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## Datasheet for the decision of 30 January 2019

Case Number: T 0479/16 - 3.3.06

Application Number: 09742337.0

Publication Number: 2285912

C09C1/36, C08K9/02, C08K3/22, IPC:

C09D5/00, C09D5/03, C09D7/12,

C09D11/02

Language of the proceedings: ΕN

Title of invention:

COATED TITANIUM DIOXIDE

Patent Proprietor:

Venator Materials UK Limited

Opponent:

KRONOS INTERNATIONAL, INC.

Headword:

Coated titanium dioxide/Kronos International

Relevant legal provisions:

EPC Art. 52(1), 56 RPBA Art. 13(3)

## Keyword:

Admissibility of appeal - entitlement to appeal - patent proprietor not adversely affected by the impugned decision Late submitted material - document admitted (no) - no justification whatsoever for the very late filing thereof Inventive step - (no) - obvious solution

## Decisions cited:

T 0690/09

#### Catchword:



# Beschwerdekammern Boards of Appeal Chambres de recours

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Case Number: T 0479/16 - 3.3.06

DECISION
of Technical Board of Appeal 3.3.06
of 30 January 2019

Appellant: Venator Materials UK Limited

(Patent Proprietor) Titanium House

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Respondent: KRONOS INTERNATIONAL, INC.

(Opponent) Peschstrasse 5

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Representative: dompatent von Kreisler Selting Werner -

Partnerschaft von Patent- und Rechtsanwälten mbB

Deichmannhaus am Dom Bahnhofsvorplatz 1 50667 Köln (DE)

Decision under appeal: Interlocutory decision of the Opposition

Division of the European Patent Office posted on 15 December 2015 maintaining European Patent No.

2285912 in amended form.

## Composition of the Board:

Chairman J.-M. Schwaller
Members: G. Santavicca

C. Heath

- 1 - T 0479/16

## Summary of Facts and Submissions

I. The appeals of the opponent and of the patent proprietor lie from the interlocutory decision of the opposition division to maintain European Patent No. 2 285 912 in amended form according to the main request filed at the oral proceedings.

- II. Independent claim 3 as upheld (this is the sole claim of this request dealt with in this decision) has the following wording:
  - "3. A coated particulate material, wherein:
    (i) the material is selected from titanium dioxide,
    doped titanium dioxide and combinations thereof;
    (ii) the material has an average crystal size, as
    determined by transmission electron microscopy on a
    rubbed out sample with image analysis of the resulting
    photograph, of greater than 0.40 pm; and
    (iii) the coating comprises a layer of dense silica and
    a layer of alumina; wherein the coated product is
    substantially white."
- III. In the contested decision, in which the following items of evidence were *inter alia* relied upon:

D1: EP 1 580 166 A1; and

D3: US 4,125,412 A,

the opposition division motivated in detail the reasons as to why the claims of said main request met the requirements of the EPC. Further as an *obiter dictum* it indicated the reasons as expressed during the oral proceedings of 8 October 2015 as to why the other

-2- T 0479/16

requests, which the main request was substituted for, did not meet the requirements of Article 123(2) EPC.

- IV. In two letters dated 12 October 2015 and 6 January 2016 the patent proprietor drew the opposition division's attention to the fact that it had requested during the oral proceedings that a written decision be issued on the requests (main and first to fifth auxiliary requests) which were found not to comply with Article 123(2) EPC during the discussion at the oral proceedings. In the second letter, i.e. after having received the decision, it contested having withdrawn these requests, as indicated in the minutes, and it requested that the records be updated to show that the main request and each of the first to fifth auxiliary requests presented during the oral proceedings were not withdrawn.
- V. In a letter addressed to the parties, the opposition division confirmed that the minutes correctly indicated the explicit requests of the Proprietor, namely that the main request and auxiliary requests 1-5 were withdrawn and replaced by the new request, as explicitly confirmed by the Proprietor upon being asked by the opposition division.
- VI. In the notice of appeal, the Patent Proprietor reiterated that said requests had not been withdrawn and that it had been made clear that a written decision in respect of these requests was required.
- VII. In its grounds of appeal, the Opponent requested that the appeal of the proprietor be dismissed, as it was not adversely affected, and that the patent be revoked, on the basis of objections under Article 83, 123(2) and 56 EPC, the latter being *inter alia* based on D1 and D3.

