient to for the construction of electromagnetic interference structures.

Binding Properties of Calcium Hydroxide or Hydrated Lime ($CaCO_3$) with HPC.

Calcium hydroxide or hydrated lime is the product of the hydration of lime and water:

$$Ca(OH)_2 \Longleftrightarrow CaO + H_2O$$

Lime is a soft, white amorphous powder with alkaline or slightly bitter taste. It has been shown that lime is solubilised in the presence of sugars and it has been observed in set Portland cements as hexagonal plate crystals (Lea, 1970). Lime reacts with carbon dioxide (CO_2) to form calcium carbonate ($CaCO_3$). This reaction which takes place in the presence of moisture is the cause of hardening of high calcium lime mortars.

Binding Properties of HPC with Steel Fiber and Cement

HPC and Ethoxylated methyl glucoside (moisture barrier) binds together at the 1-3' C-Terminal Domain. How does HPC bind to calcium in concrete? In the presence of water

calcium located at the N-Terminal Cellulose Binding Domain in HPC will bind to calcium bonds at the 1-4′ β calcium bonding sites in cement.

The use of hydroxypropylcellulose or methylcellulose (0.4% to 0.8% by weight of cement) as an admixture in cement paste or concrete was found to increase the shear bond strength with steel reinforcing bar and steel fiber. The bond strength increased with increasing hydroxypropylcellulose or methylcellulose amounts. The contact electrical resistivity between cement and fiber or between concrete and reinforcing bar was not changed by addition of hydroxypropyl ellulose or methylcellulose.

Trapping of Radioactive Fission Products (Isotopes) Using Non-Radioactive Stable Metallic Elements

Holmium (hoʊlmiəm/ *HOHL-mee-əm*) is a chemical element with the symbol **Ho** and atomic number 67. Part of the lanthanide series, holmium is a relatively soft and malleable silvery-white metallic element, which is stable in dry air at room temperature. A rare earth metal, it is found in the minerals monazite and gadolinite. Holmium has the highest magnetic strength of any element and therefore is used for the polepieces of the strongest static magnets. Because holmium strongly absorbs nuclear fission-bred neutrons, it is also used in nuclear control rods.

Zeolite chemistry is the distribution of silicon and aluminum atoms among the T sites. According to *Lowensteins' rule*, **Al-O-Al** linkages in zeolitic frameworks are forbidden. As a result, all aluminate tetrahedra must be linked to four silicate tetrahedra, and in general this is proved to be the case, but recent investigations into zeolites synthesized at high temperatures have shown non-Lowenstein distributions in sodalite materials. Aluminum ions are formed by losing three (3) electrons making it neutrally charged. The combination of negatively charged silica and aluminum produces negatively charged ions that will absorb electromagnetic waves. Negative ions are a type of antioxidant present in nature that is reported to react with and break down toxins in the bloodstream.

The range of Si/Al ratios varies between zeolites. ZSM-5 is a high silicate zeolite, whereas zeolite X/Y can be prepared in high silicate forms, or high aluminate forms, but is usually produced with a Si/Al ratio close to unity with a fully ordered **Si-Al** distribution over the tetrahedral sites, in accordance with Lowenstein's rule.
The inclusion of aluminium into the zeolite structure has two major effects: An increase in the net negative charge - which are neutralized from protons hydrogen bonded to the lone pairs of the bridging oxygens. These acidic sites play a significant role in the zeolite catalytic activity. the materials become hydrophilic.**Zeolites** are not only influenced by pH but also they are capable of affecting the solution pH. It was found out that clinoptilolite tends to neutralize the solution by acting as H+ acceptor or H+ donor (Rivera et al., 2000; Ersoy and Çelik, 2002). The pH of solution can also affect removal efficiency by affecting the integrity of zeolite. Clinoptilolite is known to partially degrade and lose its ion exchange capacity in alkaline media (Mier et al., 2001). Also, clinoptilolite structure breaks down in highly acidic solutions (Tsitsishvili, 1992). On the other hand, as the solution pH increases, the number of negatively charged sites increases (Benhammou et al., 2005), Clinoptilolite-deionized water suspensions at neutral, acidic and basic pH values exhibited a buffer pH around 9±1. This was also observed by Trgo and Peric (2003) and at all initial pH's examined (2-11) in deionized water-clinoptilolite suspensions pH became stable between 8 and 9. Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents. The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material. Absorbent materials such as zeolites

adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, clinotilolite and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.%

carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic washcoated polymer and used to cover building materials such as wall board and ceiling tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with deflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be ~~Holmium (Ho_2O_3) or~~ negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

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What is claimed is:

Claims 1-19 – Canceled

Claims 20-22 – (Substituted)

~~20. A Method of producing building materials such as gypsum wallboard, mineral fiber acoustic ceiling tiles and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001" .002") onto woven or nonwoven glass fiber paper comprising:~~

~~a) the step of mixing radiation absorbing materials – 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 – 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes, then,~~
~~b) the step of applying (spraying or dipping) or coating the absorbing material onto the glass fiber paper substrate, then,~~
~~c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth -20 (EMG) – 60%:40% (ratio) in de-ionized water (20 % vol.wt).~~

~~21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, BM1, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these.~~

~~22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.~~

Substituted Claim 20. "A method for producing building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention aid binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then,

c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and Methyl Gluceth-20 (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol)."

Substituted Claim 21. "The method of producing building materials according to Claim 20, in which the zeolite radiation absorbent is selected from the group consisting of zeolites type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L. charbazite, offretite, erionite, mordenite gmelinite, mazzite, clinoptilolite and mixture of these."

Substituted Claim 22. "The method of producing building materials according to Claim 20, in which the retention aid binder is selected from the group consisting of boehmite, Alucol, or Alumina Sol are added to the slurry to bind the absorbent particles to the glass fibers in the paper."

References:

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There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.

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The range of Si/Al ratios varies between zeolites. ZSM-5 is a high silicate zeolite, whereas zeolite X/Y can be prepared in high silicate forms, or high aluminate forms, but is usually produced with a Si/Al ratio close to unity with a fully ordered **Si-Al** distribution over the tetrahedral sites, in accordance with Lowenstein's rule.

The inclusion of aluminum into the zeolite structure has two major effects: An increase in the net negative charge - which are neutralized from protons hydrogen bonded to the lone pairs of the bridging oxygens. These acidic sites play a significant role in the zeolite catalytic activity. The materials become hydrophilic. **Zeolites** are not only influenced by pH but also they are capable of affecting the solution pH. It was found out that clinoptilolite

tends to neutralize the solution by acting as H+ acceptor or H+ donor (Rivera et al., 2000; Ersoy and Çelik, 2002). The pH of solution can also affect removal efficiency by affecting the integrity of zeolite. Clinoptilolite is known to partially degrade and lose its ion exchange capacity in alkaline media (Mier et al., 2001). Also, clinoptilolite structure breaks down in highly acidic solutions (Tsitsishvili, 1992). On the other hand, as the solution pH increases, the number of negatively charged sites increases (Benhammou et al., 2005), Clinoptilolite-deionized water suspensions at neutral, acidic and basic pH values exhibited a buffer pH around 9±1. This was also observed by Trgo and Peric (2003) and at all initial pH's examined (2-11) in deionized water-clinoptilolite suspensions pH became stable between 8 and 9. Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents. The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material. Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, clinoptilolite and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic wash coated polymer and used to cover building materials such as wall board and ceiling

tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with deflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

Claims 1-19 – Canceled

Claims 20-22 – (Replaced)

~~20. A Method of producing building materials such as gypsum wallboard, mineral fiber acoustic ceiling tiles and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001"-.002") onto woven or nonwoven glass fiber paper comprising:~~

~~a) the step of mixing radiation absorbing materials – 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 – 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes, then,~~

~~b) the step of applying (spraying or dipping) or coating the absorbing material onto the glass fiber paper substrate, then,~~

~~c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth-20 (EMG) – 60%:40% (ratio) in de-ionized water (20 % vol.wt).~~

~~21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these.~~

~~22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucel or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.~~

What is Claimed is:

Replacement Claim 20. "A method for producing building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention aid binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then,

c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and Methyl Gluceth-20 (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol)."

Replacement Claim 21. "The method of producing building materials according to Claim 20, in which the zeolite radiation absorbent is selected from the group consisting of zeolites type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L. charbazite, offretite, erionite, mordenite gmelinite, mazzite, clinoptilolite and TiO2 and mixtures of these."

Replacement Claim 22. "The method of producing building materials according to Claim 20, in which the retention aid binder is selected from the group consisting of boehmite, Alucol, or Alumina Sol are added to the slurry to bind the absorbent particles to the glass fibers in the paper."

References:

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	27

Application Number	13/067,917
Filing Date	July 7, 2011
First Named Inventor	ROBINSON, WILLIAM L.,Jr.
Art Unit	1712
Examiner Name	Francisco Tschen
Attorney Docket Number	

ENCLOSURES *(Check all that apply)*

- Fee Transmittal Form
- Fee Attached
- ✓ Amendment/Reply
- After Final
- Affidavits/declaration(s)
- Extension of Time Request
- Express Abandonment Request
- Information Disclosure Statement
- Certified Copy of Priority Document(s)
- Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53
- Drawing(s)
- Licensing-related Papers
- Petition
- Petition to Convert to a Provisional Application
- Power of Attorney, Revocation
- Change of Correspondence Address
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- CD, Number of CD(s)
- Landscape Table on CD
- After Allowance Communication to TC
- Appeal Communication to Board of Appeals and Interferences
- Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- Proprietary Information
- Status Letter
- Other Enclosure(s) (please identify below):

Remarks

Substitute Specifications
Amended Elected Claims
Revised References

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	
Signature	
Printed name	William L. Robinson, Jr.
Date	May 13, 2014
Reg. No.	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: Signature

Typed or printed name	William L. Robinson, Jr.
Date	May 13, 2014

ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and minerals such as zeolites for electromagnetic; radio and microwave frequency and radioisotope shielding of building materials such as wall liners, gypsum wallboard and high performance, high strength concrete.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

7590 05/07/2014

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

EXAMINER	
TSCHEN, FRANCISCO W	

ART UNIT	PAPER NUMBER
1712	

MAIL DATE	DELIVERY MODE
05/07/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	13/067,917	ROBINSON, WILLIAM L.	
	Examiner	Art Unit	
	FRANCISCO TSCHEN	1712	

All participants (applicant, applicant's representative, PTO personnel):

(1) *FRANCISCO TSCHEN*. (3)_____.

(2) *WILLIAM ROBINSON*. (4)_____.

Date of Interview: *29 April 2014*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *20*.

Identification of prior art discussed: *n/a*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant submitted a proposed amendment to Claim 20 however after discussion with applicant the amendment will not be entered because it raises new matter issues which include the following: a) air filtration media and b)selection of a low molecular weight (20mol) synergistic monosaccharide, and c)the organic coating composition comprising titanium dioxide.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/FRANCISCO TSCHEN/ Examiner, Art Unit 1712	

Office Action Summary	Application No. 13/067,917	Applicant(s) ROBINSON, WILLIAM L.	
	Examiner FRANCISCO TSCHEN	Art Unit 1712	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/16/2014*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☒ An election was made by the applicant in response to a restriction requirement set forth during the interview on *29 May 2012*; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-22* is/are pending in the application.

5a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *20-22* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☒ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *4/29/2014* .

4) ☐ Other: _____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-14, drawn to a method, classified in class 106, subclass 618.

II. Claims 15-19, drawn to a composition, classified in class 588, subclass 1+.

III. Claims 20-22, drawn to a method, classified in class 427, subclass 402.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the radioactive trapping agent can be used in a materially different process such as a process that produces an adsorbent carrier for use in electronic applications (i.e. disk drives).

4. Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially

different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the radioactive trapping agent can be used in a materially different process such as a process that produces an adsorbent carrier for use in electronic applications (i.e. disk drives).

5. Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as use to reinforce structural components in roads. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

6. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above

and there would be a serious search and/or examination burden if restriction were not required because at least the following reason(s) apply:

--the inventions have acquired a separate status in the art in view of their different classification

--the inventions have acquired a separate status in the art due to their recognized divergent subject matter

--the inventions require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search strategies or search queries).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

7. During a telephone conversation with William Robinson on 05/29/2012 a provisional election was made without traverse to prosecute the invention of Group III, claims 20-22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. The examiner has required restriction between product or apparatus claims and process claims. Where applicant elects claims directed to the product/apparatus, and all product/apparatus claims are subsequently found allowable, withdrawn process claims that include all the limitations of the allowable product/apparatus claims should be considered for rejoinder. All claims directed to a nonelected process invention must include all the limitations of an allowable product/apparatus claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product/apparatus claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37

CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product/apparatus are found allowable, an otherwise proper restriction requirement between product/apparatus claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product/apparatus claim will not be rejoined. See MPEP § 821.04. Additionally, in order for rejoinder to occur, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product/apparatus claims. **Failure to do so may result in no rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Information Disclosure Statement

9. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

10. The amendment filed 09/15/2011 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claim of Benefit to Earlier Filing Dates Section see Page 1 lines 1-9.

Applicant is required to cancel the new matter in the reply to this Office Action.

11. The substitute specifications filed 8/12/2011 and 9/15/2011 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: the substitute specification includes new matter as shown above, and the substitute specification submitted does not show markings showing all the changes relative to the immediate prior version specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. **An accompanying clean version (without markings) must also be supplied.**

12. When submitting the new substitute specification, applicant should only change the spacing for the specification, no new matter may be added. As with the previous

submission, the "references" section should be made part of the specification and not included with the claims as originally filed.

Claim Objections

13. The claims are objected to because the lines are crowded too closely together, making reading difficult. Substitute claims with lines one and one-half or double spaced on good quality paper are required. See 37 CFR 1.52(b).

14. Claims 21 and 22 contain periods leading to multiple sentences inside the claim. Per MPEP 608.01(m): Each claim begins with a capital letter and ends with a period. Periods may not be used elsewhere in the claims except for abbreviations.

Claim Rejections - 35 USC § 112

15. The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 20-22 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a

complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

17. Regarding claims 20-22, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

18. Claim 20 recites “…and wall liners containing absorbent materials such as…coated (.001”-.002”) onto woven glass fiber paper…” on lines 3-5. It is unclear if all the other building materials mentioned contain absorbent materials of just the wall liners. For purposes of examination it will be treated as if the absorbent materials are contained in all building materials mentioned. It is also interpreted that the building materials contain a woven or non-woven coated glass fiber paper substrate.

19. Claim 20 recites “coated (.001"-.002”) onto” it is unclear what the numbers after the word coating refer to. For purposes of examination it will be treated as if the coating thickness is in the range of 0.001”-0.002".

20. Claim 20 recites "such as Clinoptilolite (Zeolite)" on line 4, it is unclear if the claim requires any zeolite or just zeolites such as Clinoptilolite. For purposes of examination it will be treated as if any zeolite is required since Claim 21 further limits the type of zeolite.

21. Claim 20 recites: "~60-80% clinoptilolite (Zeolite)" on line 7, it is unclear what the term ~ means. For purposes of examination it will be treated as the word “about”. It is also unclear if the terms are by percentage is by weight or volume

22. Claim 20 recites: “40-20% (boehmite) binder in…” on line 8, it is unclear what the term (boehmite) is modifying in the claim. For purposes of examination it will be treated as 20-40% boehmite binder composition. It is also unclear if the terms are by percentage is by weight or volume.

23. Claim 20 recites “water (5:1 ratio)” on line 8, it is unclear what the numbers after the word water refer to. For purposes of examination it will be treated as if the ratio of binder to water is 5:1.

24. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 20 recites the broad recitation pH 8-9; 28-30C, and the claim also recites 8.5-8.9; 28.8C which is the narrower statement of the range/limitation (line 9).

25. Claim 20 recites: “applying” (spraying or dipping) or coating” on line 11, it is unclear what the term “(spraying or dipping) or coating” means. For purposes of examination it will be treated as: "applying by spraying, dipping or coating”.

26. Claim 20 recites: “onto a [glass fiber paper] substrate” on line 12, it is unclear why applicant is utilizing brackets. For purposes of examination it will be treated as: "onto a glass fiber paper substrate”.

27. Claim 20 recites the limitation "the absorbing material" in line 11. There is insufficient antecedent basis for this limitation in the claim.

28. Claim 20 recites “applying (coating)” on line 14, it is unclear if the application can only be done via coating. For purposes of examination it will be treated as a coating step.

