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**Datasheet for the decision  
of 12 December 2018**

**Case Number:** T 1492/15 - 3.3.06

**Application Number:** 09170864.4

**Publication Number:** 2302131

**IPC:** D21H17/67, D21H17/68,  
D21H19/38, D21H19/40,  
D21H21/52, C09C1/02

**Language of the proceedings:** EN

**Title of invention:**

Aqueous slurries comprising fine calcium carbonate particles  
for their use in paper coatings

**Patent Proprietor:**

Omya International AG

**Opponent:**

Imerys Minerals Limited

**Headword:**

Aqueous slurries / Omya International

**Relevant legal provisions:**

EPC Art. 56, 83  
RPBA Art. 12(4), 13(1)

**Keyword:**

Inventive step (Main Request and 1st and 2nd Auxiliary Request) - obvious solution

Sufficiency of disclosure - yes

Evidence filed with the statement of grounds of appeal and the reply thereto - admitted

Remittal to the department of first instance

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 1492/15 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 12 December 2018**

**Appellant I:**  
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**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
19 May 2015 maintaining European Patent  
No. 2302131 in amended form.**

**Composition of the Board:**

**Chairman** J.-M. Schwaller  
**Members:** P. Ammendola  
R. Cramer

## Summary of Facts and Submissions

I. The appeals by both the patent proprietor and the opponent are from the interlocutory decision of the opposition division maintaining European patent No. 2 302 131 in amended form on the basis of the claims according to the First Auxiliary Request filed in the course of the oral proceedings of 22 April 2015.

II. During the opposition proceedings the opponent had referred to, *inter alia*, the documents:

D3 = US 6,149,723 A, and

D10 = Affidavit of D.C. Payton.

III. Claim 1 of the Main Request read as follows:

*"1. An aqueous slurry comprising a mineral material and having a solids content of more than 78 wt%, characterized in that the mineral material has a percentage  $P_5$  by weight of particles having a diameter of less than 5.0  $\mu\text{m}$  of from 98.5% to 90%, a percentage  $P_2$  by weight of particles having a diameter of less than 2.0  $\mu\text{m}$  of from 96% to 80%, wherein the ratio of  $P_2/P_5$  is from 0.98 to 0.85."*

Claim 1 of the First Auxiliary Request of 22 April 2015 only differed from that of the Main Request for the appended wording:

*", wherein the mineral material is selected from calcium carbonate."*

IV. In the contested decision, the Opposition Division came, *inter alia*, to the following conclusions:

- The trials described in D10 did not establish the impossibility to reproduce the invention (Article 100(b)/83 EPC) since they did not repeat the process of the invention which required to blend two mineral materials to form the claimed slurry.
- The subject-matter of claim 1 of the Main Request was obvious in view of the prior art disclosed in D3.

V. With its grounds of appeal the appealing patent proprietor (herein below **proprietor**) disputed the findings of the opposition division, *inter alia*, as to the obviousness of the main request.

VI. With its grounds of appeal the appealing opponent (hereinafter **opponent**) requested reimbursement of the appeal fee and disputed the findings of the opposition division, *inter alia*, as to the sufficiency of disclosure of the invention and as to the non-obviousness of the subject-matter of maintained claim 1. It also filed

D14 = N.F. Santos *at al.*, "*Coating structure with calcium carbonate pigments and its influence on paper and print gloss*", Pulp & Paper Canada, 105:9 (2004), pages T216 to T219;

D15 = Affidavit of D.C. Payton and Exhibit DCP1 dated 25 September 2015.

VII. The proprietor replied with letter of 10 February 2016 enclosed with nine sets of claims labelled as Main Request and First to Seventh Auxiliary Requests submitting, *inter alia*, that D14 and D15 had been filed late and requesting the board to disregard them. In

case D14 and D15 were instead considered by the board, the proprietor requested remittal of the case to the opposition division and the admission of

D16 = T. Allen, *Powder Sampling and Particle Size Determination*, pages 117 to 122 (2003), and

D17 = SEM images of scalenohedral PCC and rhombohedral GCC.

VIII. The Main Request of 10 February 2016 (hereinafter **Main Request**) is identical to the one above in III, *supra*).

Claim 1 of the First and Second Auxiliary Requests of 10 February 2016 (hereinafter **First and Second Auxiliary Request, respectively**) is identical to claim 1 of the Main Request.

Claim 1 of the Third Auxiliary request is identical to claim 1 of the claims upheld by the opposition division (see point. III, *supra*).

IX. The opponent rebutted the proprietor's submissions as to the compliance with Article 56 EPC of the subject-matter of claim 1 of the Main Request. It then filed with letter of 12 August 2016

D18 = Affidavit of D.C. Payton and Exhibit DCP1 dated 25 September 2015,

which only differed from D15 for the additional presence of a previously missing page of Exhibit DCP1, allegedly unintentionally omitted when filing D15.