- 3 - T 0479/16

- VIII. With its grounds of appeal, the patent proprietor submitted a new main request, based on the rejected main request, and first to thirteenth auxiliary requests, the last one being the upheld main request.
- IX. With its reply (dated 9 September 2016) to the statement of grounds of the Opponent, the Patent Proprietor filed further, i.e. fourteenth to seventeenth, auxiliary requests.
- X. In a first communication the Board expressed its provisional opinion that the minutes of the oral proceedings appeared to be correct and that the proprietor's appeal appeared to be prima facie inadmissible.
- XI. In response to the provisional opinion of the Board in preparation to the scheduled oral proceedings, the proprietor with letter dated 28 January 2019 submitted a further document D19 (US 4,125,412) and additional auxiliary requests 18 to 21.
- XII. At the oral proceedings of 30 January 2019, the patent proprietor handed over the above letter dated 28 January 2019 to the Board, which it had not yet received. Inventive step was discussed for claim 3 as upheld in opposition proceedings (corresponding to auxiliary request 13) starting from D1 in connection with the teaching of D3. Patent proprietor contested that D1 was the closest prior art, and that it could be combined with D3. The admissibility of auxiliary requests 18 to 21 was discussed and the board decided not to admit them into the procedure.
- XIII. At the end of the oral proceedings the requests of the parties were as follows:

- 4 - T 0479/16

The proprietor requested that the decision under appeal be set aside and that the patent be maintained based on the Main Request, or on one of the 1st to 12th Auxiliary Requests, all filed with letter dated 25 April 2016, or the rejection of the opponent's appeal (13th Auxiliary Request, as clarified with letter dated 28 January 2019), or that the patent be maintained based on one of the 14th to 17th Auxiliary Requests filed with letter dated 9 September 2016, or of one of the 18th to 21st Auxiliary Requests filed with letter dated 28 January 2019.

The opponent requested that the decision under appeal be set aside and that the patent be revoked.

## Reasons for the Decision

- 1. Admissibility of the appeals
- 1.1 The Board maintains its provisional opinion expressed in its communication dated 17 October 2016 that the appeal by the opponent filed on 22 February 2016 and reasoned on 22 April 2016 is admissible.
- 1.2 The admissibility of the appeal by the patent proprietor, filed on 24 February 2016 and reasoned on 25 April 2016, depends on whether or not the patent proprietor is "adversely affected" by the decision under appeal.
- 1.2.1 An adverse effect can only be affirmed where the decision under appeal does not fully give a party its due. Where the party obtained a decision in accordance with its main request, such party is not adversely affected: Volenti non fit iniuria.

- 5 - T 0479/16

- 1.2.2 According to the minutes of the oral proceedings before the opposition division, the patent proprietor changed the requests several times in the course of the proceedings. The last set of claims discussed was the one labelled "main request" and "As filed during oral proceedings 08/10/15", referred to under point 5 of said minutes. A copy of said request is an integral part (annex) of the minutes. This request was ultimately held allowable by the opposition division.
- 1.2.3 A correction of the minutes as subsequently requested by the proprietor was denied by the opposition division.
- 1.2.4 As far as the Board is concerned, the minutes are deemed to be correct (decision T 690/09, point 7 of the reasons) and the Board sees no reasons for doubting that the minutes accurately describe the course of events during oral proceedings. After all, the request (undisputedly) last submitted at the oral proceedings, held allowable by the Opposition Division and annexed to the minutes bears the express heading "Main Request" (emphasis added). This labelling appears to confirm that this set of claims had been filed as the new, highest ranking (main) request.
- 1.2.5 Taking into account the minutes, the annex thereto, and the statements of the proprietor and the Opposition Division, the Board maintains its conclusion that in opposition proceedings, the request allowed by the Opposition Division was the highest ranking (primary) request of the patentee, who is thus not adversely affected by the decision under appeal.
- 1.2.6 The proprietor's appeal is therefore inadmissible.