29. Claim 20 recites “applying(coating) an organic polymer over the radiation absorbing coated material (glass fiber paper)” on lines 14 and 15, it is unclear why applicant is utilizing parenthesis. For purposes of examination it will be treated as: “coating an organic composition over the zeolite radiation absorbent composition”

30. Claim 20 recites the limitation "the radiation absorbing coated material" in lines 14 and 15. There is insufficient antecedent basis for this limitation in the claim.

31. Claim 20 recites “(HPC) + Methyl” on lines 15 and 16 it is unclear what the term “+” is for. For purposes of examination it will be treated as “(HPC) and Methyl”.

32. Claim 20 recites: "(EMG) ~60%-40% (ratio) " on line 16, it is unclear what the term ~ means. For purposes of examination it will be treated as the word “about”.

33. Claim 20 recites: "water (20%vol.wt" on line 16, it is unclear what the term vol.wt means. For purposes of examination it will be treated as vol/wt.

34. Claim 21 recites: “other adsorbents” in line 4. It is unclear if applicant meant absorbent or adsorbent. For purposes of examination it will be treated as absorbent.

35. Claim 21 recites: “adsorbent” in lines 2 and 3. It is unclear if applicant meant absorbent or adsorbent. For purposes of examination it will be treated as absorbent.

36. Claim 22 contains the trademark/trade name “BASF (Alcoa) HiQ-40, Alucol”. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or produce, the claim does not comply with the requirements of 35 USC 112, second paragraph.

37. Claim 22 contains the sentence: “Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder”. It is unclear is this is a result of what occurs previously in the process or if there is another step not recited which makes this occur. For examination it will be treated as a recitation of what occurs after performing step a) of Claim 20.

38. The following is a quotation of 35 U.S.C. 112(d):

> (d) REFERENCE IN DEPENDENT FORMS.—Subject to subsection (e), a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), fourth paragraph:

> Subject to the [fifth paragraph of 35 U.S.C. 112 (pre-AIA)], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

39. Claim 21 is rejected under 35 U.S.C. 112(d) or pre-AIA 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. Claim 21 recites absorbent materials which are not zeolites which broadens the scope of the absorbent materials. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

Examiner Comments

40. Examiner suggests amending the claim as previously discussed on 06/28/1012 to remove all 35 USC 112, second paragraphs issues discussed above.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Nakatsuka et al. (US PGPub 2005/0087705 A1) teaches materials and product utilized for blocking the effects of radiation (Abstract). Nakatsuka teaches that kerative derivatives such as monosaccarides and polysaccharides are utilized for the invention [0038].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANCISCO TSCHEN whose telephone number is (571)270-3824. The examiner can normally be reached on Monday - Friday 9:00-18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571)272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. T./
Examiner, Art Unit 1712

/MICHAEL CLEVELAND/
Supervisory Patent Examiner, Art Unit 1712

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	13/067,917	ROBINSON, WILLIAM L.	
	Examiner	Art Unit	
	FRANCISCO TSCHEN	1712	

All participants (applicant, applicant's representative, PTO personnel):

(1) *FRANCISCO TSCHEN*. (3)_____.

(2) *WILLIAM ROBINSON*. (4)_____.

Date of Interview: *29 April 2014*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *20*.

Identification of prior art discussed: *n/a*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant submitted a proposed amendment to Claim 20 however after discussion with applicant the amendment will not be entered because it raises new matter issues which include the following: a) air filtration media and b)selection of a low molecular weight (20mol) synergistic monosaccharide, and c)the organic coating composition comprising titanium dioxide.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

/FRANCISCO TSCHEN/ Examiner, Art Unit 1712	

Notice of References Cited	Application/Control No. 13/067,917	Applicant(s)/Patent Under Reexamination ROBINSON, WILLIAM L.	
	Examiner FRANCISCO TSCHEN	Art Unit 1712	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0298235	12-2007	Yoshida et al.	428/294.7
*	B	US-2005/0087705	04-2005	Nakatsuka et al.	250/516.1
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13067917	ROBINSON, WILLIAM L.
	Examiner	Art Unit
	FRANCISCO TSCHEN	1712

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
427	limited by text	6/7/2012	FT
427	407.3,411,415; limited by text	6/7/2012	FT
428	294.7	6/7/2012	FT
442	42,78,180; limited by text	6/7/2012	FT
52	474; limited by text	6/7/2012	FT

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search	6/7/2012	FT
See EAST Search Notes	6/7/2012	FT
Google Scholar zeolite, radiactive absorbing coatings	6/7/2012	FT
US Harvest Energy and Tech Corp brochures	6/7/2012	FT
Reviewed applications: 12/656741,60/690071, 61006403, 61064115, 61129912, 61136183, 61193842, 61202133	6/7/2012	FT
Consulted SPE Jenn Chriss and Examiner, Elizabeth Cole	6/7/2012	FT
Updated Inventor Search	4/30/2014	FT
Discussed case with applicant regarding Office of Petitions Decision	4/30/2014	FT
Updated EAST SEarch	4/30/2014	FT
CPC Text Search (G21F1/103,1/12,1/10,1/00; D21H13/24,13/40, 13/16; E04C2/043)	4/30/2014	FT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
	Interference Searched: UPAD text search, See EAST interference Search Printout	6/7/2012	FT
	Interference Search: UPAD Class Search (427/407.3,411,415; 428/294.7; 442/42,78,180; 52/474)	6/7/2012	FT

Amendment To The Elected Claims

Examiner Tschen,

On June 7, 2012, I received your proposed amendment to over come 112 issues with Claims 20-22 of my elected invention (U.S. Application #13/067,917) under 35 USC 112 (second paragraph). Thank you! I did however modified your suggested amendment for Claim 20 in reference to the substrates I tested and the organic/inorganic compositions I used (steps c & d). Claims 21-22 can remain as proposed.

Claim 20. "A method for producing air filtration media and building materials, the building materials selected from the group consisting of gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiber glass ceiling panels, fiber glass acoustic panels, ceiling tiles and wall liners; the air filtration media and the building materials containing a woven and/or nonwoven glass fiber paper, borosilicate or polypropylene substrate coated with an aqueous composition comprising a zeolite radiation absorbent acting as a trapping agent and a retention binder, the aqueous composition applied at a thickness of .001 in - .002 in., the method comprising the steps of:

a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;

b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper, borosilicate or polypropylene substrate, then;

c) coating an organic composition over the aqueous composition, the organic composition consisting of: a polysaccharide such as hydroxypropylcellulose (HPC) and a low

molecular weight (20 mol) synergistic monosaccharide such as ethoxylated methylglucose (EMG) in 60-40% ratio (HPC:EMG) in DI water (20% vol) or

d) coating an organic composition over the aqueous composition, the organic composition comprising: HPC and EMG in 60-40% ratio in DI water (10% vol) and TiO_2 (10% vol)."

William L. Robinson, Jr.
Inventor
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	((WILLIAM) near2 (ROBINSON)).INV. and (RFI or EMI)	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:40
L2	5	((WILLIAM) near2 (ROBINSON)).INV. and zeolite	US-PGPUB; USPAT	OR	ON	2014/04/30 10:40
L4	87	D21H13/16.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
L5	711	E04C2/043.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
L6	518	D21H13/40.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
L7	266	D21H13/24.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:42
L8	66	G21F1/00.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
L9	5702	G21F.cpcl.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
L10	110	G21F1/10.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
L11	76	G21F1/103.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
L12	76	G21F1/12.cpc.	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:53
L13	1	10 and zeolite	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:54
L14	36416	"90" and zeolite	US-PGPUB; USPAT	OR	OFF	2014/04/30 10:54
L15	266	9 and zeolite	US-PGPUB; USPAT	OR	ON	2014/04/30 10:54
L16	0	9 and ethoxylated adj methyl adj glucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:55
L17	0	9 and methyl adj glucose	US-PGPUB;	OR	ON	2014/04/30 10:56

			USPAT			
L18	0	9 and methylglucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:56
L19	65	9 and glucose	US-PGPUB; USPAT	OR	ON	2014/04/30 10:56
L20	252	9 and cellulose	US-PGPUB; USPAT	OR	ON	2014/04/30 11:02
L21	3	9 and hydroxy near2 cellulose	US-PGPUB; USPAT	OR	ON	2014/04/30 11:02
S1	479	((WILLIAM) near2 (ROBINSON)).INV.	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:44
S2	0	((WILLIAM) near2 (ROBINSON)).INV. and batimore	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:45
S3	10	((WILLIAM) near2 (ROBINSON)).INV. and baltimore	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:45
S4	479	((WILLIAM) near2 (ROBINSON)).INV. andbuilding	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:46
S5	24	((WILLIAM) near2 (ROBINSON)).INV. and building	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:46
S6	0	((WILLIAM) near2 (ROBINSON)).INV. and gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:47
S7	2650	clinoptilolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:48
S8	123	clinoptilolite and gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:48
S9	88	clinoptilolite and boehmite and water	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:49
S10	5	clinoptilolite same boehmite and water	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:49
S11	673	(zeolite adj type adj (X A Y))	US-PGPUB; USPAT	OR	OFF	2012/06/05 13:55
S12	15031	"ZSM-3" EMT "EMC-2" "ZSM-18" "ZSM-5" "ZSM-11"	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:35
S13	11601	chabazite offretite erionite mordenite gmelinite mazzite	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:36
S14	3441	(S11 S12 S13) and (radiation)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:37
S15	2	(S11 S12 S13) and (radiation adj absorbing)	US-PGPUB;	OR	OFF	2012/06/05 14:37

			USPAT			
S16	0	EMI and (S1 S2 S3)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S17	0	(electromagnetic adj interference) and (S1 S2 S3)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S18	41575	(electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S19	11	(intentional adj electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 14:56
S20	1	"6524846".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:30
S21	22	(chabazite offretite erionite mordenite gmelinite mazzite) and (electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:47
S22	104	(S11 S12 S13) and (electromagnetic adj interference)	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:52
S23	54	(S11 S12 S13) and (electromagnetic adj interference) and paper	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:52
S24	794	(glass adj fiber) adj paper	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S25	794	(glass adj fiber adj paper)	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S26	329	(glass adj fiber adj paper) and coating	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:56
S27	7	(glass adj fiber adj paper) same zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 15:57
S28	0	(glass adj fiber adj paper) and clinoptilolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:20
S29	0	(glass adj fiber adj paper) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S30	3074	zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S31	1214	zeolite same boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S32	961	zeolite with boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:21
S33	724	radiation same zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:28
S34	1	"20060137276".pn.	US-PGPUB;	OR	OFF	2012/06/05 16:34

			USPAT			
S35	37	radiation same zeolite and "427".clas.	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:46
S36	2	10/532635.app.	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:49
S37	30137	gypsum	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S38	2995	gypsum and (glass adj fiber)	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S39	248	gypsum and (glass adj fiber) and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S40	0	gypsum and (glass adj fiber) and zeolite and beohmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S41	8	gypsum and (glass adj fiber) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S42	2	gypsum.ab. and (glass adj fiber) and zeolite and boehmite	US-PGPUB; USPAT	OR	OFF	2012/06/05 16:50
S43	243	hydroxypropylcellulose and gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S44	240	hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S45	25	hydroxypropylcellulose same (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:00
S46	2697	gypsum.ab. hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S47	0	gypsum.ab. and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S48	5	gypsum and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S49	0	EMI and hydroxypropylcellulose and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:01
S50	241823	EMI attenuation	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S51	179	EMI adj attenuation	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S52	2	(EMI adj attenuation) with coating	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:06
S53	429	(EMI near3 attenuation)	US-PGPUB;	OR	OFF	2012/06/05 17:07

			USPAT			
S54	0	(EMI near3 attenuation) and hydroxypropylcellulose	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:08
S55	174	(EMI) and hydroxypropylcellulose	US-PGPUB; USPAT	OR	OFF	2012/06/05 17:08
S56	0	"13352456".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:12
S57	1	13/352456.app.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:12
S58	0	methyl adj gluceth adj S20	DERWENT	OR	OFF	2012/06/05 18:17
S59	108	methyl adj gluceth	DERWENT	OR	OFF	2012/06/05 18:17
S60	0	(methyl adj gluceth) and gypsum	DERWENT	OR	OFF	2012/06/05 18:17
S61	0	(methyl adj gluceth) and drywall	DERWENT	OR	OFF	2012/06/05 18:17
S62	0	(methyl adj gluceth) and HPC	DERWENT	OR	OFF	2012/06/05 18:17
S63	9	(methyl adj gluceth) and hydroxypropylcellulose	DERWENT	OR	OFF	2012/06/05 18:18
S64	4	"HiQ-40"	DERWENT	OR	OFF	2012/06/05 18:20
S65	233	428/294.7.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:23
S66	1	"5272240".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:46
S67	1	"5272740".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/05 18:46
S68	0	paint.ab. and (methyl adj gluceth adj S20)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:20
S69	0	paint.ab. and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:20
S70	18	coating.ab. and (methyl adj gluceth)	US-PGPUB; USPAT	OR	OFF	2012/06/05 19:21
S71	9083	electromagnetic adj shielding	US-PGPUB; USPAT	OR	OFF	2012/06/06 10:40
S72	88	(electromagnetic adj shielding) and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 10:40
S73	3	427/407.3.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:33
S74	0	427/407.3.ccls. and (methyl adj gluceth)	US-PGPUB;	OR	OFF	2012/06/06 13:33

			USPAT			
S75	12	427/411.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S76	0	427/415.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S77	0	427/415.ccls. and methyl adj gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S78	1286	methyl adj gluceth	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S79	112	S78 and construction	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:34
S80	61	S78 and paint	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:35
S81	0	S78 and paint.ab.	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:36
S82	0	S78 and paint.ti.	US-PGPUB; USPAT	OR	OFF	2012/06/06 13:36
S83	9	ethoxylated adj methylglucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 10:10
S84	2	alucol	US-PGPUB; USPAT	OR	OFF	2012/06/07 10:28
S85	93	ethoxylated adj methyl adj glucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 12:11
S86	0	"200740298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S87	0	"200700298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S88	1	"20070298235".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:24
S89	1183945	woven nonwoven weav$3 non?woven paper paper?making papermaking	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S90	1450645	glass fiberglass fiber?glass fibreglass fibre?glass	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S91	366945	S89 and S90	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:28
S92	48058	S89 near3 S90	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:29
S93	87083	S89 with S90	US-PGPUB;	OR	OFF	2012/06/07 13:29

			USPAT			
S94	42	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside))	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:29
S95	104	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside) EMG (glucam adj "e-20") "mg-20" "mg-10")	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S96	0	S92 and (ethoxylated adj methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S97	74	S92 and (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:30
S98	51	S92 and ((methyl adj gluceth) (ethoxylated adj methyl adj glucoside) (glucam adj "e-20") "mg-20" "mg-10")	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:33
S99	1	"4956394".pn.	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:33
S100	330	surfactant same (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:34
S101	230	surfactant with (methyl adj glucoside)	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:34
S102	124	S96 S97 S98	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S103	673	(zeolite adj type adj (X A Y))	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S104	15050	"ZSM-3" EMT "EMC-2" "ZSM-18" "ZSM-5" "ZSM-11"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S105	11608	chabazite offretite erionite mordenite gmelinite mazzite	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S106	21159	S103 S104 S105	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S107	183	S106 and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S108	312	boehmite and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S109	13	S107 and S108 and S92	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:36
S110	0	"068239-42-9"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42
S111	657	"beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42

S112	76	methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:42
S113	0	ethoxylated adj methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:43
S114	76	methyl adj "beta-d-glucoside"	US-PGPUB; USPAT	OR	OFF	2012/06/07 13:43
S115	0	42/180.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:58
S116	693	442/180.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:58
S117	3	442/78.ccls.	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:59
S118	12	442/180.ccls. and zeolite	US-PGPUB; USPAT	OR	OFF	2012/06/07 14:59
S119	483626	442/180.ccls. cellulose	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S120	148	442/180.ccls. and cellulose	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S121	0	442/180.ccls. and glucoside	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S122	98	442/180.ccls. and surfactant	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:00
S123	0	silsesquozane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:38
S124	24	silsesquoxane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:38
S125	8971	silsesquioxane	US-PGPUB; USPAT	OR	OFF	2012/06/07 15:40

4/30/2014 11:15:46 AM
C:\Users\ftschen\Documents\EAST\Workspaces\13067917.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

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BIB DATA SHEET

CONFIRMATION NO. 8019

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
13/067,917	07/07/2011 RULE	427	1712	

APPLICANTS

INVENTORS

William L. Robinson JR., Baltimore, MD;

**** CONTINUING DATA ***************************

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
08/02/2011

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /FRANCISCO W TSCHEN/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		MD	0	22	3

ADDRESS

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209
UNITED STATES

TITLE

Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

FILING FEE RECEIVED		
662	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Office of Petitions: Routing Sheet

Application No. 13/067,917

This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application.