X. In the course of the oral proceedings held on 12 December 2018 the opponent withdrew its request for

reimbursement of the appeal fee. The question whether claim 1 of the Main, First and Second Auxiliary Requests met the requirements of Article 56 EPC starting from document D3 was discussed. The opponent only had objections under Articles 83 and 56 EPC against the Third Auxiliary Request and in its view document D14 was the closest prior art for this request. After discussion, documents D14 to D18 were admitted into the proceedings. With respect to the Third Auxiliary Request, sufficiency of disclosure (Article 83 EPC) was discussed and the closest prior art was identified.

XI. At the end of the oral proceedings, the parties' requests were as follows:

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

The proprietor requested that the decision be set aside and that the patent be maintained on the basis of the claims of the Main Request of 10 February 2016 or, alternatively, of the First or Second Auxiliary Request of the same date, or that the appeal of the opponent be dismissed (and so the patent be maintained in the version upheld by the opposition division), or that the patent be maintained on the basis of the claims of any of the Fourth to Seventh Auxiliary Requests of 10 February 2016.

## **Reasons for the Decision**

### *Main Request*

1. Inventive step - claim 1

Applying the problem-solution approach, the board has come to the conclusion that the subject-matter of claim 1 at issue does not involve an inventive step for the following reasons:

1.1 The closest prior art

It is common ground among the parties that the paper coating compositions "Product No. 1" and "Product No. 2" (hereinafter Products 1 and 2) of Table 1 of D3, which are clay-water slurries, represent the closest prior art.

The board sees no reason to take a different view since the subject-matter of claim 1 of the Main Request undisputedly embraces clay-water slurries (see also [0016] of the patent in suit), and the clay-water slurries of the prior art have a content in particles of less than 5 micron and less than 2 micron (see Table 1 of D3), in manifest accordance with all the particle size requirements recited in claim 1 of the Main Request.

The board rebuts as unconvincing the proprietor's allegation that the particle size requirements of this claim were different from the corresponding particle sizes reported in Table 1 of D3 for Products 1 and 2, only because the former were given independently from the shape of the mineral material particles and expressed differently. Even if the clays of D3 result from a process aiming at ensuring a specific shape of this mineral material, still their particle sizes remain in undisputed accordance with all the corresponding requirements recited in claim 1 at issue.

1.2 The technical problem solved



- 1.2.1 According to paragraph [0012] of the patent, the claimed subject-matter aims at rendering available an aqueous mineral slurry for coating paper that has an optimal balance between high solids content and viscosity and that enables the production of glossy paper. It is to be noted that in paragraphs [0002] and [0011] the patent also mentions explicitly the advantages in terms of savings in drying energy and water transportation that are inevitably associated to a high solids content (see e.g. the whole of [0002], and in [0011] the passage reading: "*the solids content of these slurries should be as high as possible while still keeping viscosity on an acceptable level. Maximized solids content means to minimize transportation of unnecessary water and to reduce energy consumption for drying*").
- 1.2.2 It is undisputed that the same technical problem had already been solved by the prior art compositions disclosed in D3 (see the combination of the sentence on column 4, line 2, "The present invention has met this need" with the preceding teachings at column 3, lines 38 to the end, as well as the further description on column 4, lines 2 to 50 of D3).
- 1.2.3 Nevertheless, the subject-matter of claim 1 under consideration still differs from the Products 1 and 2 of D3 (for which Table 1 recites a "% solids" of "70") because the former must have "*a solids content of more than 78 wt %*". Hence, it is apparent that the amount of water in the claimed slurry (water to be transported and dried) is less than that present in D3.
- 1.2.4 Accordingly, the technical problem solved by the subject-matter of claim 1 at stake vis-à-vis D3 can be identified in **rendering available an aqueous mineral**

**slurry whose use for coating paper is less expensive** in terms of cost of transportation and drying.

1.3 The solution and its success

The solution to the above problem offered by claim 1 at issue is an aqueous slurry of a mineral material having a specific granulometry, wherein the solids content is at least 78 wt%. In view of the above considerations, it is apparent that the claimed slurry successfully solves the posed technical problem vis-à-vis Products 1 and 2 of D3.

1.4 The obviousness of the solution

1.4.1 Since the clay materials present in the clay-water slurries of Products 1 and 2 of D3 already possess the particle size distribution required for the mineral material of the slurry of claim 1 under consideration, the assessment of inventive step boils down to the question whether a skilled person starting from any of these two clay-water slurries would have considered obvious to solve the posed technical problem by increasing the amount of solids (i.e. by reducing the amount of water) in these prior art compositions.

1.4.2 The board stresses again that, similarly to the patent (see the already cited [0002] and [0011]), also D3 focuses on the well-known advantages of high solids coating slurries. For instance, D3 teaches that standard coating clays typically have a shippable pigment water slurry solids "of 70% or higher" (see column 3, lines 50 to 52) and that paper coaters prefer pigment slurries at the highest possible solids (see column 3, lines 62 to 63).

The board notes further that D3 also explicitly points out to embodiments which have solids content higher than the value of 70 wt% actually disclosed in Products 1 and 2. This is apparent in particular from the passage on column 5, lines 10 to 11, reading "The engineered kaolin clay pigment of the invention forms a clay-water slurry about equal to **or greater than** 70% solids" (emphasis added by the board)).