- 6 - T 0479/16

- 2. Admissibility of the letter dated 28 January 2018 and of its annexes
- 2.1 The letter of the proprietor dated 28 January 2019 and its annexes (US 4,125,412 A and auxiliary requests 18 to 21) was intended to be a response to the preliminary opinion of the Board. This letter was however not received by the Board before the oral proceedings, and was actually handed over to the Board only during the oral proceedings. The opponent submitted that it had received the letter the day before the oral proceedings, and therefore requested not to admit it as late filed.
- 2.2 The admission of this letter and of its annexes, which amounts to an amendment to the proprietor's case, is subject to the provision of Article 13(3) RPBA.
- 2.3 No apparent justification for the very late filing has been given by the patent proprietor, neither in writing nor during the oral proceedings.
- 2.4 Even the objections allegedly raised by the Board for the first time in its communication (intermediate generalisation, issue of reformatio in peius, taking into account the evidence for inventive step), received more than one month before the oral proceedings, do not justify the extremely late filing of the letter dated 28 January 2019.
- 2.5 Given that the other party credibly indicated to be surprised by these new submissions (as was the Board) and that neither the other party nor the Board could reasonably be expected to deal with these submissions then and there, the amended case based on the letter

- 7 - T 0479/16

dated 28 January 2019 and its annexes was not admitted into the proceedings (Article 13(3) RPBA).

3. Thirteenth auxiliary request (patent as upheld) - Inventive step

Using the problem solution-approach, the board came to the conclusion that the subject-matter of claim 3 of this request did not meet the requirements of Article 56 EPC for the following reasons:

- 3.1 The patent (paragraphs [0001], [0004], [0007] and [0010]) relates to coated titanium dioxide having high solar reflectance and reduced IR radiation absorption in the range of the electromagnetic spectrum lying between 700 and 2500 nm, as products made from such materials tend to remain cooler under solar illumination and lower temperature, which can thus result in <a href="lower thermal degradation">lower thermal degradation</a> and <a href="lower thermal degradation">lower thermal degradation</a>
- 3.2 Closest prior art
- 3.2.1 The proprietor held D3 to be closer than D1 in terms of the technical problem to be solved and of the common features shared, because D1 mentioned the wheatherability issue only in passing, and durability was not addressed at all.
- 3.2.2 According to the case law (see e.g. 8th edition 2016, I.D.3.1 to 3.3), the closest prior art for assessing inventive step is a document disclosing subject-matter conceived for the same purpose or aiming at the same

-8- T 0479/16

objective as the claimed invention, or relating to the same or to a similar technical problem, and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications.

3.2.3 D3 (column 1, lines 6-8) relates to titanium dioxide pigments which, when dispersed in polymeric carriers, are stable to heat, light and chemical attack. D3 aims at overcoming the problem of, in particular, paint films containing TiO<sub>2</sub> which are degraded via a photochemical reaction, which degradation is commonly known as chalking (D3, column 1, lines 34-48). In D3, this problem is overcome by double coating the pigment with dense silica (first) and (then) with alumina.

D3 does not address the other problem <u>underlying the</u> patent in suit, namely the improvement of <u>IR shielding</u> capacity of TiO<sub>2</sub> pigments.

Thus, D3 shares with the patent only the objectives of durability and lifetime of products containing titanium dioxide in relation to their photochemical stability, not their IR shielding capacity, and it concerns double coated titanium dioxide pigments.

