

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference	FOR FURTHER ACTION		See item 4 below
International application No. PCT/RO2011/000016	International filing date (<i>day/month/year</i>) 04 May 2011 (04.05.2011)	Priority date (<i>day/month/year</i>) 25 March 2010 (25.03.2010)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant S.C. GLOBAL CENTER OF ECOLOGICAL RESEARCH S.R.L.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 13 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input checked="" type="checkbox"/>	Box No. II	Priority	<input checked="" type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

<p align="center">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 25 September 2012 (25.09.2012)</p>
	<p>Authorized officer</p> <p align="center">Athina Nickitas-Etienne</p> <p>e-mail: pt04.pct@wipo.int</p>

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/RO2011/000016

International filing date (day/month/year)
04.05.2011

Priority date (day/month/year)
25.03.2010

International Patent Classification (IPC) or both national classification and IPC
INV. C04B28/04 C04B40/00 E01C7/12

Applicant
S.C. GLOBAL CENTER OF ECOLOGICAL RESEARCH S.R.L.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established 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)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. II Priority

1. The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

see separate sheet

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of

- the entire international application
- claims Nos. 1-9(partially)

because:

- the said international application, or the said claims Nos. relate to the following subject matter which does not require an international search (*specify*):
- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-9(partially) are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

- the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):
- no international search report has been established for the whole application or for said claims Nos. 1-9(partially)
- a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
 - furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
 - furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
 - pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13*ter*.1(a) or (b).
- See Supplemental Box for further details

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	<u>1-9(partially)</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-9(partially)</u>
Industrial applicability (IA)	Yes: Claims	<u>1-9(partially)</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item VIII

Certain observations on the international application

1 Pre-liminary remarks

1.1 With respect to the interpretation of claims directed towards "products" reference is made to PCT Guidelines, Part II, Chapter 5.23. Claim 1 is therefore to be interpreted as "composition...*suitable* for road infrastructure...".

1.2 The subject-matter of product claims 1-4 is defined by the expression "consisting of"/"consists of", thereby defining the combination of technical features of claims 1-4 as "closed claims" (PCT Guidelines Part II, Chapter 5.24 and 5.24(a), see especially last sentence: "open and closed claims").

From this definition of the composition of claims 1-4 the following conclusion results: if a claim for a composition refers to it as "consisting of components A, B and C" by their proportions expressed in percentages:

(a) the presence of any additional component is excluded;

(b) the percentages should add up to 100%.

1.3 Further, Rule 6.4 PCT specifies that, any dependent claim must:

(a) include a reference to the claim from which it depends,

(b) must be construed as including all the technical features contained in the claim to which it refers (Rule 6.4(a) PCT).

2 The application does not meet the requirements of Article 6 PCT and its associated rules. The subject-matter of claims 1-3 and the description (e.g working example on page 14, last paragraph to page 15, first paragraph) is so unclear and contradictory with respect to Article 6 PCT that it is almost impossible for this International Search Authority to determine which technical features define the "inventive concept" of the present application.

2.1 Claims 2-3 are formulated as closed claims depending on closed independent claim 1, however, the requirements given under 1.2 and 1.3 (b) above are not met by these closed claims, in that:

2.1.1 They are differing from each other with respect to their technical features and their respective amounts (Article 6 PCT & Rule 6.4 PCT):

2.1.1.1 Technical features of claims 1-3:

In comparison with claims 2 and 3, claim 1 specifies the features:

- 14.5% Portland cement vs. 14% in claims 2 and 3;
- "coloring agent", not a feature of claim 2 and 3;
- 70% mineral aggregate vs. 75% in claim 3;
- 3.5% polymer mix vs. 3% in claims 2 and 3;
- claim 1 does not contain zinc oxide in contrast to claim 3;

2.1.1.2 Technical features of claim 2 vs. claim 3:

In comparison with claim 3, claim 2 lacks the features:

- "coloring agent";
- zinc oxide;
- 75% mineral aggregates (claim 2 specifies 70%).