Thus, D3 itself points towards the possibility of minimising the shipping cost of said slurries by maximising their solids content and, thus, also towards the possibility of modifying any of Product 1 or 2 so as to achieve a maximum solids content. In carrying out such obvious maximisation the skilled person would arrive at the subject-matter of claim 1 of the Main Request without exercising any inventive skills.

- 1.5 Accordingly, the subject-matter of claim 1 at issue is found not to involve an inventive step (Article 56 EPC). Thus, the Main Request cannot be allowed.

*First and Second Auxiliary Requests*

2. In each of these requests claim 1 is identical to claim 1 of the Main Request. Hence, both requests contravene Article 56 EPC for the same reasons given above. Thus, none of them can be allowed either.

*Third auxiliary request*

3. Sufficiency of disclosure (Article 100(b)/83 EPC)
- 3.1.1 The opponent has disputed that the patent in suit provided sufficient disclosure of the claimed invention, alleging that it would be impossible to

prepare a slurry with a solids content as high as 78 wt % or more in the absence of any dispersing agent.

- 3.1.2 The board notes that the opponent has failed to provide any evidence rendering plausible this allegation.

Furthermore, as already found by the opposition division, the only experimental evidence on file, i.e. the trials described in the affidavit D10, did not repeat the process of the invention which required to simply blend two mineral materials having certain specificities regarding their particle diameters with the specified amount of water to form the slurry. Hence, D10 does not represent a fair attempt to carry out the invention and does not render plausible the alleged impossibility to prepare a slurry with a solids content as high as 78 wt% or more in the absence of any dispersing agents.

- 3.1.3 Nor is convincing the opponent's argument that the fact that a dispersing agent was present in all the coating compositions exemplified in the patent itself, as explicitly indicated in paragraph [0090], was an implicit acknowledgement of the impossibility to obtain slurries with solids content of 78 wt% or more without a dispersing agent.

It is indeed apparent that dispersing agents are only disclosed in [0090] as components of the fully formulated compositions actually used for paper coating. However, these compositions have been prepared starting from the separately prepared slurries of the preceding Examples 1 to 5. These examples describe the successful preparation of slurries with solids contents of 80 wt% or more without using any dispersing agent.

3.1.4 Therefore, the board concludes that the opponent has failed to render plausible the existence of serious reasons based on verifiable facts that could justify the conclusion that the skilled person would not be able to reproduce the invention. Hence, the subject-matter claimed in the maintained claims is found sufficiently disclosed (Article 100(b)/83 EPC).

3.2 Admission of Documents D14 to D18

3.2.1 The proprietor requested the board to disregard D14, D15 and D18 alleging that these documents had been filed unjustifiably late. In the alternative, the proprietor requested the board to admit documents D16 and D17.

3.2.2 The board notes the following:

(a) The filing of each of D14 to D17 has occurred in accordance with Article 12(4) RPBA.

(b) At the hearing before the opposition division the opponent had been confronted for the first time with a set of claims (i.e. the maintained claims) in which also claim 1, directed to the slurry of the invention, was limited to slurries of calcium carbonates.

(c) The opponent has stressed already in the statement of grounds of appeal, *inter alia*, that D14 disclosed the prior art closest to the subject-matter of the maintained claims.

(d) D14 undisputedly relates to slurries of ground natural calcium carbonate suitable for paper coating with a broad particle size distribution:

already this fact renders apparent that the disclosure provided in D14 is more relevant for the assessment of inventive step of the calcium carbonate slurry defined in maintained claim 1, than the clay-water slurries of D3 (which apparently is the sole prior art referred to at point 3.3 of the decision under appeal relating to the objection of lack of inventive step against the maintained claims).

- (e) D15 had been submitted by the opponent together with D14 in the attempt to further demonstrate the relevance of the prior art disclosed in D14.
  
- (f) D18, whose admission into the appeal proceedings is instead subject to the board's discretion under Article 13(1) RPBA, was manifestly filed to remedy an error made by the opponent in filing the Exhibit DCP1 forming part of D15: D18 only differs from D15 in the additional presence of a clearly missing page of Exhibit DCP1. Moreover, D18 has been promptly filed by the opponent few months after receiving the proprietor's reply of 10 February 2016, noting the evident incompleteness of Exhibit DCP1 in D15.

3.2.3 In view of the above the board exercised its discretion under the provisions of Articles 12(4) and 13(1) RPBA and admitted D14, D15, D16, D17 and D18 into the proceedings.

#### 4. Remittal

Considering the possible relevance of the prior art disclosed in D14 in the assessment of inventive step of the maintained claims and the proprietor's request to

this extent, the board finds it appropriate to exercise the power conferred to it by Article 111(1) EPC and remits the case to the first instance for further prosecution.

## Order

### For these reasons it is decided that:

1. The appeal of the patent proprietor is dismissed.
2. The decision under appeal is set aside.
3. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



D. Magliano

J.-M. Schwaller

Decision electronically authenticated