3.2.4 D1 (paragraphs [0001] and [0002]) relates to titanium dioxide particles which may be incorporated e.g into paints or plastic molding compounds for shielding the thermal IR radiation (D1, paragraph [0015]).

According to the general disclosure of D1, paragraph [0024], the  $TiO_2$  particles may optionally be coated with an amount of inorganic or organic coating materials <u>sufficient to improve</u> dispersibility, ... or <u>weatherability</u> when incorporated into paint formulations or plastic molding compounds, with

- 9 - T 0479/16

examples of inorganic coating materials being e.g oxides or hydrated oxides of Al, Si, etc.

In its Example 1, D1 (paragraphs [0031] and [0032]) discloses a process for preparing  $TiO_2$  primary particles having a size of about 1.0 micrometer, which includes as last step a coating with <u>sodium aluminate</u> so as to achieve an amount of 2.0% calculated as  $Al_2O_2$  [sic] relative to the  $TiO_2$  content.

Thus, D1 specifically relates to titanium dioxide particles having a size of about 1 micrometer, <u>coated</u> with aluminium oxide (paragraph [0032]) and suitable <u>for selectively shielding IR radiation</u> (see Tables 1 and 2), and which can be incorporated into e.g. paints or plastic mouldings (see paragraph [0034]).

3.2.5 Summing up, D1, in particular example 1, is objectively closer to the subject-matter of claim 3 at issue than D3, and thus represents the closest prior art.

## 3.3 Technical problem

At the oral proceedings before the Board, the proprietor referred to page 4, lines 20-23, of the application as filed (corresponding to paragraph [0018] of the patent) and argued that the technical problem to be solved was to provide a titanium dioxide material having not only an improved but also a better wheatherability over <a href="benchmark">benchmark</a> (i.e. successful commercial) products, such as an unexpectedly low durability ratio, as proven by the examples of the patent (e.g. Examples 3A and 3B; Reference Example 7, particularly its table of paragraph [0245] and figure 8), as well as an improved chalking resistance as

- 10 - T 0479/16

illustrated in the examples of its Annex A to the letter dated 2 August 2015.

## 3.4 Proposed solution

As a solution to the above technical problem, the patent proposes the coated material according to claim 3 (Point II, supra) (distinctions over D1 are underlined), wherein the material (selected from titanium dioxide, doped titanium dioxide and combinations thereof) has an average crystal size of greater than 0.40 µm, as determined by transmission electron microscopy on a rubbed out sample with image analysis of the resulting photograph, and the coating comprises a layer of dense silica and a layer of alumina; the coated product being substantially white.

#### 3.5 Success of the solution

3.5.1 The board notes that paragraph [0018] of the patent states that by combining large crystal titanium dioxide, or large crystal doped titanium dioxide, with conventional milling and coating technologies, improved titanium dioxide particles can be obtained with low levels of photocatalytic activity that were previously unattainable.

As pointed out by the opponent, this effect was not originally linked to the claimed double coating but concerned the particulate material disclosed in the passage starting from line 8 of page 4 of the application as filed, which disclosed (line 13) that the coating may in fact "comprise one or more oxide material".

- 11 - T 0479/16

Thus, originally, the alleged effect related to <u>large crystals</u> coated with <u>at least one oxide material</u> only concerned improved <u>photostability</u> (<u>low photocatalytic activity</u>); wheatherability in particular with respect to benchmark products was of no concern.

3.5.2 The board further notes that D1 (the closest prior art) was not acknowledged at all in the application as originally filed (nor in the patent) and an improvement over this prior art has only been invoked in appeal proceedings, without however providing any comparative example.

As mentioned above, D1 discloses primary particles having a size of about 1 micrometer, i.e. a size which is comparable with that of the claimed particulate material, but larger than that of the conventional pigment grade titanium dioxides tested in the patent, and also larger than that of the crystals disclosed in Example 3A and of the sample "M688/1/2A" mentioned in the table of paragraph [0245] of the patent in suit.