- [x] **GRANTED**
- [ ] **DISMISSED**
- [ ] **DENIED**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

7590 04/16/2014

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

EXAMINER	
TSCHEN, FRANCISCO W	

ART UNIT	PAPER NUMBER
1712	

MAIL DATE	DELIVERY MODE
04/16/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Application of :
William L. Robinson, Jr. :
Application No. 13/067,917 : DECISION ON PETITION
Filed: July 7, 2011 : UNDER 37 CFR 1.137(a)
For: METHOD AND USE OF ORGANIC AND MINERAL ADMIXTURES FOR EMI AND RADIOACTIVE ISOTOPE SHIELDING OF BUILDING MATERIALS SUCH AS GLASS FIBER WALL COVERINGS, GYPSUM WALLBOARD AND ELECTRICALLY CONDUCTIVE OR RESISTIVE, HIGH PERFORMANCE, HIGH STRENGTH CONCRETE :

This is a decision on the renewed petition, filed March 27, 2014, which is being treated as a petition under 37 CFR 1.137(a) to revive the instant nonprovisional application for failure to timely notify the U.S. Patent and Trademark (USPTO) of the filing of an application in a foreign country, or under a multinational treaty that requires publication of applications eighteen months after filing. *See* 37 CFR 1.137(f).

The petition is **GRANTED**.

Petitioner states that the instant nonprovisional application is the subject of an application filed in an eighteen-month publication country on November 8, 2011. However, the USPTO was unintentionally not notified of this filing within 45 days subsequent to the filing of the subject application in an eighteen-month publication country.

In view of the above, this application became abandoned pursuant to 35 U.S.C. § 122(b)(2)(B)(iii) and 37 CFR 1.213(c) for failure to timely notify the Office of the filing of an application in a foreign country or under a multilateral international agreement that requires publication of applications 18 months after filing.

A petition to revive an application abandoned pursuant to 35 U.S.C. 122(b)(2)(B)(iii) for failure to notify the USPTO of a foreign filing must be accompanied by:

(1) the required reply which is met by the notification of such filing in a foreign country or under a multinational treaty;
(2) the petition fee as set forth in 37 CFR 1.17(m); and
(3) a statement that the entire delay in filing the required reply from the due date of the reply until the filing of a grantable petition was unintentional.

The instant petition has been found to be in compliance with 37 CFR 1.137(a). Accordingly, the failure to timely notify the USPTO of a foreign or international filing within 45 days after the date of filing of such foreign or international application as provided by 35 U.S.C. § 122(b)(2)(B)(iii) and 37 CFR 1.213(c) is accepted as having been unintentionally delayed.

The previous Request and Certification under 35 U.S.C. § 122(b)(2)(B)(i) has been rescinded. A Notice Regarding Rescission of Nonpublication Request which sets forth the projected publication date of July 24, 2014 accompanies this decision on petition.

Telephone inquiries concerning this decision should be directed to the undersigned at (571) 272-3208.

This application is being referred to Technology Center Art Unit 1712 for examination in due course.

/KOC/
Karen Creasy
Paralegal Specialist
Office of Petitions

ATTACHMENT: Notice Regarding Rescission of Nonpublication Request

Office of Petitions: Decision Count Sheet

Mailing Month

Application No. 13067917

13067917

For US serial numbers: enter number only, no slashes or commas. Ex: 10123456

For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official: KAREN CREASY

Count (1) - Palm Credit 13/067,917

Decision: GRANT

FINANCE WORK NEEDED

☐ Select Check Box for YES

GRANT

Decision Type: 536 - 37 CFR 1.137(f) - ABN FOR FAILURE TO NOTIFY U

536

Notes:

Count (2)

Decision: n/a

FINANCE WORK NEEDED

☐ Select Check Box for YES

Decision Type: NONE

Notes:

Count (3)

Decision: n/a

FINANCE WORK NEEDED

☐ Select Check Box for YES

Decision Type: NONE

Notes:

Initials of Approving Official (if required)

If more than 3 decisions, attach 2nd count sheet & mark this box ☐

Printed on: *4/15/2014*

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

NONPUBLICATION RESCISSION LETTER

OC000000067789395

Date Mailed: 04/15/2014

Communication Regarding Rescission Of Nonpublication Request and/or Notice of Foreign Filing

Applicant's rescission of the previously-filed nonpublication request and/or notice of foreign filing is acknowledged. The paper has been reflected in the Patent and Trademark Office's (USPTO's) computer records so that the earliest possible projected publication date can be assigned.

The projected publication date is 07/24/2014.

If applicant rescinded the nonpublication request before or on the date of "foreign filing,"[1] then no notice of foreign filing is required.

If applicant foreign filed the application after filing the above application and before filing the rescission, and the rescission did not also include a notice of foreign filing, then a notice of foreign filing (not merely a rescission) is required to be filed within 45 days of the date of foreign filing. See 35 U.S.C. § 122(b)(2)(B)(iii), and Clarification of the United States Patent and Trademark Office's Interpretation of the Provisions of 35 U.S.C. § 122(b)(2)(B)(ii)-(iv), 1272 Off. Gaz. Pat. Office 22 (July 1, 2003).

If a notice of foreign filing is required and is not filed within 45 days of the date of foreign filing, then the application becomes abandoned pursuant to 35 U.S.C. § 122(b)(2)(B)(iii). In this situation, applicant should either file a petition to revive or notify the Office that the application is abandoned. See 37 CFR 1.137(f). Any such petition to revive will be forwarded to the Office of Petitions for a decision. Note that the filing of the petition will not operate to stay any period of reply that may be running against the application.

Questions regarding petitions to revive should be directed to the Office of Petitions at (571) 272-3282.

[1] Note, for purpose of this notice, that "foreign filing" means "filing an application directed to the same invention in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing".

/kocreasy/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

NONPUBLICATION RESCISSION LETTER

OC000000067789395

Date Mailed: 04/15/2014

Communication Regarding Rescission Of Nonpublication Request and/or Notice of Foreign Filing

Applicant's rescission of the previously-filed nonpublication request and/or notice of foreign filing is acknowledged. The paper has been reflected in the Patent and Trademark Office's (USPTO's) computer records so that the earliest possible projected publication date can be assigned.

The projected publication date is 07/24/2014.

If applicant rescinded the nonpublication request before or on the date of "foreign filing,"[1] then no notice of foreign filing is required.

If applicant foreign filed the application after filing the above application and before filing the rescission, and the rescission did not also include a notice of foreign filing, then a notice of foreign filing (not merely a rescission) is required to be filed within 45 days of the date of foreign filing. See 35 U.S.C. § 122(b)(2)(B)(iii), and Clarification of the United States Patent and Trademark Office's Interpretation of the Provisions of 35 U.S.C. § 122(b)(2)(B)(ii)-(iv), 1272 Off. Gaz. Pat. Office 22 (July 1, 2003).

If a notice of foreign filing is required and is not filed within 45 days of the date of foreign filing, then the application becomes abandoned pursuant to 35 U.S.C. § 122(b)(2)(B)(iii). In this situation, applicant should either file a petition to revive or notify the Office that the application is abandoned. See 37 CFR 1.137(f). Any such petition to revive will be forwarded to the Office of Petitions for a decision. Note that the filing of the petition will not operate to stay any period of reply that may be running against the application.

Questions regarding petitions to revive should be directed to the Office of Petitions at (571) 272-3282.

[1] Note, for purpose of this notice, that "foreign filing" means "filing an application directed to the same invention in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing".

/kocreasy/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

DAC 4 / TXT

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MAR 27 2014
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MAILED
MAR 18 2014
OFFICE OF PETITIONS

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE MD 21209

In re Application of :
William Robinson, Jr. :
Application No. 13/067,917 :
Filed: July 7, 2011 :
For: METHOD AND USE OF ORGANIC AND MINERAL ADMIXTURES FOR EMILAND RADIOACTIVE ISOTOPE SHIELDING OF BUILDING MATERIALS SUCH AS GLASS FIBER WALL COVERINGS, GYPSUM WALLBOARD AND ELECTRICALLY CONDUCTIVE OR RESISTIVE, HIGH PERFORMANCE, HIGH STRENGTH CONCRETE :

ON PETITION

This is a decision on the petition, filed December 27, 2013, which is being treated as a petition under 37 CFR 1.137(a) to revive the instant nonprovisional application for failure to timely notify the U.S. Patent and Trademark (USPTO) of the filing of an application in a foreign country, or under a multinational treaty that requires publication of applications eighteen months after filing. *See* 37 CFR 1.137(f).

The petition is **DISMISSED**.

Any request for reconsideration of this decision must be submitted within TWO (2) MONTHS from the mail date of this decision. Extensions of time under 37 CFR 1.136(a) are permitted. The reconsideration request should include a cover letter entitled "Renewed Petition under 37 CFR 1.137(a)." This is **not** a final agency action within the meaning of 5 U.S.C. § 704. No additional petition fee is required.

It is noted that Petitioner submitted a fee of $475.00 as payment for the petition fee and a Certification of Micro Entity Status. However, petitioner should be aware that micro entity discount is no longer available under 37 CFR 1.17(m). The correct fee for the present petition under small entity status is $850.00. Therefore, a balance of $375.00 ($850.00 - $475.00) is

Adjustment date: 03/28/2014 LNGUYEN1
12/30/2013 LNGUYEN1 00000028 13067917
01 FC:1999 -475.00 OP

required. Before a determination on the merits of the petition can be decided, petitioner must supply the proper petition fee in a renewed petition.

Further correspondence with respect to this matter should be delivered through one of the following mediums:

By mail:	Mail Stop PETITIONS Commissioner for Patents Post Office Box 1450 Alexandria, VA 22313-1450
By hand:	Customer Service Window Mail Stop Petitions Randolph Building 401 Dulany Street Alexandria, VA 22314
By fax:	(571) 273-8300 ATTN: Office of Petitions
By internet:	EFS-Web[1]

Any questions concerning this matter may be directed to the undersigned at (571) 272-3208.

/KOC/
Karen Creasy
Paralegal Specialist
Office of Petitions

[1] www.uspto.gov/ebc/efs_help.html (for help using EFS-Web call the Patent Electronic Business Center at (866) 217-9197)

MAIL STOP PETITIONS

In re Application of	)	
William L. Robinson, Jr.	)	
Application Number 13/067,917	)	Request For
Filed July 7, 2011	)	Reconsideration
Attorney Docket No. METHOD AND USE OF	)	
ORGANIC AND MINERAL ADMIXTURES	)	Renewed Petition
FOR EMI AND RADIOACTIVE ISOTOPES	)	Under 37 CFR 1.137
SHIELDING OF BUILDING MATERIALS	)	(b)
SUCH AS GLASS FIBER WALL COVERINGS,	)	
GYPSUM WALLBOARD AND ELECTRICALLY	)	
CONDUCTIVE OR RESISTIVE, HIGH	)	
PERFORMANCE, HIGH STRENGTH CONCRETE	)	

Now comes William L. Robinson, Jr., the Petitioner who is requesting reconsideration of his Petition For Revival Of An Application For Patent Abandoned For Failure To Notify The Office Of A Foreign Or A International Filing 37 CFR 1.137(f) filed on June 12, 2012.

A Petition to revive an application abandoned pursuant to 35 U.S.C. 122(b)(2)(B)(iii) for failure to notify the USPTO of a foreign filing must be accompanied by:

(1) the required reply which is met by the notification of such filing in a foreign country or under a multinational treaty;
(2) the petition fee as set forth in 37 CFR 1.17(m); and
(3) a statement that the entire delay in filing the required reply from the due date of the reply until the filing of a grantable petition was unintentional (see attached Petition form).

Unfortunately the Petition to revive lacked item (2) and it was subsequently DISMISSED. The Petitioner apologizes for this mistake and ask that his Petition to Revive his nonprovisional application be granted. The appropriated fees are attached to this request.

The Petitioner further states that he unintentionally failed to respond to the Decision On Petition Under 37 CFR 1.137(b) dated July 12, 2012 for which an apology is also due.

Respectfully Submitted,

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, Maryland 21209-3920
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

Doc Code: PET.OP
Document Description: Petitic

PTO/SB/64a (07-09)
gh 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office: DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED FOR FAILURE TO NOTIFY THE OFFICE OFA FOREIGN OR INTERNATIONAL FILING (37 CFR 1.137(f))	Docket Number (Optional)

First named inventor: William L. Robinson, Jr.

Application No.: 13/067,917 Art Unit: 1712

Filed: 7/7/2011 Examiner: Francisco Tschen

Title: METHOD AND USE OF ORGANIC AND MINERAL ADMIXTURES FOR EMI AND RADIOACTIVE ISOTOPE SHIELDING OF BUILDING MATERIALS SUCH AS GLASS FIBER WALL COVERINGS, GYPSUM WALLBOARD AND ELECTRICALLY CONDUCTIVE OR RESISTIVE, HIGH PERFORMANCE, HIGH STRENGTH CONCRETE

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX (571) 273-8300

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (571) 272-3282.

The above-identified application became abandoned pursuant to 35 U.S.C. 12 2(b)(2)(B)(iii) for failure to timely notify the Office of the filing of an application in a foreign country or under a multinational international treaty that requires publication of applications eighteen months after filing. The date of abandonment is the day after the expiration date of the forty-five (45) day period set in 35 U.S.C. 122(b)(2)(B)(iii).

PURSUANT TO 37 CFR 1.137(f), APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION UNDER 37 CFR 1.137(b)

1.Petition fee

☐ Small entity-fee $ _____ (3). Applicant claims small entity status. See 37 CFR 1.27.

☑ Other than small entity – fee $ 375 (37 CFR 1.17(m))

2. Notice of Foreign or International Filing (35 U.S.C. 122(b)(2)(B)(iii) and 37 CFR 1.213(c))

Subsequent to the filing of the above-identified application, an application was filed in another country, or under a multinational international treaty (e.g., filed under the Patent Cooperation Treaty), that requires publication of applications eighteen months after the filing. The filing date of the subsequently filed foreign or international application is November 8, 2011.

03/28/2014 LNGUYEN1 00000025 13067917
01 FC:2453 850.00 OP

STATEMENT: The entire delay in filing the required notice of a foreign or international filing from the due date for the required notice until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

Signature	March 28, 2014 Date
William L. Robinson, Jr. Type or Printed Name	Registration Number, if applicable
5914 Greenspring Avenue Address	(443) 320-3123 Telephone Number
Baltimore, Maryland 21209-3920 Address	

Enclosures: ☐ Fee Payment

☑ Additional sheets containing statements establishing unintentional delay

☐ Other: _____

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☐ Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

☐ Transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

Date	Signature
	Typed or printed name of person signing certificate

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

WILLIAM L. ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE MD 21209

In re Application of
William Robinson, Jr.
Application No. 13/067,917
Filed: July 7, 2011
For: METHOD AND USE OF ORGANIC AND MINERAL ADMIXTURES FOR EMILAND RADIOACTIVE ISOTOPE SHIELDING OF BUILDING MATERIALS SUCH AS GLASS FIBER WALL COVERINGS, GYPSUM WALLBOARD AND ELECTRICALLY CONDUCTIVE OR RESISTIVE, HIGH PERFORMANCE, HIGH STRENGTH CONCRETE

ON PETITION

This is a decision on the petition, filed December 27, 2013, which is being treated as a petition under 37 CFR 1.137(a) to revive the instant nonprovisional application for failure to timely notify the U.S. Patent and Trademark (USPTO) of the filing of an application in a foreign country, or under a multinational treaty that requires publication of applications eighteen months after filing. *See* 37 CFR 1.137(f).

The petition is **DISMISSED**.

Any request for reconsideration of this decision must be submitted within TWO (2) MONTHS from the mail date of this decision. Extensions of time under 37 CFR 1.136(a) are permitted. The reconsideration request should include a cover letter entitled "Renewed Petition under 37 CFR 1.137(a)." This is **not** a final agency action within the meaning of 5 U.S.C. § 704. No additional petition fee is required.

It is noted that Petitioner submitted a fee of $475.00 as payment for the petition fee and a Certification of Micro Entity Status. However, petitioner should be aware that micro entity discount is no longer available under 37 CFR 1.17(m). The correct fee for the present petition under small entity status is $850.00. Therefore, a balance of $375.00 ($850.00 - $475.00) is

required. Before a determination on the merits of the petition can be decided, petitioner must supply the proper petition fee in a renewed petition.