2.1.1.3 Technical features of claim 3 vs. claim 2:

In comparison with claim 2, claim 3 lacks the features:

- fly ash;
- carbon black;
- "coloring agent";
- claim 3 contains "zinc oxide" which is not a feature of claim 2.

2.1.2 It is obvious that claims 2 and 3 (b) do not include all the technical features of claim 1, to which they refer (Rule 6.4(a) PCT) and vice versa.

Consequently, claims 1-3 are considered by this International Search Authority as independent claims.

- 2.1.3 The components of claims 1-3 are adding up to 100%, however, the working example in the description utilizes other technical features than the claims:
- 2.1.3.1 It becomes clear from the amounts of claims 1-3 that the feature: "...up to 25% fibers" cannot be optional in order to arrive at a total amount of 100%.
- For example, when using max. value of aggregate and minimum values of the other features the amount of fibers must be 2.45% for claim 1.
- 80% aggregate + 14.5% cement + 0.5% polymer + 0.25% fly ash + 1.15% carbon black + 1.15% coloring agent = 97.55%.
- The remaining portion up to 100% must therefore be filled with fibers. Identical calculations can be done for claims 2 and 3.
- On the contrary, the example composition on page 14, last paragraph - page 15, first paragraph does not utilize fibers at all.
- 2.1.3.2 The subject-matter of claims 1-3 is therefore unclear, not supported and contradicting in the meaning of Article 6 PCT, especially when the description is used to interpret the claims.
- 2.1.4 The components of the technical feature "mineral aggregate", defined in claims with the expression "consisting of" are not adding up to 100% (even when calculation with the maximum values): "...mineral aggregate consisting of 32% sand up to 4 mm + 13.32% granite grit of 4-8 mm + 35% granite grit of 8-16 mm" = 80.32% total amount.
- 2.2 It derives from the foregoing reasoning that claims 2 and 3 cannot be considered as claims depending on claim 1 (Rule 6.4 PCT). Claims 1-3 have to be considered as independent product claims, defining different products by different technical features. Consequently, it cannot be determined by the International Search Authority which technical features are characterising the "inventive concept" of the present application (Article 6 PCT).
- 2.3 Consequently, the corresponding product, process and use claims are rendered unclear in the meaning of Article 6 PCT.

- 3 The scope of search is so vague and unclear with respect to Article 6 PCT, that a meaningful comparison with the prior art is almost impossible. The International Search Authority therefore restricted the scope of search to the sufficiently clear technical features, the claims 1-3 have in common, namely to a composition comprising: Portland cement, a polymer mixture and mineral aggregates.
- 4 The applicant is already informed that an allowability of the present application under the provisions of the PCT will be prevented by the fact alone, that the deficiencies detected under Article 6 PCT are so severe, that no basis can be found in the application as originally filed, from which potential amendments could be made, without creating conflicts with the requirements of Article 19(2) and/or Article 34(2)(b) PCT.
- 5 This Written Opinion from the International Search Authority and the International Search Report are based only on the subject-matter which has been searched and a fair generalisation thereof.
- 6 Further observations under Article 6 PCT**
- 6.1 Claim 6 appears unclear under the provisions of Article 6 PCT, because it seems not plausible how a hydraulically setting composition can be prepared without water.
- 6.2 In the process of claim 6 the polymer mixture according to claim 4 is utilized. However, claim 4 depends on claim 1 and can only be used in combination with the features of the claims on which it depends, which in turn, appears not plausible (Article 6 PCT), because the process of claim 6 already seeks to use the components of claim 1. The same deficiency occurs in claim 7 (Article 6 PCT).
- 6.3 Claim 8 appears unclear under the provisions of Article 6 PCT, because it seems not plausible how a hydraulically setting composition can be utilized in paving a road without water.

- 6.4 The relative term "carbon black *coarse*" used in claims 1 and 2 has no well-recognized meaning and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claims unclear, Article 6 PCT.