Further, the titanium dioxide particles of D1 are coated with alumina (i.e. with one oxide material).

3.5.3 As regards the alleged better chalking resistance, as supposedly illustrated in the examples in Annex A to the letter dated 2 August 2015, the question arises whether the effect they purport to show is disclosed in the patent, and whether it is plausible that these results equally apply in respect of the coated material of D1.

For the board, it is not apparent that a "better chalking resistance" is mentioned in the patent. The only place where "outstanding chalk resistance" is - 12 - T 0479/16

mentioned is in paragraphs [0131] and [0132] of the patent which discusses the prior art US 4125412 (i.e. D3) in the context of a product exposed to the sun during use.

There is however no indication in the patent of a better chalking resistance over D1, as this prior art is not even acknowledged in the patent.

- 3.5.4 As regards the comparative examples on file, the picture is as follows:
  - (1) The titanium dioxide crystal of Example 3A of the patent in suit, invoked by the proprietor as being representative of an improvement in durability, has a crystal size of 0.79 micrometer (see Reference Example 1A), with the particle comprising it having a size of 0.87 micrometer (paragraph [0215]) and being coated with 1% dense silica and 0.6% alumina and, when subjected to accelerated wheathering, shows a "durability (as mass loss over that of standard pigment) ratio (DR) of 0.68 (paragraph [0217]).
  - (2) Product M688/1/2A (Table in paragraph [0245]) (also invoked by the proprietor as being representative of an improvement in durability, having a particle size of 0,69 micrometer and being coated with 3% dense silica (i.e. with one oxide material), when subjected to the same wheathering test, shows a durability ratio (DR) of 0.67 (compared to 0,81 and 0,82 of two "Superdurable TiO2", which according to the same table are of "Commercial conventional TiO2 grade".
  - (3) The examples of Annex A concern a comparison made between (allegedly inventive) particulate material having a crystal size of respectively 0.67, 0.83, 0.97

- 13 - T 0479/16

and 1.51 micrometers with commercially available "superdurable" pigment titanium dioxide having a crystal size of 0.25 or 0.3 micrometer, each of them being coated with 3% dense silica and 2% alumina, and incorporated, respectively, into an alkyd melamine formaldehyde paint formulation (Example I), or a polyester melamine formaldehyde paint system (Example II). In Example III (see Figure 2) particulate materials with several coatings made of two oxides were tested against a "conventional 3%silica/2%alumina". In Example IV thereof a particulate material of about 1 micrometer coated with different proportions of silica and alumina is compared with a "superdurable" pigment of 0.24 µm.

3.5.5 Summing up, it is only apparent from all these comparative examples that finished products incorporating the particulate materials according to the alleged invention have a better durability than finished products incorporating the <a href="conventional">conventional</a> (small size) "superdurable" pigments.

It is however not apparent therefrom that a titanium dioxide of large crystal size and with a double coating (Example 3A) gives better durability than a titanium dioxide of large crystal size with a single coating (M688/1/2A).

Moreover, none of the comparative examples, not even those of Annex 2, are representative of the closest prior art embodiment, namely a particulate material of about 1 to 1.5  $\mu$ m, only coated with alumina, as illustrated in examples 1 to 3 of D1.

3.5.6 It follows from the foregoing that no improvement, let alone the (allegedly) better than ever durability as

- 14 - T 0479/16

invoked in the appeal proceedings, has been shown over the particulate material illustrated in examples 1-3 of D1, which have the same large particle size as the material of the invention and which are coated with one oxide material such as alumina.

Nor is it plausible (as the primary particles illustrated in the examples of D1 have an equal or bigger size than the most durable product of the patent, and so also a bigger size than the superdurable products mentioned in the table of the patent and held to be the benchmark products) that the claimed product has a better IR shielding than D1.