Further correspondence with respect to this matter should be delivered through one of the following mediums:

By mail:	Mail Stop PETITIONS Commissioner for Patents Post Office Box 1450 Alexandria, VA 22313-1450
By hand:	Customer Service Window Mail Stop Petitions Randolph Building 401 Dulany Street Alexandria, VA 22314
By fax:	(571) 273-8300 ATTN: Office of Petitions
By internet:	EFS-Web[1]

Any questions concerning this matter may be directed to the undersigned at (571) 272-3208.

/KOC/
Karen Creasy
Paralegal Specialist
Office of Petitions

[1] www.uspto.gov/ebc/efs_help.html (for help using EFS-Web call the Patent Electronic Business Center at (866) 217-9197)

Doc Code: PET.OP
Document Description: Petition for review by the Office of Petitions

PTO/SB/64a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED FOR FAILURE TO NOTIFY THE OFFICE OFA FOREIGN OR INTERNATIONAL FILING (37 CFR 1.137(f))	Docket Number (Optional)

First named inventor: William L. Robinson, Jr.

Application No.: 13/067,917 Art Unit: 1712

Filed: 7/7/2011 Examiner: Francisco Tschen

Title: METHOD AND USE OF ORGANIC AND MINERAL ADMIXTURES FOR EMI AND RADIOACTIVE ISOTOPE SHIELDING OF BUILDING MATERIALS SUCH AS GLASS FIBER WALL COVERINGS, GYPSUM WALLBOARD AND ELECTRICALLY CONDUCTIVE OR RESISTIVE, HIGH PERFORMANCE, HIGH STRENGTH CONCRETE

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX (571) 273-8300

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (571) 272-3282.

The above-identified application became abandoned pursuant to 35 U.S.C. 12 2(b)(2)(B)(iii) for failure to timely notify the Office of the filing of an application in a foreign country or under a multinational international treaty that requires publication of applications eighteen months after filing. The date of abandonment is the day after the expiration date of the forty-five (45) day period set in 35 U.S.C. 122(b)(2)(B)(iii).

PURSUANT TO 37 CFR 1.137(f), APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION UNDER 37 CFR 1.137(b)

1.Petition fee

☐ Small entity-fee $ _____ (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☑ Other than small entity – fee $ 475 (37 CFR 1.17(m))

2. Notice of Foreign or International Filing (35 U.S.C. 122(b)(2)(B)(iii) and 37 CFR 1.213(c))

Subsequent to the filing of the above-identified application, an application was filed in another country, or under a multinational international treaty (e.g., filed under the Patent Cooperation Treaty), that requires publication of applications eighteen months after the filing. The filing date of the subsequently filed foreign or international application is November 8, 2011.

STATEMENT: The entire delay in filing the required notice of a foreign or international filing from the due date for the required notice until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

Signature	December 27, 2013 Date
William L. Robinson, Jr. Type or Printed Name	Registration Number, if applicable
5914 Greenspring Avenue Address	(443) 320-3123 Telephone Number
Baltimore, Maryland 21209-3920 Address	

Enclosures:
- [x] Fee Payment
- [x] Additional sheets containing statements establishing unintentional delay
- [ ] Other: _____

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- [ ] Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.
- [ ] Transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

Date	Signature
	Typed or printed name of person signing certificate

Doc Code: MES.GIB
Document Description: Certification of Micro Entity Status (Gross Income Basis)

PTO/SB/15A (03-13)

CERTIFICATION OF MICRO ENTITY STATUS
(GROSS INCOME BASIS)

Application Number or Control Number (if applicable):	Patent Number (if applicable):
13/067,917	
First Named Inventor:	**Title of Invention:**
William L. Robinson, Jr.	Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding of Building Materials Such As Glass Fiber Wall Coverings.

The applicant hereby certifies the following—

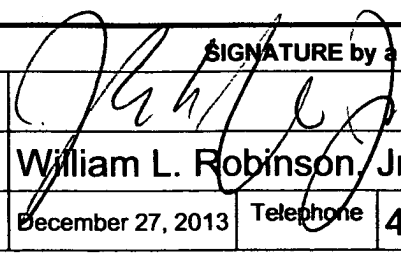
(1) **SMALL ENTITY REQUIREMENT** - The applicant qualifies as a small entity as defined in 37 CFR 1.27.

(2) **APPLICATION FILING LIMIT** - Neither the applicant nor the inventor nor a joint inventor has been named as the inventor or a joint inventor on more than four previously filed U.S. patent applications, excluding provisional applications and international applications under the Patent Cooperation Treaty (PCT) for which the basic national fee under 37 CFR 1.492(a) was not paid, and also excluding patent applications for which the applicant has assigned all ownership rights or is obligated to assign all ownership rights as a result of the applicant's previous employment.

(3) **GROSS INCOME LIMIT ON APPLICANTS AND INVENTORS** - Neither the applicant nor the inventor nor a joint inventor, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986 (26 U.S.C. 61(a)), exceeding the "Maximum Qualifying Gross Income" reported on the USPTO website at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.

(4) **GROSS INCOME LIMIT ON PARTIES WITH AN "OWNERSHIP INTEREST"** - Neither the applicant nor the inventor nor a joint inventor has assigned, granted, or conveyed, nor is under an obligation by contract or law to assign, grant, or convey, a license or other ownership interest in the application concerned to an entity that, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986, exceeding the "Maximum Qualifying Gross Income" reported on the USPTO website at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.

SIGNATURE by a party set forth in 37 CFR 1.33(b)

Signature					
Name	William L. Robinson, Jr.				
Date	December 27, 2013	Telephone	443 320-3123	Registration No.	

☐ There is more than one inventor and I am one of the inventors who are jointly identified as the applicant. Additional certification form(s) signed by the other joint inventor(s) are included with this form.

MAIL STOP PETITIONS

In re Application of	)	
William L. Robinson, Jr.	)	
Application Number 13/067,917	)	Request For
Filed July 7, 2011	)	Reconsideration
Attorney Docket No. METHOD AND USE OF	)	
ORGANIC AND MINERAL ADMIXTURES	)	Renewed Petition
FOR EMI AND RADIOACTIVE ISOTOPES	)	Under 37 CFR 1.137
SHIELDING OF BUILDING MATERIALS	)	(b)
SUCH AS GLASS FIBER WALL COVERINGS,	)	
GYPSUM WALLBOARD AND ELECTRICALLY	)	
CONDUCTIVE OR RESISTIVE, HIGH	)	
PERFORMANCE, HIGH STRENGTH CONCRETE	)	

Now comes William L. Robinson, Jr., the Petitioner who is requesting reconsideration of his Petition For Revival Of An Application For Patent Abandoned For Failure To Notify The Office Of A Foreign Or A International Filing 37 CFR 1.137(f) filed on June 12, 2012.

A Petition to revive an application abandoned pursuant to 35 U.S.C. 122(b)(2)(B)(iii) for failure to notify the USPTO of a foreign filing must be accompanied by:

(1) the required reply which is met by the notification of such filing in a foreign country or under a multinational treaty;
(2) the petition fee as set forth in 37 CFR 1.17(m); and
(3) a statement that the entire delay in filing the required reply from the due date of the reply until the filing of a grantable petition was unintentional (see attached Petition form).

Unfortunately the Petition to revive lacked item (2) and it was subsequently DISMISSED. The Petitioner apologizes for this mistake and ask that his Petition to Revive his nonprovisional application be granted. The appropriated fees are attached to this request.

The Petitioner further states that he unintentionally failed to respond to the Decision On Petition Under 37 CFR 1.137(b) dated July 12, 2012 for which an apology is also due.

Respectfully Submitted,

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, Maryland 21209-3920
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

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JUL 02 2012

OFFICE OF PETITIONS

WILLIAM I, ROBINSON, JR.
5914 GREENSPRING AVENUE
BALTIMORE MD 21209

In re Application of :
William I. Robinson, Jr. :
Application No. 13/067,917 : DECISION ON PETITION
Filed: July 7, 2011 : UNDER 37 CFR 1.137(b)
Attorney Docket No. METHOD AND USE OF :
ORGANIC AND MINERAL ADMIXTURES FOR
EMI AND RADIOACTIVE ISOTOPE
SHIELDING OF BUILDING MATERIALS SUCH
AS GLASS FIBER WALL, COVERINGS,
GYPSUM WALLBOARD AND
ELECTRICALLYH CONDUCTIVE OR
RESISTIVE, HIGH PERFORMANCE, HIGH
STRENGTH CONCRETE

This is a decision on the petition, filed June 12, 2012, which is being treated as a petition under 37 CFR 1.137(b) to revive the instant nonprovisional application for failure to timely notify the U.S. Patent and Trademark (USPTO) of the filing of an application in a foreign country, or under a multinational treaty that requires publication of applications eighteen months after filing. *See* 37 CFR 1.137(f).

The petition is **DISMISSED**.

Any request for reconsideration of this decision must be submitted within TWO (2) MONTHS from the mail date of this decision. Extensions of time under 37 CFR 1.136(a) are permitted. The reconsideration request should include a cover letter entitled "Renewed Petition under 37 CFR 1.137(b)." This is **not** a final agency action within the meaning of 5 U.S.C. § 704.

A petition to revive an application abandoned pursuant to 35 U.S.C. 122(b)(2)(B)(iii) for failure to notify the USPTO of a foreign filing must be accompanied by:

(1) the required reply which is met by the notification of such filing in a foreign country or under a multinational treaty;
(2) the petition fee as set forth in 37 CFR 1.17(m); and
(3) a statement that the entire delay in filing the required reply from the due date of the reply until the filing of a grantable petition was unintentional.

The instant petition lacks item (2).

The check ($930.00) petitioner submitted with the petition on June 12, 2011, **bounced** on accounting date of June 26, 2012. Therefore, the petition is dismissed because of insufficient funds in petitioner's account.

Further correspondence with respect to this matter should be delivered through one of the following mediums:

By mail:	Mail Stop PETITIONS Commissioner for Patents Post Office Box 1450 Alexandria, VA 22313-1450
By hand:	Customer Service Window Mail Stop Petitions Randolph Building 401 Dulany Street Alexandria, VA 22314
By fax:	(571) 273-8300 ATTN: Office of Petitions
By internet:	EFS-Web www.uspto.gov/ebc/efs_help.html (for help using EFS-Web call the Patent Electronic Business Center at (866) 217-9197)

Any questions concerning this matter may be directed to the undersigned at (571) 272-3208.

/KOC/
Karen Creasy
Petitions Examiner
Office of Petitions

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/067,917	07/07/2011	William L. Robinson JR.		8019

7590 06/29/2012

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

EXAMINER	
TSCHEN, FRANCISCO W	

ART UNIT	PAPER NUMBER
1712	

MAIL DATE	DELIVERY MODE
06/29/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	13/067,917	ROBINSON, WILLIAM L.	
	Examiner	Art Unit	
	FRANCISCO TSCHEN	1712	

All participants (applicant, applicant's representative, PTO personnel):

(1) *FRANCISCO TSCHEN*. (3)_____.

(2) *WILLIAM ROBINSON*. (4)_____.

Date of Interview: *06 June 2012*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *20-22*.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

See Continuation Sheet.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Examiner drafted a new Claim to remove issues with 35 USC 112 as currently written, Claim was discussed and amendment approved by Applicant, changes to the specification were discussed and amendment approved by applicant as shown below:The application has been amended as follows:
a. Claims 1-19 have been canceled because they are directed to a method and composition non-elected without traverse.
b. Line 17 of the specification on Page 1 the word --HPC-- has been added between "cellulose" and ",".
c. Line 10 of the specification on Page 5 the word --TM (boehmite alumina)-- has been added between "HiQ-40" and ",".
d. Line 10 of the specification on Page 5 the word -TM (boehmite alumina)-- has been added between "Alucol" and ",".
e. Claim 20 has been re-written as follows (original text deleted): --A method for producing building materials, the building materials selected from the group consisting of: gypsum wallboard, mineral fiber acoustic ceiling tiles, mineral fiber acoustic panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling panels, fiberglass acoustic panels, ceiling tiles and wall liners; the building materials containing a woven or nonwoven glass fiber paper substrate coated with an aqueous composition comprising zeolite radiation absorbent acting as a trapping agent, and a retention aid binder, the aqueous composition applied at a thickness of .001 in. - .002 in., the method comprising the steps of:
a) mixing at a ratio of 60-80% radiation absorbing zeolite and 40-20% retention aid binder in DI water at a pH of 8-9 and a temperature of 28-30 deg. C for two minutes to create an aqueous composition, then;
b) applying the aqueous composition by spraying, dipping or coating onto the glass fiber paper substrate, then;
c) coating an organic composition over the aqueous composition, the organic composition comprising: hydroxypropylcellulose (HPC) and ethoxylated methyl glucoside (EMG) in a 60-40 ratio (HPC:EMG) in DI water (20% vol).--
f. Claim 21 has been re-written as follows, (original text deleted): --The method of producing building materials according to Claim 20, in which the zeolite radiation adsorbent is selected from the group consisting of zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, clinoptilonite and mixtures of these.--
g.Claim 22 has been re-written as follows (original text deleted): --The method of producing building materials according to Claim 20 in which the retention aid binder is selected from the group consisting of boehmite, alumina sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper.--.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	13/067,917	ROBINSON, WILLIAM L.	
	Examiner	Art Unit	
	FRANCISCO TSCHEN	1712	

All participants (applicant, applicant's representative, PTO personnel):

(1) *FRANCISCO TSCHEN*. (3)_____.

(2) *WILLIAM ROBINSON*. (4)_____.

Date of Interview: *11 June 2012*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *20-22*.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Examiner informed to applicant that the application was abandoned due to clause B(iii) of 35 USC 122 which requires applicant to inform the Director of the office regarding filing in a foreign or international application where the foreign/international application is directed to the invention disclosed in the US application. Examiner suggested applicant review 35 USC 122, 37 CFR 1.181, 37CFR 1.137 and MPEP 711.03(c); Examiner suggested applicant contact the Office of Petitions and the Inventors Help Desk for further assitance..

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

Notice of Abandonment	Application No.	Applicant(s)
	13/067,917	ROBINSON, WILLIAM L.
	Examiner	Art Unit
	FRANCISCO TSCHEN	1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on _____.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☐ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☒ The reason(s) below:

See Continuation Sheet

/Michael Cleveland/ Supervisory Patent Examiner, Art Unit 1712	/FRANCISCO TSCHEN/ Examiner, Art Unit 1712

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

Item 7 - Other reasons for holding abandonment: Applicant requested non-publication of the application under 35 USC 122 but failed to notify the Director of filing of a foreign application directed to the invention disclosed in the application within the statutory period of 45 days as required.

Attachments:
Interview 1 related to allowance of case prior to finding out that the application directed to the invention was filed in a foreign application;
Interview 2 to discuss abandonment of the application to the applicant after finding out about the foreign application..

Document Description: Petition for review by the Office of Petitions

PTO/SB/64a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED FOR FAILURE TO NOTIFY THE OFFICE OFA FOREIGN OR INTERNATIONAL FILING (37 CFR 1.137(f))	Docket Number (Optional)

First named inventor: William L. Robinson, Jr.

Application No.: 13/067,917 Art Unit: 1700

Filed: July 7, 2011 Examiner: Francisco Tschen

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

Attention: Office of Petitions
Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
FAX (571) 273-8300

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (571) 272-3282.

The above-identified application became abandoned pursuant to 35 U.S.C. 12 2(b)(2)(B)(iii) for failure to timely notify the Office of the filing of an application in a foreign country or under a multinational international treaty that requires publication of applications eighteen months after filing. The date of abandonment is the day after the expiration date of the forty-five (45) day period set in 35 U.S.C. 122(b)(2)(B)(iii).

PURSUANT TO 37 CFR 1.137(f), APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION UNDER 37 CFR 1.137(b)

1.Petition fee

☑ Small entity-fee $ 930.00 (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☐ Other than small entity – fee $ _____ (37 CFR 1.17(m))

2. Notice of Foreign or International Filing (35 U.S.C. 122(b)(2)(B)(iii) and 37 CFR 1.213(c))

Subsequent to the filing of the above-identified application, an application was filed in another country, or under a multinational international treaty (e.g., filed under the Patent Cooperation Treaty), that requires publication of applications eighteen months after the filing. The filing date of the subsequently filed foreign or international application is November 8, 2011.

