

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1560-060300	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/US2018/063593</b>	International filing date ( <i>day/month/year</i> ) <b>03 December 2018 (03.12.2018)</b>	(Earliest) Priority Date ( <i>day/month/year</i> )
Applicant <b>HALLIBURTON ENERGY SERVICES, INC.</b>		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed

a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b.  This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box No. II)

3.  **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2018/063593****A. CLASSIFICATION OF SUBJECT MATTER****C09K 8/46(2006.01)i, C04B 28/24(2006.01)i, C04B 7/02(2006.01)i, C04B 111/00(2006.01)n**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

C09K 8/46; C04B 22/06; C04B 28/04; C04B 28/26; C04B 7/345; C04B 7/40; C04B 7/47; C09K 8/467; E21B 33/14; C04B 28/24; C04B 7/02; C04B 111/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: Cement, Micronized particulate solid, Monophase amorphous hydraulic binder

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2016-0084037 A1 (HALLIBURTON ENERGY SERVICES, INC.) 24 March 2016 See paragraphs [0013], [0038]; and claims 1, 3, 11, 15.	1-4, 8, 10-13, 15 , 19-20 5-7, 9, 14, 16-18
Y A	US 2011-0041737 A1 (BEUCHLE, GUENTER et al.) 24 February 2011 See paragraphs [0002], [0030]-[0031]; and claim 1.	1-4, 8, 10-13, 15 , 19-20
A	WO 2018-157239 A1 (MACROCEMENT INDUSTRIES LTD.) 07 September 2018 See claims 1-5, 12.	1-20
A	US 2010-0010108 A1 (LECOLIER, ERIC et al.) 14 January 2010 See claim 1.	1-20
A	US 2017-0349485 A1 (CIMPOR - CIMENTOS DE PORTUGAL, SGPS, S.A. et al.) 07 December 2017 See claims 1-10.	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

28 August 2019 (28.08.2019)

Date of mailing of the international search report

**28 August 2019 (28.08.2019)**

Name and mailing address of the ISA/KR

International Application Division

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2018/063593**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2016-0084037 A1	24/03/2016	AU 2013-400747 A1 BR 112016002788 A2 CA 2920183 A1 CA 2920183 C GB 2534042 A MX 2016001372 A NO 20160147 A1 US 9771772 B2 WO 2015-041667 A1	18/02/2016 01/08/2017 26/03/2015 09/07/2019 13/07/2016 03/08/2016 02/02/2016 26/09/2017 26/03/2015
US 2011-0041737 A1	24/02/2011	AU 2008-281031 A1 AU 2008-281031 B2 BR PI0814133 A2 CA 2693512 A1 CA 2693512 C CN 101835723 A CN 101835723 B DE 102007035257 B3 EA 023687 B1 EA 201070190 A1 EP 2183193 A1 EP 2183193 B1 ES 2615162 T3 HU E032561 T2 JP 2010-534606 A JP 5496886 B2 KR 10-1621029 B1 KR 10-2010-0040705 A KR 10-2016-0003319 A PL 2183193 T3 SG 183664 A1 TW 200914375 A TW I496743 B US 8382892 B2 WO 2009-015769 A1 ZA 200908734 B	05/02/2009 14/11/2013 03/02/2015 05/02/2009 14/07/2015 15/09/2010 12/08/2015 13/11/2008 29/07/2016 30/06/2010 12/05/2010 07/12/2016 05/06/2017 28/09/2017 11/11/2010 21/05/2014 13/05/2016 20/04/2010 08/01/2016 30/06/2017 27/09/2012 01/04/2009 21/08/2015 26/02/2013 05/02/2009 27/10/2010
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US 2017-0349485 A1	07/12/2017	BR 112017015447 A2 CN 107207342 A EP 3247684 A1	16/01/2018 26/09/2017 29/11/2017

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2018/063593**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 2016-118030 A1	28/07/2016