- 3.5.7 Therefore, in view of the claimed double coating of silica and alumina, as distinguishing feature over the only coating with alumina of e.g. Example 1 of D1, the only problem plausibly solved by the proposed claimed solution appears to be the provision of a further titanium dioxide particulate material of large size having the good weatherability necessary for being incorporated in paints and plastic moulds (as suggested by D1 in its paragraph [0024]), thus permitting a better weatherability to the products in which they are included, when exposed to the sun.
- 3.5.8 It was not in dispute between the parties that the claimed solution at least effectively solves the reformulated problem as set out above.
- 3.6 Obviousness
- 3.6.1 It remains to be decided whether the skilled person starting from the closest prior art (D1) faced with the above less ambitious technical problem, would arrive in an obvious manner to a particulate titanium dioxide

- 15 - T 0479/16

material as defined in upheld claim 3 at issue, for use in e.g. paints or plastic mouldings.

3.6.2 D1 (Claims 1 to 5) concerns a particulate titanium dioxide having a primary particle size between 0.5 and 2.0  $\mu$ m, a reflectivity to visible light less than 95% and a low transmission selectively to infrared radiation of less than 3  $\mu$ m wavelength as well as a high spreadability on human skin in a cosmetic medium.

For the board, the closest embodiments of D1 are the  ${\rm TiO_2}$  particles having a primary particle size of respectively 1.0, 1.2 or 1.5 micrometers prepared in Example 1 (paragraphs [0031] and [0032]) and which are coated with an amount of sodium aluminate corresponding to 2.0% calculated as  ${\rm Al_2O_3}$  relative to the  ${\rm TiO_2}$  content.

3.6.3 D1 does not mention an <u>average crystal size</u>, but a primary particle size of from 0.5 to 2.0  $\mu m$ , more particularly of 1, 1.2 and 1.5  $\mu m$ .

At the oral proceedings no difference was alleged in respect of the claimed "average crystal size" over the "primary particle size" disclosed by D1. In this respect, the Board, in its communication, had already stated its view that there does not appear to be any difference therein, in view of the similarity of the operating conditions used in the preparation process of D1 (e.g. paragraph [0014] or [0032], which aim - see paragraphs [0007] and [0008], as well as [0010] of D1 - at the production of larger primary particle size), and in preparation Examples 1A to 1C of the patent in suit for producing larger crystals,. Thus, the "larger primary particle size" of D1 correspond to "the larger crystal size" mentioned in the patent in suit.

- 16 - T 0479/16

- 3.6.4 Hence, the only feature distinguishing the claimed titanium dioxide particulate material from that of Examples 1 to 3 of D1 resides in the claimed coating comprising also a layer of dense silica, in addition to the layer of alumina as disclosed by D1.
- 3.6.5 In this respect, D1 discloses (paragraph [0024] (first sentence) that the coating material should be "sufficient" to "improve ... wheatherability necessary for incorporating to paint formulations or plastic moulding compounds". Still, in the same paragraph (last sentence thereof), D1 hints at the possibility of using a combination of the listed coating materials, such as silica and alumina. However, there is no further specific disclosure or hint to this end.

Paragraph [0024] of D1 however clearly directs the attention of the skilled person wishing to provide further coated titanium dioxide particulate material to the necessity of ensuring sufficient wheatherability when making particulate material suitable for paints and plastic molding compounds.

In the board's view, in order to implement the coating with the materials listed in D1, the skilled person faced with the above less ambitious problem would try the further coating with the materials listed as suitable in D1, and therefore he would also want to look to the art of coating titanium dioxide particulate material for incorporation into paints and plastic mouldings.