06/13/2012 LNGUYEN1 00000035 13067917

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STATEMENT: The entire delay in filing the required notice of a foreign or international filing from the due date for the required notice until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

Signature	June 13, 2012 Date
William L. Robinson, Jr. Type or Printed Name	Registration Number, if applicable
5914 Greenspring Avenue Address	(443) 320-3123 Telephone Number
Baltimore, Maryland 21209-3920 Address	

Enclosures: ☑ Fee Payment

☑ Additional sheets containing statements establishing unintentional delay

☐ Other: _____

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☑ Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

☐ Transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

June 13, 2012 Date	Signature
	William L. Robinson, Jr. Typed or printed name of person signing certificate

STATEMENT: The entire delay in filling the required notice of a foreign or international filing from the due date for the required notice until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional, for which I apologize.

William L. Robinson, Jr.
Inventor
June 13, 2012

PTO/SB/01 (07-07)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☑ Declaration Submitted With Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	
First Named Inventor	Wm L. Robinson, Jr
COMPLETE IF KNOWN	
Application Number	13/067,917
Filing Date	9/15/2011
Art Unit	1712
Examiner Name	Francisco Tschen

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

(Title of the Invention)

the specification of which

☑ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) ☐ as United States Application Number or PCT International Application Number ☐ and was amended on (MM/DD/YYYY) ☐ (If applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

PTO/SB/01 (07-07)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION — Utility or Design Patent Application

Direct all correspondence to: ☐ The address associated with Customer Number: _____ OR ☑ Correspondence address below

Name	William L. Robinson, Jr		
Address	5914 Greenspring Avenue		
City	Baltimore	State: Maryland	ZIP: 21209
Country: USA	Telephone: 443 320-3123	Email: bactow@aol.com	

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR:	☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle (if any)): William L.	Family Name or Surname: Robinson, Jr.		
Inventor's Signature: [signature]	Date: June 11, 2012		
Residence: City: Baltimore	State: Maryland	Country: USA	Citizenship: Yes
Mailing Address: 5914 Greenspring Avenue			
City: Baltimore	State: Maryland	Zip: 21209	Country: USA

☐ Additional inventors or a legal representative are being named on the _____ supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/067,917

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	190		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	22 minus 20 =	* 2	x 30 =	60	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 125 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	685		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/067,917	07/07/2011	1731	662		22	3

CONFIRMATION NO. 8019

UPDATED FILING RECEIPT

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

Date Mailed: 10/06/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

William L. Robinson JR., Baltimore, MD;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 08/02/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/067,917**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No
** **SMALL ENTITY** **

Title

Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

Preliminary Class

106

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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9-16-11

IFW

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

FORMALITIES LETTER

Date Mailed: 09/13/2011

NOTICE OF INCOMPLETE REPLY (NONPROVISIONAL)

Filing Date Granted

The U.S. Patent and Trademark Office has received your reply on 09/02/2011 to the Notice to File Missing Parts (Notice) mailed 08/04/2011 and it has been entered into the nonprovisional application. The reply, however, does not include the following items required in the Notice. A complete reply must be timely filed to prevent ABANDONMENT of the above-identified application. Replies should be mailed to: Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

Applicant is given **TWO MONTHS** from the date of the Notice to File Missing Parts (Notice) mailed 08/04/2011 within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

Items Required to Avoid Abandonment:

The required items noted below SHOULD be filed along with any items required above. The filing date of this nonprovisional application will be the date of receipt of the items required above.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement claim(s) commencing on a separate sheet in compliance with 37 CFR 1.75(h) and 1.121 is required. Claims must be consecutively numbered and the same claim number cannot be used for more than one claim. See 37 CFR 1.126.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/eggolla/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Claim of Benefit of Earlier Filing Dates

This application claims benefit of the earlier filing dates, National Filing of Patent Application in Vietnam No. 1-2008-00779 and May 9, 2011, Nonprovisional Application No. 61/457,664 in the name of the Applicant, William L. Robinson, Jr., of Baltimore, Maryland and entitled "Method and use of organic admixtures to waterproof and provide EMI/RFI shielding to paper and concrete" and "Method And Use Of Organic Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete", respectively.

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to a method of increasing the tensile, flexural and compressive strengths and the EMI/RF/Microwave and radioactive isotope shielding of concrete, cement, gypsum or other pozzolan (alumina siliceous) such as fly ash using electroplated nickel oxide or copper coated stainless steel fibers, hydroxypropyl cellulose, ethoxylated methylglucoside, petroleum coke powder or graphite and silica fume and non-radioactive alkali metals such as holmium and natural zeolites such as Clinoptilolite as radioactive trapping agents.

General Background

Electric utilities in the United States generate over 100 million tons of petroleum coke ash and coal fly ash as a by-product each year. Fly ash in particular is typically disposed of in landfills. Course fly ash ground to approximately 3.8 μm can produce high strength concrete and 25% cement replacement gave the highest compressive strength (100.3 MPa). A replacement of 25% cement will result in a 27% reduction in greenhouse gases produced from production of cement (680 Kg/ton of cement).

The cement industry is responsible for producing 5% of global CO_2 emissions; 60% due to decarbonization of non-renewable materials such as limestone and 40% due to heating cement kilns to 1500 °C using non-renewable fossil fuels.

Adding .90 vol.% stainless steel fibers (by weight) to cement improves strength by 23% equal to 2-3 times that of non-reinforced concrete. The dominant mechanisms of EM/RF/Microwave shielding for micron size (>100 nm) steel fibers is absorption. Nickel filaments of diameter 0.4 μm, as made by electroplating 0.1 μm diameter carbon filaments with nickel, have been shown to be particularly effective. They are known as nickel filaments because they are mostly nickel rather than carbon. A shielding effectiveness of 87 dB at 1 GHz has been attained in a polymer-matrix composite containing just 7 vol.% nickel filaments. Nickel is more attractive than copper, partly due to its superior oxidation resistance.

Shielding of 40dB or more in the magnetic field ranging from 150 kHz to 16 MHz is needed for a 99 % EMI block. This degree of shielding effectiveness is sufficient to for the construction of electromagnetic interference structures.

Binding Properties of Calcium Hydroxide or Hydrated Lime ($CaCO_3$) with HPC.

Calcium hydroxide or hydrated lime is the product of the hydration of lime and water: $\mathbf{Ca(OH)_2 \Longleftrightarrow CaO + H_2O}$

Lime is a soft, white amorphous powder with alkaline or slightly bitter taste. It has been shown that lime is solubilised in the presence of sugars and it has been observed in set Portland cements as hexagonal plate crystals (Lea, 1970). Lime reacts with carbon dioxide (CO_2) to form calcium carbonate ($CaCO_3$). This reaction which takes place in the presence of moisture is the cause of hardening of high calcium lime mortars.

Binding Properties of HPC with Steel Fiber and Cement

HPC and Ethoxylated methyl glucoside (moisture barrier) binds together at the 1-3′ C-Terminal Domain. How does HPC bind to calcium in concrete? In the presence of water calcium located at the N-Terminal Cellulose Binding Domain in HPC will bind to calcium bonds at the 1-4′ β calcium bonding sites in cement.

The use of hydroxypropyl cellulose or methylcellulose (0.4% to 0.8% by weight of cement) as an admixture in cement paste or concrete was found to increase the shear bond strength with steel reinforcing bar and steel fiber. The bond strength increased with increasing hydroxypropyl cellulose or methylcellulose amounts. The contact electrical resistivity between cement and fiber or between concrete and reinforcing bar was not changed by addition of hydroxypropyl cellulose or methylcellulose.

Trapping of Radioactive Fission Products (Isotopes) Using Non-Radioactive Stable Metallic Elements

Holmium (hoʊlmiəm/ *HOHL-mee-əm*) is a chemical element with the symbol **Ho** and atomic number 67. Part of the lanthanide series, holmium is a relatively soft and malleable silvery-white metallic element, which is stable in dry air at room temperature. A rare earth metal, it is found in the minerals monazite and gadolinite. Holmium has the highest magnetic strength of any element and therefore is used for the polepieces of the strongest static magnets. Because holmium strongly absorbs nuclear fission-bred neutrons, it is also used in nuclear control rods.

Zeolite chemistry is the distribution of silicon and aluminium atoms among the T sites. According to *Lowensteins' rule*, **Al-O-Al** linkages in zeolitic frameworks are forbidden. As a result, all aluminate tetrahedra must be linked to four silicate tetrahedra, and in general this is proved to be the case, but recent investigations into zeolites synthsised at high temperatures have shown non-

Lowenstein distributions in sodalite materials. Aluminum ions are formed by losing 3 electrons making it neutrally charged. The combination of negatively charged silica and aluminum produces negatively charged ions that will absorb electromagnetic waves. Negative ions are a type of antioxidant present in nature that is reported to react with and break down toxins in the bloodstream.

The range of Si/Al ratios varies between zeolites. ZSM-5 is a high silicate zeolite, whereas zeolite X/Y can be prepared in high silicate forms, or high aluminate forms, but is usually produced with a Si/Al ratio close to unity with a fully ordered **Si-Al** distribution over the tetrahedral sites, in accordance with Lowenstein's rule.

The inclusion of aluminium into the zeolite structure has two major effects: an increase in the net negative charge - which are netralised from protons hydrogen bonded to the lone pairs of the bridging oxygens. These acidic sites play a significant role in the zeolite catalytic activity. The materials become hydrophilic.

Zeolites are not only influenced by pH but also they are capable of affecting the solution pH. It was found out that clinoptilolite tends to neutralize the solution by acting as H^+ acceptor or H^+ donor (Rivera et al., 2000; Ersoy and Çelik, 2002). The pH of solution can also affect removal efficiency by affecting the integrity of zeolite. Clinoptilolite is known to partially degrade and lose its ion exchange capacity in Alkaline media (Mier et al., 2001). Also, clinoptilolite structure breaks down in highly acidic solutions (Tsitsishvili, 1992). On the other hand, as the solution pH increases, the number of negatively charged sites increases (Benhammou et al., 2005), Clinoptilolite-deionized water suspensions at neutral, acidic and basic pH values exhibited a buffer pH around 9 ± 1. This was also observed by Trgo and Peric (2003) and at all initial pH's examined (2-11) in deionized water-clinoptilolite suspensions pH became stable between 8 and 9.

Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents.

The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

Discussion of the Related Art

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wall board. Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash or zeolites can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost. Ultra fine fly ash can be added to silica fume to enhance the strength of concrete.

Statement of Need

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.
There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium.

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel

fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic washcoated polymer and used to cover building materials such as wall board and ceiling tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with reflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be Holmium (Ho_2O_3) or negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A method of using organic additives such as Hydroxypropylcellulose (HPC) or methylcellulose and ethoxylated methylglucoside (EMG) and petroleum coke powder (petcoke), micron size copper coated stainless steel fibers or electroplated nickel oxide and ultra fine coal fly ash and radio stable alkali metals or zeolites (as a radioactive trapping agent) for strength reinforcement, waterproofing and electromagnetic, radio frequency and microwave interference and radioisotope shielding of building materials such as concrete comprising;

a) adding metal fibers (0.78 vol.% by weight) to cementitious material containing petcoke powder (1.02 vol.%) which is blended with organic mineral additives such as HPC or methylcellulose and ethoxylated methylglucoside (0.4 vol.%) and ultra fine fly ash (15 vol.%) or zeolites (containing Rubidium) (5-10 vol. %) and silica fume (6 vol. %) and water to form a cementitious paste which is,

b) mixed for four (4) to five (5) minutes.

2. The method of Claim 1, wherein the cementitious paste is predominantly (>75%) composed of Portland cement or other pozzolan materials.

3. The method of Claim 1, wherein the blended cementitious paste has Class F fly ash or natural or synthetic zeolites ground to approximately 3.8 μm combined with silica fume. The total content is less than 25% (by weight).

4. The method of Claim 1, wherein less than 1% of HPC (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

5. The method of Claim 1, wherein less than 1% of Methylcellulose (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

6. The method of Claim 1, wherein less than 1% of ethoxylated methylglucoside (by weight) is used as a waterproof bonding agent between stainless steel fibers or filaments, carbon and the cement matrix.

7. The method of Claim 1, wherein 5% stainless steel fibers (by weight) are added to cement to improve its strength by 23% equal to 2-3 times that of non-reinforced concrete.

8. The method of Claim 1, wherein .78% stainless steel fibers (by weight) are added to concrete to enhance EMI/RF shielding.

9. The method of Claim 1, wherein 1.02% petroleum coke powder (by weight) is added to cement to enhance EMI/RF shielding.

10. The method of Claim 1, wherein 6% silica fume (by weight) is added to concrete to increase its compressive strength, reduce concrete permeability, improve resistance to corrosion and increase electrical resistance.

11. The method of Claim 1, wherein a metal such as 7% electroplated nickel oxide (by weight) is added to Portland cement blended with fly ash to enhance EMI/RF shielding.

12. The method of Claim 1, wherein 1.02% petroleum coke powder is added to Portland cement to enhance EMI/RF shielding of concrete.

13. The method of Claim 1, wherein 1-3% (by weight) petroleum coke powder is added to Portland cement and coated 5 mm thick onto pre-cast plasterboard to enhance EMI/RF shielding.

14. The method of Claim 1, wherein 25% industrial fly ash ground to approximately 3 μm is added to conventional Portland cement to increase its compressive strength and electrical resistivity.

15. A radioactivity trapping agent contained in a fissionable product absorbing oxide, comprising an oxygenated compound stable at high temperatures, including, in combination, at least one metallic or paramagnetic oxide and at least one oxide of a non-radioactive isotope of a radioactive fission product whose

radioactivity is to be trapped and binder retention aids.

16. A trapping agent according to Claim 15, wherein in the stable oxygenated compound the metallic oxides are selected from the group consisting of Al_2O_3, CeO_2, Nb_2O_5, SiO_2, TiO_2, UO_2, V_2O_3, Y_2O_3, ZrO_2, $Na_2O{\bullet}Al_2O_3{\bullet}xSiO_2{\bullet}yH_2O$ and Ho_2O_3.

17. A trapping agent according to Claim 15, wherein the metallic oxide is a silico-aluminate, silico-zirconate, silico-niobate or silico-cerate or holmium oxide.

18. A trapping agent according to Claim 15, wherein characterized in that the stable oxygenated compound additionally contains a stable defined compound of an alkali metal and/or alkaline earth metal other than the fission product to be trapped.

19. A trapping agent according to Claim 15, wherein said stable oxygenated compound comprises Rb, Na or K for Cs or Ca, Ba, Mg or Be for Sr or Ho or Clinoptilolite for all of them.

20. A Method of producing building materials such as gypsum wallboard, mineral fiber acoustic ceiling tiles and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001"-.002") onto woven or nonwoven glass fiber paper comprising:

a) the step of mixing radiation absorbing materials ~ 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 - 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes, then

b) the step of applying (spraying or dipping) or coating the absorbing material onto a [glass fiber paper] substrate,

and then,

c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth -20 (EMG) ~ 60%:40% (ratio) in de-ionized water (20 % vol.wt) to adjuvant EMI attenuation.

21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

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ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as Hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and metal and mineral additives e.g. electroplated nickel oxide or copper coated stainless steel fibers, ultra fine coal fly ash, silica fume and carbon based materials such as graphite and petroleum coke powder and radio stable alkali paramagnetic metals such as Holmium or zeolites for electromagnetic; radio and microwave frequency and radioisotope shielding of building materials such as wall liners, gypsum wallboard and high performance, high strength concrete.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/067,917

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	165		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	270		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	110		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	22 minus 20 =	* 2	x 26 =	52	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 110 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	597		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

FORMALITIES LETTER

OC00000049788764

Date Mailed: 09/13/2011

NOTICE OF INCOMPLETE REPLY (NONPROVISIONAL)

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- Replacement claim(s) commencing on a separate sheet in compliance with 37 CFR 1.75(h) and 1.121 is required. Claims must be consecutively numbered and the same claim number cannot be used for more than one claim. See 37 CFR 1.126.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

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Baltimore, MD 21209

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The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of **$26** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

09/06/2011 JADD01 00000009 13067917

Adjustment date: 09/06/2011 JADD01
08/16/2011 EFLORES 00000009 13067917
06 FC:2622 -24.00 OP

TWO MONTHS from the date of the Notice is $26 for a small entity 26.00 OP

- Total additional claim fee(s) for this application is $**26**
  - $**26** for **2** total claims over 20.

(A previous payment of $**24** will be applied to the additional fees indicated above.)

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AMENDMENT A

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AMENDMENT B

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The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of $**26** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of the Notice is $**2** for a small entity

- Total additional claim fee(s) for this application is $**26**
  - $**26** for **2** total claims over 20.

(A previous payment of $**24** will be applied to the additional fees indicated above.)