Re Item II

Priority

- 1 The present application claims priority from two documents RO125903A0 (ROA201000286) claiming priority of 25.03.2010 and RO126759A0 (ROA201100266) claiming priority of 25.03.2011.
- 2 The applicant is informed that the priority of the earlier document RO125903A0 (ROA201000286) claiming priority of 25.03.2010 is found invalid by the International Search Authority, since the International Application PCT/RO2011/00016 (SA1095831) has been filed **more than 12 months after** the priority date of RO125903A0, namely on 04.05.2011 (Article 8(1) PCT, Rule 4.10 PCT, especially 4.10 (i) under *Editor's Note* and PCT Guidelines, Part II, Chapters 6.02, 6.03 and 6.06).
- 3 The priority of RO126759A0 (ROA201100266) dated 25.03.2011, seems - for the time being - valid.
- 4 The applicant is informed that the disclosure of RO125903A0 (ROA201000286) published on 30.12.2010 is considered a regular prior art document under the provisions of Article 33(2) PCT & Article 33(3) PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document:

D1 RO 125 903 A0 (GLOBAL CT OF ECOLOGICAL RES S R L [RO]) 30
December 2010 (2010-12-30)

1 Novelty (Article 33(2) PCT)

The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claims 1-9 - as far as they can be understood - is not new.

1.1 **Document D1** (cited in the application) discloses a composition of cement-polymer composite mixture for road infrastructure construction, its use and a method of manufacturing said composition and a process of applying said composition.

1.1.1 The composition comprises:

- 14.5-16.5% Portland cement;
- 0.5-1.93% polymer mixture;
- 0.2-0.25% fly ash;
- 0.1-0.15% carbon black;
- 0.1-0.15% zinc oxide;
- 75-80% mineral aggregate, consisting of 30...32% sand granulation pit up to 4 mm, 11.32...13.32% granite grit of 4...8 mm, 33...35% granite grit of 8...16 mm.

Document D1 thereby explicitly discloses the combination of technical features as identified under item VIII, point 3, namely: a composition comprising Portland cement, polymer mixture and mineral aggregate and claims 1-3 - as far as they can be understood (Article 33(2) PCT).

- 1.1.2 D1 further discloses a process for obtaining the composition in mixing Portland cement with mineral aggregates, zinc oxide and 60...70% of the total water amount for 1...3 min, at the temperature of 10...15°C, power plant ash is admixed, then the rest of water is added as a solution containing the polymer mixture in a ratio of 1:4...1:8, while continuously stirring for 10...15 min, thereby resulting a product having a density of 1597...2200 kg/m³ and a compression resistance of 5.8...15.8 N/mm².

The subject-matter of process claim 6 is therefore not new (Article 33(2) PCT).

- 1.1.3 Document D1 further discloses a process for applying the composition in a road infrastructure paving operation: characterized in that on a preexisting layer of 20...40cm of granite mixed with 10% fly ash, which is compacted with a roller compactor of 8-16 tons vibrating and wetting, on which is mounted the casing on the paved road sides (for a road with one lane) or mounted on the shaft road casings (for two lanes of traffic), apply a continuous cement-polymer mixture as defined in claim 1, with the thickness of 10 to 11 cm, using a distributor for concrete, vibration occurs in the depth of the mixture, the surface is vibrating with a vibrant mixture beam to define the running surface, leave it to rest up to 24 hours for drying and after drying, apply 7 hours for smoothing the final layer of polymer, through spraying, when it reach a thickness of 10...11 cm layer of running, while still leaving the material to relax a time of 7... 24 hours to accept traffic on paved road (see claim 8 of D1).

The subject-matter of process claim 8 is therefore not new (Article 33(2) PCT).

- 1.1.4 Document D1 further discloses the use of the composition for construction of road pavements.

The subject-matter of use claim 9 is therefore not new (Article 33(2) PCT).

- 1.2 Document D1 further anticipates the subject-matter of dependent claims 4, 5 and 7 (Article 33(2) PCT).

Re Item VI

Certain documents cited

- 1 The applicant has already been informed under item II that the disclosure of RO125903A0 (ROA201000286) published on 30.12.2010 is considered as regular prior art document under the provisions of Article 33(2) PCT & Article 33(3) PCT.