

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference C17W0375J	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/CN2017/086240	International filing date (<i>day/month/year</i>) 27 May 2017	(Earliest) Priority Date (<i>day/month/year</i>) 31 May 2016
Applicant PPG COATINGS (TIANJIN) CO., LTD.		

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. _____

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.

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

Provided is a multi-layer coating system, comprising a first coating composition, a second coating composition, and a third coating composition, wherein the first coating composition comprises a polyester resin and an amino resin, the second coating composition comprises a nitro-modified acrylic resin and electro-plated aluminum powders, and the third coating composition comprises an acrylic resin and an anti-sagging resin. Also provided are a method of coating a substrate with the multi-layer coating system and the substrate coated therewith.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2017/086240

A. CLASSIFICATION OF SUBJECT MATTER		
B05D 7/14(2006.01)i; B05D 5/06(2006.01)i; C09D 5/38(2006.01)i		
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) B05D; C09D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) CNPAT,CNKI,WPI:aluminum,plated,silver,nitro,acrylic resin,polyester, multilayer,acrylate,,amino resin,nitryl		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 106076780 A (PPG COATINGS TIANJIN CO LTD) 09 November 2016 (2016-11-09) claims 1-11	1-11
A	CN 102548669 A (KANSAI PAINT CO LTD) 04 July 2012 (2012-07-04) the whole document	1-11
A	US 5252399 A (HITACHI METALS LTD) 12 October 1993 (1993-10-12) the whole document	1-11
A	CN 101550308 A (KANSAI PAINT CO LTD) 07 October 2009 (2009-10-07) the whole document	1-11
A	GB 2317352 A (TOPY KOGYO KK) 25 March 1998 (1998-03-25) the whole document	1-11
A	CN 102575116 A (KANSAI PAINT CO LTD) 11 July 2012 (2012-07-11) the whole document	1-11
A	US 2009246545 A1 (HONDA MOTOR CO LTD ET AL.) 01 October 2009 (2009-10-01) the whole document	1-11
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 "&" document member of the same patent family		
Date of the actual completion of the international search 26 July 2017		Date of mailing of the international search report 11 August 2017
Name and mailing address of the ISA/CN STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA 6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088 China		Authorized officer MA,Zhenpeng
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2017/086240

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN	106076780	A	09 November 2016	None	
CN	102548669	A	04 July 2012	US 8568833 B2	29 October 2013
				JP WO2011040374 A1	28 February 2013
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