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/eulanday/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

8-15-11

ITW

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

FORMALITIES LETTER

Date Mailed: 08/04/2011

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is insufficient.
  Applicant must submit $55 to complete the basic filing fee for a small entity.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification in compliance with 37 CFR 1.52, 1.121(b)(3), and 1.125, is required. The substitute specification must be submitted with markings and be accompanied by a clean version (without markings) as set forth in 37 CFR 1.125(c) and a statement that the substitute specification contains no new matter (see 37 CFR 1.125(b)). The specification, claims, and/or abstract page(s) submitted is not acceptable and cannot be scanned or properly stored because:
  - The line spacing on the specification, claims, and/or abstract is not 1½ or double spaced (see 37 CFR 1.52(b)).
- Replacement claim(s) commencing on a separate sheet in compliance with 37 CFR 1.75(h) and 1.121 is required. Claims must be consecutively numbered and the same claim number cannot be used for more than one claim. See 37 CFR 1.126.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

08/16/2011 EFLORES 00000025 13067917
01 FC:2011 55.00 OP
02 FC:2111 270.00 OP
03 FC:2311 110.00 OP
04 FC:2051 65.00 OP
05 FC:2202 26.00 OP
06 FC:2622 24.00 OP

08/16/2011 EFLORES 00000025 13067917
01 FC:2011 55.00 OP
02 FC:2111 270.00 OP
03 FC:2311 110.00 OP

- Additional claim fees of **$52** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of **$65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is **$552** for a small entity
- **$55** Statutory basic filing fee.
- **$65** Surcharge.
- The application search fee has not been paid. Applicant must submit **$270** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit **$110** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is **$52**
  - **$52** for **2** total claims over 20.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/ldvan/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Document Code: IMIS

Notice of Fee Due

Date: 081611

Application Number: 13067917

A fee is due for the attached document for the reason indicated below. Please check the application for the appropriate authorization to charge a deposit account. If an authorization is present, please charge the appropriate fee*. If an authorization is not present, notify the applicant of the fee deficiency.

***If the fee due is for any of the filing fees, check for authorization to charge the surcharge. If authorization is present, charge the surcharge for late payment of the filing fees as well.**

- ☑ Insufficient payment by check or money order.
- ☐ Insufficient funds in deposit account _____ at _____:_____ (time).
- ☐ Insufficient payment by credit card.
- ☐ Declined credit card _____:_____ (time).
- ☐ No authorization to charge a deposit account.

Fee code(s) to be applied:	2202	26
Amount in holding fee code:	1506	
	1622/2622	24
	1999	

Total remaining due from applicant: $2.08

RAM Operator_____

Rev. 12/27/07

August 12, 2011

Mail Stop Missing Parts
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RE: Application #13/067,917

Attached is a check for the required fees of five hundred fifty dollars ($550) for the missing parts of the above referenced nonprovisional application (see copy of the "Notice"). This substitute specification is being submitted pursuant to 37 CFR 1.52, 1.121 (b)(3), and 1.125. The statement that this ***Specification Contains No New Matter*** is required per 37 CFR 1.125(b).

Thank you.

William L Robinson, Jr
Inventor – Applicant
5914 Greenspring Avenue
Baltimore, Maryland 21209-3920
(443) 320-3123 – Phone
(410) 504-5258 – Ph/Fax

PTO/SB/17 (10-07)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

AUG 12 2011

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2008

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)

Complete if Known	
Application Number	13/067,917
Filing Date	7.7.2011
First Named Inventor	William L Robinson, JR.
Examiner Name	
Art Unit	1731
Attorney Docket No.	

METHOD OF PAYMENT (check all that apply)

☑ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): ________

☐ Deposit Account Deposit Account Number: ________ Deposit Account Name: ________

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	310	155	510	255	210	105	550
Design	210	105	100	50	130	65	
Plant	210	105	310	155	160	80	
Reissue	310	155	510	255	620	310	
Provisional	210	105	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	210	105
Multiple dependent claims	370	185

Total Claims: 22 - 20 or HP = Extra Claims 2 x Fee ($) 25 = Fee Paid ($) 50

HP = highest number of total claims paid for, if greater than 20.

Multiple Dependent Claims: Fee ($) ____ Fee Paid ($) ____

Indep. Claims: ____ - 3 or HP = Extra Claims [illegible] x Fee ($) [illegible] = Fee Paid ($) [illegible]

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $260 ($130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets ____ - 100 = Extra Sheets ____ / 50 = Number of each additional 50 or fraction thereof ____ (round up to a whole number) x Fee ($) ____ = Fee Paid ($) ____

4. OTHER FEE(S) Fees Paid ($)

Non-English Specification, $130 fee (no small entity discount) ____

Other (e.g., late filing surcharge): ____

SUBMITTED BY			
Signature	[signature]	Registration No. (Attorney/Agent)	Telephone 4433203123
Name (Print/Type)	William L. Robinson, Jr.		Date August 15, 2011

PTO/SB/05 (07-07)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office. U.S. DEPARTMENT OF COMMERCE

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	
First Inventor	Wm L. Robinson, Jr.
Title	Inventor
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☑ **Fee Transmittal Form** (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. ☑ **Applicant claims small entity status.** See 37 CFR 1.27.
3. ☑ **Specification** [*Total Pages* _____] Both the claims and abstract must start on a new page *(For information on the preferred arrangement, see MPEP 608.01(a))*
4. ☐ **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* _____]
5. **Oath or Declaration** [*Total Sheets* _____]
   a. ☑ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional with Box 18 completed)*
      i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission** *(if applicable, items a. – c. are required)*
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

ADDRESS TO: **Commissioner for Patents**
P.O. Box 1450
Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** *(when there is an assignee)* ☐ **Power of Attorney**
11. ☐ **English Translation Document** *(if applicable)*
12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503) *(Should be specifically itemized)*
15. ☐ **Certified Copy of Priority Document(s)** *(if foreign priority is claimed)*
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

Prior application information: *Examiner* _____ *Art Unit:* _____

19. CORRESPONDENCE ADDRESS

☐ The address associated with Customer Number: _____ *OR* ☑ Correspondence address below

Name	William L. Robinson, Jr.				
Address	5914 Greenspring Avenue				
City	Baltimore	State	Maryland	Zip Code	21209-3920
Country		Telephone	443 320-3123	Email	bactow@aol.com

Signature		Date	August 15, 2011
Name (Print/Type)	William L. Robinson, Jr.	Registration No. (Attorney/Agent)	

PTO/SB/01 (07-07)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☑ Declaration Submitted With Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	
First Named Inventor	Wm L. Robinson, Jr
COMPLETE IF KNOWN	
Application Number	13/067,917
Filing Date	7.7.2011
Art Unit	1731
Examiner Name	

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

(Title of the Invention)

the specification of which

☑ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) ☐ as United States Application Number or PCT International Application Number ☐ and was amended on (MM/DD/YYYY) ☐ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	Certified Copy Attached? NO
1-2008-00779	VN	03/28/2008	☐	☐	☒
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

PTO/SB/01 (07-07)
Approved for use through 08/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION — Utility or Design Patent Application

Direct all correspondence to: ☐ The address associated with Customer Number:		OR ☑ Correspondence address below	
Name	William L. Robinson, Jr		
Address	5914 Greenspring Avenue		
City: Baltimore	State: Maryland	ZIP: 21209	
Country: USA	Telephone: 443 320-3123	Email: bactow@aol.com	

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR:	☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle [if any]): William L.	Family Name or Surname: Robinson, Jr.		
Inventor's Signature: [signature]	Date: August 15, 2011		
Residence: City: Baltimore	State: Maryland	Country: USA	Citizenship: Yes
Mailing Address: 5914 Greenspring Avenue			
City: Baltimore	State: Maryland	Zip: 21209	Country: USA

☐ Additional inventors or a legal representative are being named on the _____ supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.

PTO/SB/35 (10-07)
Approved for use through 10/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE

NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)

First Named Inventor	William L. Robinson, JR.
Title	Inventor
Attorney Docket Number	

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

Signature — August 15, 2011 (Date)

William L. Robinson, Jr.
Typed or printed name — Registration Number, if applicable

443 320-3123
Telephone Number

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing.**

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

IN THE UNITED STATES PATENT OFFICE

Inventor: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

REQUEST FOR NON-PUBLICATION

Applicant for the above identified Application for U.S. Utility Patent entitled "Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete" hereby avers that the invention described and claimed therein has not been and will not be the subject of an application filed in another country, or under international agreement, that requires eighteen month publication and hereby respectfully request non-publication of said application.

Respectfully yours,

William L. Robinson, Jr.
August 15, 2011

IN THE UNITED STATES PATENT OFFICE

Applicant: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

DECLARATION

I, William L. Robinson, Jr., citizen of the United States of America, possessing as a legal residential and mailing address 5914 Greenspring Avenue, Baltimore, Maryland 21209, hereby, declare that I am the sole inventor and believe that I am the original and first inventor of the subject matter for which a patent is sought, said subject matter being expressed in the specification contained in the Application attached hereto entitled: "Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete." I further declare that I have reviewed and understand the contents of said specification and I acknowledge the duty to disclose information which is material to the examination of the application in accordance with 37 CFR 1.56(a).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 USC 1001, and that such willful false statements may jeopardize the validity of the Application or any Patent issued thereon.

William L. Robinson, Jr.

August 15, 2011
Date Executed

IN THE UNITED STATES PATENT OFFICE

Applicant: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

Small Entity Declaration – Independent Inventor

I, William L. Robinson, Jr., sole inventor, hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under35 USC 41 (a) & (b), to the United States Patent Office with regard to my above invention described in the specification filed herewith. I further declare that I have not assigned, granted, conveyed or licensed, and am not under any obligation under any contract or law to assign, grant, convey or license, any rights in the invention to any entity which would not qualify as a small entity.

I acknowledge a duty to file, in the above identified Application for Patent , notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all the statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 USC 1001, and that such willful false statements may jeopardize the validity of the Application or any Patent issued thereon.

William L. Robinson, Jr.

August 15, 2011
Date Executed

PETITION UNDER MPEP 708.02 XL:

INVENTIONS FOR COUNTERING TERRORISM

Statement of How the Invention Contributes To Countering Terrorism

Petitioner respectfully submits that the present invention will provide protection to electronic systems e.g. computers by providing RF/MI shielding of both electronics and radiation sources which is needed and required by governments around the world to combat cyber eavesdropping (spying).

According to the President of the United States: America has for too long failed to adequately protect the security of its computer networks, President Barack Obama said the U.S. has reached a "transformational moment" when computer networks are probed and attacked millions of times a day.

"It's now clear this cyber threat is one of the most serious economic and national security challenges we face as a nation," Obama said, adding, "We're not as prepared as we should be, as a government or as a country."

Request to Make Application Special

Petitioner respectfully submits that the present invention will materially contribute to countering terrorism for the reasons given in the above explanation and respectfully request that said application be made special by the United States Patent and Trademark Office under MPEP 807.02 XI in view of the importance of developing technologies for countering terrorism and the desirability of prompt disclosure of advances made in these fields.

Respectfully yours,

William L. Robinson, Jr.

PETITION UNDER MPEP 708.02, 37 CFR 1.102:

GREEN TECHNOLOGY PILOT PROGRAM INVENTIONS

Statement of How the Invention Contributes To Utilization of Green Technologies

Petitioner respectfully submits that the present invention will materially contribute to: (1) The discovery or development of renewable energy resources; and (2) the more efficient utilization and conservation of energy resources. The term ''renewable energy resources'' for purposes of the procedure specified in this notice includes hydroelectric, solar, wind, renewable biomass, landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, and municipal solid waste, as well as the transmission, distribution, or other services directly used in providing electrical energy from these sources (A-15, D15,16)

This application is a non-reissue, non-provisional utility application filed under 35 U.S.C. 111(a), and the application is classified in one of the U.S. classifications listed in section VI of the United States Patent and Trademark Office, [Docket No. PTO–P–2009–0038] Pilot Program for Green Technologies Including Greenhouse Gas Reduction.

Request to Make Application Special

Petitioner respectfully submits that the present invention will materially contribute to developing green technologies for the reasons given in the specifications and the above explanation and respectfully request that said application be made special by the United States Patent and Trademark Office under MPEP 807.02 in view of the importance of developing technologies for applications pertaining to environmental quality, energy conservation, development of renewable energy, or greenhouse gas emission reduction and may be advanced out of turn for examination without meeting all of the current requirements of the accelerated examination program (*e.g.*, number of claims).

Respectfully yours,

William L. Robinson, Jr.

Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete

An Application for Utility Patent Filed in:

THE UNITED STATES PATENT OFFICE

On behalf of the Inventor:

William L. Robinson, Jr.

Citizen of the United States of America

Further respectfully possessing as legal residential and postal address:

5914 Greenspring Avenue, Baltimore, Maryland 21209-3920

ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as Hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and metal and mineral additives e.g. electroplated nickel oxide or copper coated stainless steel fibers, ultra fine coal fly ash, silica fume and carbon based materials such as graphite and petroleum coke powder and radio stable alkali paramagnetic metals such as Holmium or zeolites for electromagnetic; radio and microwave frequency and radioisotope shielding of building materials such as wall liners, gypsum wallboard and high performance, high strength concrete.

Claim of Benefit of Earlier Filing Dates

This application claims benefit of the earlier filing dates, National Filing of Patent Application in Vietnam No. 1-2008-00779 and May 9, 2011, Nonprovisional Application No. 61/457,664 in the name of the Applicant, William L. Robinson, Jr., of Baltimore, Maryland and entitled "Method and use of organic admixtures to waterproof and provide EMI/RFI shielding to paper and concrete" and "Method And Use Of Organic Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete", respectively.

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Electric utilities in the United States generate over 100 million tons of petroleum coke ash and coal fly ash as a by-product each year. Fly ash in particular is typically disposed of in landfills. Course fly ash ground to approximately 3.8 μm can produce high strength concrete and 25% cement replacement gave the highest compressive strength (100.3 MPa). A replacement of 25% cement will result in a 27% reduction in greenhouse gases produced from production of cement (680 Kg/ton of cement).

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Calcium hydroxide or hydrated lime is the product of the hydration of lime and water: $\mathbf{Ca(OH)_2 <=======> CaO + H_2O}$

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Holmium (hoʊlmiəm/ *HOHL-mee-əm*) is a chemical element with the symbol **Ho** and atomic number 67. Part of the lanthanide series, holmium is a relatively soft and malleable silvery-white metallic element, which is stable in dry air at room temperature. A rare earth metal, it is found in the minerals monazite and gadolinite. Holmium has the highest magnetic strength of any element and therefore is used for the polepieces of the strongest static magnets. Because holmium strongly absorbs nuclear fission-bred neutrons, it is also used in nuclear control rods.

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Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents.

The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

Discussion of the Related Art

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wall board. Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash or zeolites can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost. Ultra fine fly ash can be added to silica fume to enhance the strength of concrete.

Statement of Need

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.
There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium.

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel

fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic washcoated polymer and used to cover building materials such as wall board and ceiling tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with reflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be Holmium (Ho_2O_3) or negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A method of using organic additives such as Hydroxypropylcellulose (HPC) or methylcellulose and ethoxylated methylglucoside (EMG) and petroleum coke powder (petcoke), micron size copper coated stainless steel fibers or electroplated nickel oxide and ultra fine coal fly ash and radio stable alkali metals or zeolites (as a radioactive trapping agent) for strength reinforcement, waterproofing and electromagnetic, radio frequency and microwave interference and radioisotope shielding of building materials such as concrete comprising;
a) adding metal fibers (0.78 vol.% by weight) to cementitious material containing petcoke powder (1.02 vol.%) which is blended with organic mineral additives such as HPC or methylcellulose and ethoxylated methylglucoside (0.4 vol.%) and ultra fine fly ash (15 vol.%) or zeolites (containing Rubidium) (5-10 vol. %) and silica fume (6 vol. %) and water to form a cementitious paste which is,
b) mixed for four (4) to five (5) minutes.

2. The method of Claim 1, wherein the cementitious paste is predominantly (>75%) composed of Portland cement or other pozzolan materials.

3. The method of Claim 1, wherein the blended cementitious paste has Class F fly ash or natural or synthetic zeolites ground to approximately 3.8 μm combined with silica fume. The total content is less than 25% (by weight).

4. The method of Claim 1, wherein less than 1% of HPC (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

5. The method of Claim 1, wherein less than 1% of Methylcellulose (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

6. The method of Claim 1, wherein less than 1% of ethoxylated methylglucoside (by weight) is used as a waterproof bonding agent between stainless steel fibers or filaments, carbon and the cement matrix.

