

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**
(PCT Rule 43*bis*.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/DK2018/050180

International filing date (day/month/year)
05.07.2018

Priority date (day/month/year)
07.07.2017

International Patent Classification (IPC) or both national classification and IPC
INV. F03D1/06

Applicant
VESTAS WIND SYSTEMS A/S

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 43*bis*.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 66.1*bis*(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.

Name and mailing address of the ISA:



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Date of completion of this opinion

see form
PCT/ISA/210

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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:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
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 forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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	<u>2, 3</u>
	No: Claims	<u>1, 4-15</u>
Inventive step (IS)	Yes: Claims	<u>2, 3</u>
	No: Claims	<u>1, 4-15</u>
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

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 V

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

1 Reference is made to the following documents:

D1: US 2008/181775 A1

D2: WO 2016/206702 A1

D3: US 2011/142678 A1

D4: EP 2 927 482 A1

D5: WO 2013/092211 A1

2 The application does not meet the requirements of Article 6 PCT, because claims 9 and 13 are not clear.

Although claims 9 and 13 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

In addition, the expression "and *optionally* repeating steps (iv) and (v) until a coating having a desired thickness is achieved" is vague does not further limit the scope of protection of claim 1 the novelty of which is discussed here below.

3 Furthermore, the above-mentioned lack of clarity notwithstanding, the subject-matter of claims 1, 9 and 13 is not new in the sense of Article 33(2) PCT, and the criteria of Article 33(1) PCT are therefore not met.

INDEPENDENT CLAIM 13

3.1 Document **US2008181775** (D1) discloses (the references in parentheses applying to this document):

a wind turbine blade (**Fig. 5**) comprising a leading edge protection coating covering a leading edge region of a surface of the blade (**§ 18**), wherein the leading edge protection coating comprises:

- an outer coating layer (**180**); and
- at least one inner coating layer (**145**) between the outer coating layer and the surface of the blade, wherein the outer coating layer extends beyond at least one edge of the at least one inner coating layer in a direction towards a trailing edge of the blade (**as visible in Fig. 5**) such that the leading edge protection coating tapers in thickness (**the tapering in thickness is visible in Fig.5 where the 3 coatings 145, 143 and 180 are depicted**) in a direction towards the trailing edge (**§ 24-52; Figures**).

The subject-matter of **claim 13** is therefore not new (Article 33(2) PCT).

A similar conclusion can be drawn on the basis of documents D3-D6 which present similar technical features as D1, further showing that the subject-matter of **claim 13** is not new (Article 33(2) PCT).

INDEPENDENT CLAIM 9

- 3.2 Document **WO2016206702** (D2) discloses (the references in parentheses applying to this document):

an assembly comprising a wind turbine rotor blade and an apparatus for applying a coating on a defined area of a surface of said wind turbine rotor blade according to the method of any preceding claim (**Fig. 3**), the apparatus comprising:

a plurality of strips of masking tape arranged on the surface of the rotor blade and aligned with each other proximate a leading edge of the rotor blade (**the different layer disclosed in e.g. Fig. 4 can be interpreted as strips**); and means for spraying a coating composition onto the leading edge of the rotor blade up to an innermost strip of the plurality of strips (**p. 20, l. 10 - p. 21, l. 22**).

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

- 3.3 A similar conclusion can be drawn on the basis of document D3 which present similar technical features as D2, further showing that the subject-matter of **claim 9** is not new (Article 33(2) PCT).

INDEPENDENT CLAIM 1

3.4 Document **WO2016206702** (D2) discloses (the references in parentheses applying to this document):

a method of coating an area of a wind turbine rotor blade (**Fig. 3**), the method comprising:

(i) defining an area to be coated on a surface of the blade (**p. 20, l. 10-14**);

(ii) applying a first plurality of strips of masking tape to the surface of the blade proximate a first edge of the defined area such that each strip is arranged adjacent to at least one other strip of said first plurality of strips (**the different layer disclosed in e.g. Fig. 4 can be interpreted as strips**);

(iii) spraying a coating layer onto the defined area up to an innermost strip such that the innermost strip defines an edge of the coating layer (**p. 20, l. 10 - p. 21, l. 22**);

(iv) removing the innermost strip(s) to expose an uncoated region of the defined area between the edge of the coating layer and an innermost remaining strip (**p. 20, l. 10 - p. 21, l. 22**);

(v) spraying a further coating layer over the previous coating layer and over the uncoated region up to said innermost remaining strip (**p. 20, l. 10 - p. 21, l. 22**).

The subject-matter of **claim 1** is therefore not new (Article 33(2) PCT).

4 Dependent claims 4-8 and 10-12 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (see documents D2 (p. 18, l. 1 - p. 25, l. 2; figures)).

4.1 Dependent claims 10-12 and 14-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (see document D3 (§ 19-41; figures)).

4.2 Dependent claims 14-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (see documents D1 (§ 24-51; figures), D4 (§ 33-54; figures) and D5 (p. 10, l. 20 - p. 20, l. 6; figures)).

- 5 The invention belongs to the field of wind turbines and it is susceptible of industrial application (Art. 33(4) PCT).

Re Item VII

Certain defects in the international application (form or content)

- 1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D5 is not mentioned in the description, nor are these documents identified therein.
- 2 The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 3 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Re Item VIII

Certain observations on the international application (clarity)

- 1 Claims 10-12 are drafted as "method or assembly of any of the preceding claim". However, the further characterisation of the subject matter of said claims with respect to the claims from which they are supposed to depend is done in terms of technical features and not method steps. Although this can be considered understandable for an apparatus claim, it remains unclear why such formulation is adopted for a method claim where the characterisation of the claimed subject-matter should be done in terms of method steps instead of technical features. Hence, the subject-matter of said claims is unclear (Art. 6 PCT).