3.6.6 D3 belongs to the same technical field as D1 and concerns titanium dioxide pigments (column 2, lines 23-40) inter alia for imparting outstanding chalk resistance (a degradation in outdoor paints resulting

- 17 - T 0479/16

in breakdown of the films which is known as chalking) and outstanding tint retention to paint formulations. The pigments of D3 are in fact disclosed as being suitable for use in industrial, automotive and trade sales finishes where inter alia outstanding durability, tint retention and non-chalking are essential to a successful product. They are also suitable for use in plastics where thermal treatment or outdoor exposure dictates that a pigment resisting yellowing or weathering be used.

D3 (column 1, lines 34-38 and 54-59) also teaches that in order to overcome the degradation of paint films containing titanium dioxide pigments via a photochemical reaction, leading to chalking, titanium dioxide pigments having inter alia outstanding durability should be prepared not only by applying a dense skin of amorphous silica but also by additionally applying alumina as a second treatment.

Therefore D3 (Claim 1) discloses a process for preparing <u>durable</u> titanium dioxide pigment by depositing a dense silica coating upon said titanium dioxide, followed by precipitating alumina thereon. A specific process where the coating is made of dense silica and alumina is illustrated in Example 8, invoked by the opponent as evidence that it was known to double coat titanium dioxide particulate material.

D3, however, does not deal with particle or crystal size of the titanium dioxide pigment. For the Board, the skilled person therefore gathers therefrom that their size is not critical, and that the process is applicable to all known titanium dioxide pigments, independently from their size.

- 18 - T 0479/16

- 3.6.7 It follows from the foregoing analysis of D3 that the skilled person starting from the particulate materials illustrated in Examples 1 to 3 of D1, which already have the good weatherability in respect of high IR shielding properties (see tables 1 and 2 of D1), and which are also provided with a coating of one oxide material, and are thus suitable for use in paints and plastic mouldings (see paragraphs [0034] and [0015]), faced with the problem to be solved and looking for a further coated particulate titanium dioxide material suitable for use in paints and plastic mouldings, without impairing wheatherability, would obviously want to try to transpose the technical teaching of D3 in respect of double coating for pigments to the larger particles of titanium dioxide, with the expectation that this transposition would predictably lead him to particulate materials additionally having the good, if not improved or outstanding, photostability suggested by D3, which, still according to D3, is of particular importance for safeguarding the necessary durability (thus wheatherability) of the paint or molding products in which the particulate material is incorporated.
- 3.6.8 Summing up, the arguments of the patent proprietor that when starting from D1, there was no expectation of success nor motivation for the skilled person to double coat the particulate material of D1 as defined in Claim 3 at issue, so that the claimed solution was not obvious therefrom, is not convincing.
- 3.6.9 Indeed, the crucial question which arises in the present case, i.e. whether the skilled person starting from D1 was motivated to double coat the larger primary particles of D1 as disclosed in D3, must be answered affirmatively, with the consequence that the subjectmatter of claim 3 at issue is thus obvious.

- 19 - T 0479/16

- 3.7 Consequently, the main request is not allowable.
- 4. Fourteenth to seventeenth auxiliary requests
- 4.1 In comparison to claim 3 as upheld by the opposition division, claim 3 of the fourteenth to sixteenth auxiliary request and claim 1 according to the seventeenth auxiliary request comprise the same additional feature, namely that "(iii) the coating comprises two or more oxide materials, wherein the coating for the particles comprises a layer of dense silica and a layer of alumina".
- 4.2 Irrespective of whether these amendments are formally allowable, it is immediately apparent that they do not change the fact that the coating comprises a layer of dense silica and a layer of alumina, as in upheld claim 3 of the main request.
- 4.3 Consequently, the conclusion that the double coated particulate material defined in claim 3 according to the main request was obvious over D1 and D3 applies mutatis mutandis to the double coated particulate material as presently defined in these requests, which thus are not allowable, either.

- 20 - T 0479/16

## Order

## For these reasons it is decided that:

- 1. The decision under appeal is set aside.
- 2. The patent is revoked.

The Registrar:

The Chairman:



D. Magliano

J.-M. Schwaller

Decision electronically authenticated