7. The method of Claim 1, wherein 5% stainless steel fibers (by weight) are added to cement to improve its strength by 23% equal to 2-3 times that of non-reinforced concrete.

8. The method of Claim 1, wherein .78% stainless steel fibers (by weight) are added to concrete to enhance EMI/RF shielding.

9. The method of Claim 1, wherein 1.02% petroleum coke powder (by weight) is added to cement to enhance EMI/RF shielding.

10. The method of Claim 1, wherein 6% silica fume (by weight) is added to concrete to increase its compressive strength, reduce concrete permeability, improve resistance to corrosion and increase electrical resistance.

11. The method of Claim 1, wherein a metal such as 7% electroplated nickel oxide (by weight) is added to Portland cement blended with fly ash to enhance EMI/RF shielding.

12. The method of Claim 1, wherein 1.02% petroleum coke powder is added to Portland cement to enhance EMI/RF shielding of concrete.

13. The method of Claim 1, wherein 1-3% (by weight) petroleum coke powder is added to Portland cement and coated 5 mm thick onto pre-cast plasterboard to enhance EMI/RF shielding.

14. The method of Claim 1, wherein 25% industrial fly ash ground to approximately 3 μm is added to conventional Portland cement to increase its compressive strength and electrical resistivity.

15. A radioactivity trapping agent contained in a fissionable product absorbing oxide, comprising an oxygenated compound stable at high temperatures, including, in combination, at least one metallic or paramagnetic oxide and at least one oxide of a non-radioactive isotope of a radioactive fission product whose radioactivity is to be trapped and binder retention aids.

16. A trapping agent according to Claim 15, wherein in the stable oxygenated compound the metallic oxides are selected from the group consisting of Al_2O_3, CeO_2, Nb_2O_5, SiO_2, TiO_2, UO_2, V_2O_3, Y_2O_3, ZrO_2, $Na_2O{\bullet}Al_2O_3{\bullet}xSiO_2{\bullet}yH_2O$ and Ho_2O_3.

17. A trapping agent according to Claim 15, wherein the metallic oxide is a silico-aluminate, silico-zirconate, silico-niobate or silico-cerate or holmium oxide.

18. A trapping agent according to Claim 15, wherein characterized in that the stable oxygenated compound additionally contains a stable defined compound of an alkali metal and/or alkaline earth metal other than the fission product to be trapped.

19. A trapping agent according to Claim 15, wherein said stable oxygenated compound comprises Rb, Na or K for Cs or Ca, Ba, Mg or Be for Sr or Ho or Clinoptilolite for all of them.

20. A Method of producing building materials such as gypsum wallboard,

mineral fiber acoustic ceiling tiles and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001"-.002") onto woven or nonwoven glass fiber paper comprising:

a) the step of mixing radiation absorbing materials ~ 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 - 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes, then

b) the step of applying (spraying or dipping) or coating the absorbing material onto a [glass fiber paper] substrate,

and then,

c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth -20 (EMG) ~ 60%:40% (ratio) in de-ionized water (20 % vol.wt) to adjuvant EMI attenuation.

21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

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An Application for Utility Patent Filed in:

THE UNITED STATES PATENT OFFICE

On behalf of the Inventor:

William L. Robinson, Jr.

Citizen of the United States of America

Further respectfully possessing as legal residential and postal address:

5914 Greenspring Avenue, Baltimore, Maryland 21209-3920

ABSTRACT

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Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents.

The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

Discussion of the Related Art

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wall board. Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash or zeolites can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost. Ultra fine fly ash can be added to silica fume to enhance the strength of concrete.

Statement of Need

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.
There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium.

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel

fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic washcoated polymer and used to cover building materials such as wall board and ceiling tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with reflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be Holmium (Ho_2O_3) or negatively charged zeolites such as Clinoptilolite and chabazite, resulting from the replacement of silicon by aluminum in the tetrahedra, interfere positively on the mechanisms of ionic exchanges.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A method of using organic additives such as Hydroxypropylcellulose (HPC) or methylcellulose and ethoxylated methylglucoside (EMG) and petroleum coke powder (petcoke), micron size copper coated stainless steel fibers or electroplated nickel oxide and ultra fine coal fly ash and radio stable alkali metals or zeolites (as a radioactive trapping agent) for strength reinforcement, waterproofing and electromagnetic, radio frequency and microwave interference and radioisotope shielding of building materials such as concrete comprising;
a) adding metal fibers (0.78 vol.% by weight) to cementitious material containing petcoke powder (1.02 vol.%) which is blended with organic mineral additives such as HPC or methylcellulose and ethoxylated methylglucoside (0.4 vol.%) and ultra fine fly ash (15 vol.%) or zeolites (containing Rubidium) (5-10 vol. %) and silica fume (6 vol. %) and water to form a cementitious paste which is,
b) mixed for four (4) to five (5) minutes.

2. The method of Claim 1, wherein the cementitious paste is predominantly (>75%) composed of Portland cement or other pozzolan materials.

3. The method of Claim 1, wherein the blended cementitious paste has Class F fly ash or natural or synthetic zeolites ground to approximately 3.8 μm combined with silica fume. The total content is less than 25% (by weight).

4. The method of Claim 1, wherein less than 1% of HPC (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

5. The method of Claim 1, wherein less than 1% of Methylcellulose (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

6. The method of Claim 1, wherein less than 1% of ethoxylated methylglucoside (by weight) is used as a waterproof bonding agent between stainless steel fibers or filaments, carbon and the cement matrix.

7. The method of Claim 1, wherein 5% stainless steel fibers (by weight) are added to cement to improve its strength by 23% equal to 2-3 times that of non-reinforced concrete.

8. The method of Claim 1, wherein .78% stainless steel fibers (by weight) are added to concrete to enhance EMI/RF shielding.

9. The method of Claim 1, wherein 1.02% petroleum coke powder (by weight) is added to cement to enhance EMI/RF shielding.

10. The method of Claim 1, wherein 6% silica fume (by weight) is added to concrete to increase its compressive strength, reduce concrete permeability, improve resistance to corrosion and increase electrical resistance.

11. The method of Claim 1, wherein a metal such as 7% electroplated nickel oxide (by weight) is added to Portland cement blended with fly ash to enhance EMI/RF shielding.

12. The method of Claim 1, wherein 1.02% petroleum coke powder is added to Portland cement to enhance EMI/RF shielding of concrete.

13. The method of Claim 1, wherein 1-3% (by weight) petroleum coke powder is added to Portland cement and coated 5 mm thick onto pre-cast plasterboard to enhance EMI/RF shielding.

14. The method of Claim 1, wherein 25% industrial fly ash ground to approximately 3 μm is added to conventional Portland cement to increase its compressive strength and electrical resistivity.

15. A radioactivity trapping agent contained in a fissionable product absorbing oxide, comprising an oxygenated compound stable at high temperatures, including, in combination, at least one metallic or paramagnetic oxide and at least one oxide of a non-radioactive isotope of a radioactive fission product whose radioactivity is to be trapped and binder retention aids.

16. A trapping agent according to Claim 15, wherein in the stable oxygenated compound the metallic oxides are selected from the group consisting of Al_2O_3, CeO_2, Nb_2O_5, SiO_2, TiO_2, UO_2, V_2O_3, Y_2O_3, ZrO_2, $Na_2O{\bullet}Al_2O_3{\bullet}xSiO_2{\bullet}yH_2O$ and Ho_2O_3.

17. A trapping agent according to Claim 15, wherein the metallic oxide is a silico-aluminate, silico-zirconate, silico-niobate or silico-cerate or holmium oxide.

18. A trapping agent according to Claim 15, wherein characterized in that the stable oxygenated compound additionally contains a stable defined compound of an alkali metal and/or alkaline earth metal other than the fission product to be trapped.

19. A trapping agent according to Claim 15, wherein said stable oxygenated compound comprises Rb, Na or K for Cs or Ca, Ba, Mg or Be for Sr or Ho or Clinoptilolite for all of them.

20. A Method of producing building materials such as gypsum wallboard,

mineral fiber acoustic ceiling tiles and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001"-.002") onto woven or nonwoven glass fiber paper comprising:

a) the step of mixing radiation absorbing materials ~ 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 - 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes, then

b) the step of applying (spraying or dipping) or coating the absorbing material onto a [glass fiber paper] substrate,

and then,

c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth -20 (EMG) ~ 60%:40% (ratio) in de-ionized water (20 % vol.wt) to adjuvant EMI attenuation.

21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

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RECEIPT OF DELIVERY

IN THE UNITED STATES PATENT OFFICE

The date stamped hereupon signifies receipt Office of Initial Patent Examination of the United States Patent Office on that date shown below materials for filing in full, Non-Provisional Application for U.S. Utility Patent entitled "Method And Use Of Organic Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete" in the name of William L. Robinson, Jr. 5914 Greenspring Avenue, Baltimore, MD 21209-3920.

A. Check in the amount of $550 payable to: 'Director of the U.S. Patent and Trademark Office' in payment of the basic filing fee – utility, utility search fee, utility examination fee for a small entity and Petition Filing Fee; 37 CFR 1.16(a)(1),(k),(o), & (h), respectively, for a small entity;

B. 1.	Letter of Transmittal on:	5 sheets,
2.	Request for Non-Publication on:	2 sheet,
3.	Title Page on:	1 sheet;
4.	Notice of Missing Parts	2 Sheets;
C. 1.	Specification as prescribed by the first paragraph of 35 U.S.C. 112:	
2.	Background of the invention on:	6 sheets,
3.	Summary of the Invention on:	3 sheets,
4.	Principle in accoradaqnce with the Invention on:	1 sheet,
5.	Claims, 3 independent, 22 total on:	4 sheets;
D. 1.	Declaration (of Inventorship) on:	1 sheet,
2.	Declaration of Small Entity Status on:	1 sheet,
3.	Abstract on:	1 sheet;
E.	Petition Under MPEP 708.02 XIII, Counter Terrorism, on:	1 sheet;
F.	Petition Under MPEP 708.02(a), & 37 CFR 1.102, Green Technology Pilot Program, on:	1 sheet;

Total: (1) Check and 29 sheets total.

The dated signature below further attest to hand delivery of the above described materials on August 15, 2011 with the Customer Service Window of the United States Patent Office, 401 Dulany Street, Randolph Building, Alexandria, Virginia.

William L. Robinson, Jr. August 15, 2011

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/067,917	07/07/2011	1731	110		22	3

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

FILING RECEIPT

OC000000049099092

Date Mailed: 08/04/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

William L. Robinson JR., Baltimore, MD;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 08/02/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/067,917**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No
** **SMALL ENTITY** **

Title

Method and use of organic and mineral admixtures for EMI and radioactive isotope shielding of building materials such as glass fiber wall coverings, gypsum wallboard and electrically conductive or resistive, high performance, high strength concrete

Preliminary Class

106

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/067,917	07/07/2011	William L. Robinson JR.	

CONFIRMATION NO. 8019

William L. Robinson, Jr.
5914 Greenspring Avenue
Baltimore, MD 21209

FORMALITIES LETTER

OC000000049099093

Date Mailed: 08/04/2011

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is insufficient.
  *Applicant must submit $**55** to complete the basic filing fee for a small entity.*

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification in compliance with 37 CFR 1.52, 1.121(b)(3), and 1.125, is required. The substitute specification must be submitted with markings and be accompanied by a clean version (without markings) as set forth in 37 CFR 1.125(c) and a statement that the substitute specification contains no new matter (see 37 CFR 1.125(b)). The specification, claims, and/or abstract page(s) submitted is not acceptable and cannot be scanned or properly stored because:
  - The line spacing on the specification, claims, and/or abstract is not 1½ or double spaced (see 37 CFR 1.52(b)).
- Replacement claim(s) commencing on a separate sheet in compliance with 37 CFR 1.75(h) and 1.121 is required. Claims must be consecutively numbered and the same claim number cannot be used for more than one claim. See 37 CFR 1.126.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of $**52** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**552** for a small entity
- $**55** Statutory basic filing fee.
- $**65** Surcharge.
- The application search fee has not been paid. Applicant must submit $**270** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit $**110** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is $**52**
  - $**52** for **2** total claims over 20.

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/067,917

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	165		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	270		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	110		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	22 minus 20 =	* 2	x 26 =	52	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 110 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	597		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

7.7.2011

To Whom It May Concern:

I am Filing This Co additional Patent. I am Submitting a check for #110. Please bill me for the balance of the Application Fee of #435.

Thank You

Wm L. Robinson Jr
Inventor

5414 Greenspring Ave
Balto. MD 21209-3910
(443) 320-3123 - Cell
(410) 504-5358 - Phone/Fax

BACKGROUND OF THE INVENTION

1. ***Field of the Invention***

This invention relates to a method of increasing the tensile, flexural and compressive strengths and the EMI/RF/Microwave and radioactive isotope shielding of concrete, cement, gypsum or other pozzolan (alumina siliceous) such as fly ash using electroplated nickel oxide or copper coated stainless steel fibers, hydroxypropyl cellulose, ethoxylated methylglucoside, petroleum coke powder or graphite and silica fume and non-radioactive alkali metals such as holmium and natural zeolites such as Clinoptilolite as radioactive trapping agents.

2. ***Discussion of the Related Art***

Cement is a widely used building material, but it lacks the ability to shield electromagnetic radiation. As the environment is increasingly sensitive to electronic pollution, the ability of a building to shield electromagnetic radiation is of increasing importance.

There has been a strong demand of late for high-quality and lightweight radioactive isotope shielded building materials such as wall coverings and wall board.

Stainless steel fibers reinforced concrete (SSRC), a well dispersed mixture of either short or chopped continuous or non-continuous fiber in cement in the range of .90 vol.% has been known since the 1970s. SSRC has many outstanding mechanical characteristics which are unsurpassed by conventional reinforced concretes particularly, chemical stability towards strong alkaline environment and long term durability of mechanical strength are a few essential features in the development of SSRC.

Fly ash or zeolites can be substituted for cement in concrete mixes for global construction of infrastructures saving energy, disposing of waste products, protecting the environment against global warming emissions, improving the quality of concrete and reducing cost. Ultra fine fly ash can be added to silica fume to enhance the strength of concrete

3. ***Statement of Need***

There is a need for protecting reinforcing steel adding to the longevity of concrete structures by preventing the penetration of waterborne contaminants and chloride-laden liquids that cause the corrosion of reinforcing steel.

There is a need for increased bonding strength and contact resistivity between cement and structural steel or steel fibers.

Because of the developments in electronics technology, there is a need for EMI/RF/Microwave Interference shielding of building materials e.g. gypsum wallboard and concrete particularly in underground vaults containing power transformers and other electronics that are relevant to electric power and telecommunications and for deterring electromagnetic forms of spying.

There is a need for an environmentally friendly way to recycle ashes produced from the industrial combustion of coal and petroleum and the minerals and metals contained therein e.g. selenium, vanadium, nickel and holmium

There is definitely a need for a way to trap radioactive nuclear fission products (isotopes) e.g. ^{137}Cs and ^{90}Sr accidentally or intentionally released into the environment.

General Background

Electric utilities in the United States generate over 100 million tons of petroleum coke ash and coal fly ash as a by-product each year. Fly ash in particular is typically disposed of in landfills. Course fly ash ground to approximately 3.8 μm can produce high strength concrete and 25% cement replacement gave the highest compressive strength (100.3 MPa). A replacement of 25% cement will result in a 27% reduction in greenhouse gases produced from production of cement (680 Kg/ton of cement).

The cement industry is responsible for producing 5% of global CO_2 emissions; 60% due to decarbonization of non-renewable materials such as limestone and 40% due to heating cement kilns to 1500 °C using non-renewable fossil fuels.

Adding .90 vol.% stainless steel fibers (by weight) to cement improves strength by 23% equal to 2-3 times that of non-reinforced concrete. The dominant mechanisms of EM/RF/Microwave shielding for micron size (>100 nm) steel fibers is absorption. Nickel filaments of diameter 0.4 μm, as made by electroplating 0.1 μm diameter carbon filaments with nickel, have been shown to be particularly effective. They are known as nickel filaments because they are mostly nickel rather than carbon. A shielding effectiveness of 87 dB at 1 GHz has been attained in a polymer-matrix composite containing just 7 vol.% nickel filaments. Nickel is more attractive than copper, partly due to its superior oxidation resistance.

Shielding of 40dB or more in the magnetic field ranging from 150 kHz to 16 MHz is needed for a 99 % EMI block. This degree of shielding effectiveness is sufficient to for the construction of electromagnetic interference structures.

Binding Properties of Calcium Hydroxide or Hydrated Lime ($CaCO_3$) with HPC. Calcium hydroxide or hydrated lime is the product of the hydration of lime and water:

$$Ca(OH)_2 <=========> CaO + H_2O$$

Lime is a soft, white amorphous powder with alkaline or slightly bitter taste. It has been shown that lime is solubilised in the presence of sugars and it has been observed in set Portland cements as hexagonal plate crystals (Lea, 1970). Lime reacts with carbon dioxide (CO_2) to form calcium carbonate ($CaCO_3$). This reaction which takes place in the presence of moisture is the cause of hardening of high calcium lime mortars.

Binding Properties of HPC with Steel Fiber and Cement

HPC and Ethoxylated methyl glucoside (moisture barrier) binds together at the 1-3′ C-Terminal Domain. How does HPC bind to calcium in concrete? In the presence of water calcium located at the N-Terminal Cellulose Binding Domain in HPC will bind to calcium bonds at the 1-4′ β calcium bonding sites in cement.

The use of hydroxypropyl cellulose or methylcellulose (0.4% to 0.8% by weight of cement) as an admixture in cement paste or concrete was found to increase the shear bond strength with steel reinforcing bar and steel fiber. The bond strength increased with increasing hydroxypropyl cellulose or methylcellulose amounts. The contact electrical resistivity between cement and fiber or between concrete and reinforcing bar was not changed by addition of hydroxypropyl cellulose or methylcellulose.

Trapping of Radioactive Fission Products (Isotopes) Using Non-Radioactive Stable Metallic Elements

Holmium (hoʊlmiəm/ *HOHL-mee-əm*) is a chemical element with the symbol **Ho** and atomic number 67. Part of the lanthanide series, holmium is a relatively soft and malleable silvery-white metallic element, which is stable in dry air at room temperature. A rare earth metal, it is found in the minerals monazite and gadolinite. Holmium has the highest magnetic strength of any element and therefore is used for the polepieces of the strongest static magnets. Because holmium strongly absorbs nuclear fission-bred neutrons, it is also used in nuclear control rods.

Zeolites are not only influenced by pH but also they are capable of affecting the solution pH. It was found out that clinoptilolite tends to neutralize the solution by acting as H+ acceptor or H+ donor (Rivera et al., 2000; Ersoy and Çelik, 2002). The pH of solution can also affect removal efficiency by affecting the integrity of zeolite. Clinoptilolite is known to partially degrade and lose its ion exchange capacity in alkaline media (Mier et al., 2001). Also, clinoptilolite structure breaks down in highly acidic solutions (Tsitsishvili, 1992). On the other hand, as the solution pH increases, the number of negatively charged sites increases (Benhammou et al., 2005),

Clinoptilolite-deionized water suspensions at neutral, acidic and basic pH values exhibited a buffer pH around 9±1. This was also observed by Trgo and Peric (2003) and at all initial pH's examined (2-11) in deionized water-clinoptilolite suspensions pH became stable between 8 and 9.

Active adsorbent materials such as zeolites, carbon molecular sieve (CMS), alumina and other porous adsorbent materials and lanthanides such as holmium can be coated onto glass fiber paper. In order to bind adsorbent particles with glass fibers and to have uniform distribution of adsorbent particles, many ingredients and additives such as retention binders may also be added into the coating solution. The final non-woven-fabric sheet (paper) will be comprised of the retention aid, the active adsorbent materials and the organic polymer. A retention aid is any material that enhances the retention of the glass fibers in the wall liner and adsorbents.

The retention aid binders such as Alcoa HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

Absorbent materials such as zeolites adsorbent material which includes but is not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

SUMMARY OF THE INVENTION

Objects of the Invention

The present invention generally relates to a method of producing reinforced blended cement (e.g clinker, synthetic gypsum and petroleum coke powder), plus stainless steel fiber, fly ash and HPC to make high performance concrete for building materials that has increased density, bonding, tensile, flexural and compressive strength.

The present invention also relates to a new application, namely the use of petroleum coke powder and steel fibers as an electrically conductive filler in concrete for electromagnetic interference (EMI) shielding. EMI shielding is in critical demand due to the interference of wireless (particularly radio frequency) devices with digital devices and the increasing sensitivity of electronic devices. Shielding is particularly needed for underground vaults containing transformers and other electronics that are relevant to electric power and telecommunication. It is also needed for deterring electromagnetic forms of spying.

The high shielding effectiveness of cement paste containing steel fibers is consistent with its low electrical resistivity. Stainless steel fibers (8 mm diameter) 0.36 vol.% has very low resistivity. The resistivity is 40 Ω cm at 0.78 vol.% steel fibers (8 mm diameter). Hence, steel fibers are effective for passing current. Steel is also much more conductive than carbon. The high conductivity makes steel fibers outstanding for shielding. In spite of the large diameter compared to other shielding materials. In fact, steel fibers (8 mm diameter) at .90 vol% reached 71 dB (1.5 GHz).

The highest two values of EMI consisted of shielding effectiveness previously reported in cement–matrix composites are 40 dB, as attained in cement paste containing 1.5 vol.% carbon filaments and 70 dB, attained in cement paste containing 0.72 vol.% stainless steel fibers of diameter 8 mm and length 6 mm.

The present invention also relates to a new application, namely the use of alkali paramagnetic materials such as Holmium or zeolites (natural or synthetic) dissolved in de-ionized water then coated onto a glass fiber substrates (paper) along with an organic washcoated polymer and used to cover building materials such as wall board and ceiling tiles and panels or as wall liner (covering) for absorption of nuclear fission products such as radioactive isotopes of cesium and strontium.

Principles in Accordance with the Present Invention

In achievement of the above objects it is suggested that concrete will be reinforced with steel fibers and coal fly ash and the addition of an organic (polysaccharide) admixture e.g. methylcellulose of the invention.

It is also suggested that EMI/RF/Microwave shielding of concrete can be achieved by cross linking or combining cellulose fibers with deflective or absorptive materials such as fly ash containing silica fume (< 6 vol.%), coke powder (1.02 vol.%), nickel plated carbon filaments (7 vol.%) or copper coated stainless steel fibers (.78 vol. %).

It is specifically suggested that EMI/RF/Microwave shielded structural and non-structural building materials can be used for lateral and distress guidance systems in automated highways, bridge pavements and levees.

It is also specifically suggested that a stable trapping agent containing a non-radioactive isotope of the fission product may be Holmium (Ho_2O_3) or zeolites such as Clinoptilolite and chabazite.

The foregoing discussion discloses and describes merely exemplary embodiments of the present invention. One skilled in the art will readily recognize from such discussion and claims that various changes, modifications and variations can be made therein without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. A method of using organic additives such as Hydroxypropylcellulose (HPC) or methylcellulose and ethoxylated methylglucoside (EMG) and petroleum coke powder (petcoke), micron size copper coated stainless steel fibers or electroplated nickel oxide and ultra fine coal fly ash and radio stable alkali metals or zeolites (as a radioactive trapping agent) for strength reinforcement, waterproofing and electromagnetic, radio frequency and microwave interference and radioisotope shielding of building materials such as concrete comprising;

a) adding metal fibers (0.78 vol.% by weight) to cementitious material containing petcoke powder (1.02 vol.%) which is blended with organic mineral additives such as HPC or methylcellulose and ethoxylated methylglucoside (0.4 vol.%) and ultra fine fly ash (15 vol.%) or zeolites (containing Rubidium) (5-10 vol. %) and silica fume (6 vol. %) and water to form a cementitious paste which is,

b) mixed for four (4) to five (5) minutes.

2. The method of Claim 1, wherein the cementitious paste is predominantly (>75%) composed of Portland cement or other pozzolan materials.

3. The method of Claim 1, wherein the blended cementitious paste has Class F fly ash or natural or synthetic zeolites ground to approximately 3.8 μm combined with silica fume. The total content is less than 25% (by weight).

4. The method of Claim 1, wherein less than 1% of HPC (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees.

5. The method of Claim 1, wherein less than 1% of Methylcellulose (by weight) is used as a fiber dispersant and as a bonding agent between stainless steel fibers or filaments, carbon and the cement matrix for enhanced magnetic permeability of the structural steel or rebar components of buildings, roads, bridge pavements and levees..

6. The method of Claim 1, wherein less than 1% of ethoxylated methylglucoside (by weight) is used as a waterproof bonding agent between stainless steel fibers or filaments, carbon and the cement matrix.

7. The method of Claim 1, wherein 5% stainless steel fibers (by weight) are added to cement to improve its strength by 23% equal to 2-3 times that of non-reinforced concrete.

8. The method of Claim 1, wherein .78% stainless steel fibers (by weight) are added to concrete to enhance EMI/RF shielding.

9. The method of Claim 1, wherein 1.02% petroleum coke powder (by weight) is added to cement to enhance EMI/RF shielding.

10. The method of Claim 1, wherein 6% silica fume (by weight) is added to concrete to increase its compressive strength, reduce concrete permeability, improve resistance to corrosion and increase electrical resistance.

11. The method of Claim 1, wherein a metal such as 7% electroplated nickel oxide (by weight) is added to Portland cement blended with fly ash to enhance EMI/RF shielding.

12. The method of Claim 1, wherein 1.02% petroleum coke powder is added to Portland cement to enhance EMI/RF shielding of concrete.

13. The method of Claim 1, wherein 1-3% (by weight) petroleum coke powder is added to Portland cement and coated 5 mm thick onto pre-cast plasterboard to enhance EMI/RF shielding.

14. The method of Claim 1, wherein 25% industrial fly ash ground to approximately 3 μm is added to conventional Portland cement to increase its compressive strength and electrical resistivity.

15. A radioactivity trapping agent contained in a fissionable product absorbing oxide, comprising an oxygenated compound stable at high temperatures, including, in combination, at least one metallic or paramagnetic oxide and at least one oxide of a non-radioactive isotope of a radioactive fission product whose radioactivity is to be trapped and binder retention aids.

16. A trapping agent according to Claim 15, wherein in the stable oxygenated compound the metallic oxides are selected from the group consisting of Al_2O_3, CeO_2, Nb_2O_5, SiO_2, TiO_2, UO_2, V_2O_3, Y_2O_3, ZrO_2, $Na_2O{\bullet}Al_2O_3{\bullet}xSiO_2{\bullet}yH_2O$ and Ho_2O_3.

17. A trapping agent according to Claim 15, wherein the metallic oxide is a silico-aluminate, silico-zirconate, silico-niobate or silico-cerate or holmium oxide.

18. A trapping agent according to Claim 15, wherein characterized in that the stable oxygenated compound additionally contains a stable defined compound of an alkali metal and/or alkaline earth metal other than the fission product to be trapped.

19. A trapping agent according to Claim 15, wherein said stable oxygenated compound comprises Rb, Na or K for Cs or Ca, Ba, Mg or Be for Sr or Ho or Clinoptilolite for all of them.

20. A Method of producing building materials such as gypsum wallboard, mineral fiber acoustic ceiling and panels, PVC laminated gypsum ceiling tiles, fiberglass ceiling and acoustic panels and ceiling tiles and wall liners containing absorbent materials such as Clinoptilolite (Zeolite) as a trapping agent dissolved in de-ionized water along with a retention aid coated (.001"-.002") onto woven glass fiber paper comprising:

a) the step of mixing radiation absorbing materials ~ 60 – 80% clinoptilolite (Zeolite) and correspondingly 40 - 20% (boehmite) binder in de-ionized water (5:1 ratio) at pH 8-9, specifically 8.5-8.9 at 28-30 °C, specifically 28.8 °C, for two (2) minutes,

then,

b) the step of applying (spraying or dipping) or coating the absorbing material onto a [glass fiber paper] substrate,

and then,

c) the step of applying (coating) an organic polymer over the radiation absorbing coated material (glass fiber paper) containing: Hydroxypropylcellulose (HPC) + Methyl Gluceth -20 (EMG) ~ 60%:40% (ratio) in de-ionized water (20 % vol.wt).

21. Absorbent materials according to Claim 20, such as zeolite adsorbent materials includes but are not limited to zeolite type X, zeolite type A, zeolite type Y, ZSM-3, EMT, EMC-2, ZSM-18, ZK5, ZSM-5, ZSM-11, .beta., L, chabazite, offretite, erionite, mordenite, gmelinite, mazzite, and mixtures of these. Other adsorbents such as activated alumina sol, silica gel, carbon molecular sieves, amorphous aluminosilicate, clay materials and paramagnetic lanthanide metals such as holmium and erbium can also be used.

22. The retention aid binders according to Claim 20, such as BASF (Alcoa) HiQ-40, Alucol or Alumina Sol are added to the slurry to bind the adsorbent particles to the glass fibers in the paper. Through this process, adsorbent particles tend also to be encapsulated by the boehmite binder material.

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ABSTRACT

A method is disclosed for the use of an organic admixture composed of a polysaccharide such as Hydroxypropylcellulose and a monosaccharide such as ethoxylated methylglucoside and de-ionized water and metal and mineral additives e.g. electroplated nickel oxide or copper coated stainless steel fibers, ultra fine coal fly ash, silica fume and carbon based materials such as graphite and petroleum coke powder and radio stable alkali paramagnetic metals such as Holmium or zeolites for electromagnetic; radio and microwave frequency and radioisotope shielding of building materials such as wall liners, gypsum wallboard and high performance, high strength concrete.

IN THE UNITED STATES PATENT OFFICE

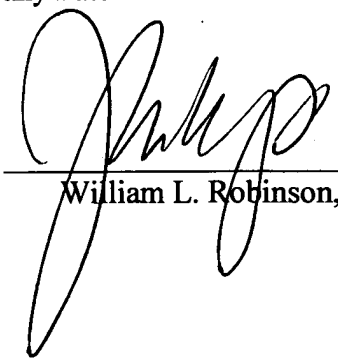
Applicant: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

DECLARATION

I, William L. Robinson, Jr., citizen of the United States of America, possessing as a legal residential and mailing address 5914 Greenspring Avenue, Baltimore, Maryland 21209, hereby, declare that I am the sole inventor and believe that I am the original and first inventor of the subject matter for which a patent is sought, said subject matter being expressed in the specification contained in the Application attached hereto entitled: "Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete." I further declare that I have reviewed and understand the contents of said specification and I acknowledge the duty to disclose information which is material to the examination of the application in accordance with 37 CFR 1.56(a).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 USC 1001, and that such willful false statements may jeopardize the validity of the Application or any Patent issued thereon.



William L. Robinson, Jr.

July 7, 2011
Date Executed

IN THE UNITED STATES PATENT OFFICE

Applicant: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

Small Entity Declaration – Independent Inventor

I, William L. Robinson, Jr., sole inventor, hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under35 USC 41 (a) & (b), to the United States Patent Office with regard to my above invention described in the specification filed herewith. I further declare that I have not assigned, granted, conveyed or licensed, and am not under any obligation under any contract or law to assign, grant, convey or license, any rights in the invention to any entity which would not qualify as a small entity.

I acknowledge a duty to file, in the above identified Application for Patent , notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all the statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18 USC 1001, and that such willful false statements may jeopardize the validity of the Application or any Patent issued thereon.

William L. Robinson, Jr.

July 7, 2011

Date Executed

IN THE UNITED STATES PATENT OFFICE

Inventor: William L. Robinson, Jr.

Title: Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete.

REQUEST FOR NON-PUBLICATION

Applicant for the above identified Application for U.S. Utility Patent entitled "Method And Use Of Organic And Mineral Admixtures For EMI And Radioactive Isotope Shielding Of Building Materials Such As Glass Fiber Wall Coverings, Gypsum Wallboard And Electrically Conductive Or Resistive, High Performance, High Strength Concrete" hereby avers that the invention described and claimed therein has not been and will not be the subject of an application filed in another country, or under international agreement, that requires eighteen month publication and hereby respectfully request non-publication of said application.

Respectfully yours,

William L. Robinson, Jr.
July 7, 2011

PATENT APPLICATION SERIAL NO._____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

07/08/2011 LNGUYEN1 00000035 13067917
01 FC:2011 110.00 OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002- 489-267/69033

Document Code: IMIS

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Date: 07-07-11

Application Number: 13067917

A fee is due for the attached document for the reason indicated below. Please check the application for the appropriate authorization to charge a deposit account. If an authorization is present, please charge the appropriate fee*. If an authorization is not present, notify the applicant of the fee deficiency.

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- ☑ Insufficient payment by check or money order.
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Fee code(s) to be applied:	2011	$55
	2111	$270
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	2202	$52
Amount in holding fee code:	1506	
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