

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 26 September 2024**

Case Number: T 2456/22 - 3.3.05

Application Number: 09718544.1

Publication Number: 2268863

IPC: D21H17/67, D21H19/38, C09C1/02,
C09C1/36, C01F11/18

Language of the proceedings: EN

Title of invention:
A PIGMENT PARTICLE COMPOSITION, ITS METHOD OF MANUFACTURE AND
ITS USE

Patent Proprietor:
FP-Pigments Oy

Opponents:
Omya International AG
Schaefer Kalk GmbH & Co. KG

Headword:
Pigment particle composition/FP

Relevant legal provisions:
EPC Art. 83, 111(1), 113(1)

Keyword:

Sufficiency of disclosure - (no) - essential technical
information missing
Right to be heard - substantial procedural violation (no)
Appeal decision - remittal to the department of first instance
(no)

Decisions cited:

T 1553/16, T 0740/93

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2456/22 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 26 September 2024

Appellant:
(Patent Proprietor)

FP-Pigments Oy
Ahventie 4 A 21-22
02170 Espoo (FI)

Representative:

Laine IP Oy
Porkkalankatu 24
00180 Helsinki (FI)

Respondent 1:

(Opponent 1)

Omya International AG
Baslerstrasse 42
4665 Oftringen (CH)

Representative:

Maiwald GmbH
Elisenhof
Elisenstraße 3
80335 München (DE)

Respondent 2:

(Opponent 2)

Schaefer Kalk GmbH & Co. KG
Louise-Seher-Strasse 6
65582 Diez (DE)

Representative:

Mai Besier
European Trademark Attorneys
Patentanwälte
Kreuzberger Ring 18a
65205 Wiesbaden (DE)

Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 13 September
2022 revoking European patent No. 2268863
pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair E. Bendl
Members: T. Burkhardt
 R. Winkelhofer

Summary of Facts and Submissions

I. The patent proprietor's (appellant's) appeal is against the opposition division's decision to revoke European patent No. 2 268 863 B1.

II. Of the documents discussed at the opposition stage, the following are relevant to the present decision:

- D2 WO 01/59015 A1
- D8 US 6,989,142 B2
- D11 US 2003/0024437 A1
- D18 WO 2007/141260 A1
- D20 WO 03/011981 A1
- D21 EP 0 983 322 B1
- D24 G. Wypych, "Handbook of Fillers", ChemTec Publishing, 2010, 41-7
- D25 G. Wypych, "Handbook of Fillers", ChemTec Publishing, 2010, 142-9
- D26 H. Kittel, "Lehrbuch der Lacke und Beschichtungen", Volume 5, S. Hirzel Verlag, 2003, 36-41, 431-3 and 447-52
- D32 US 2004/0234443 A1
- D36 S.M. Fan et al., "Nanostructured Surface Coating Layer of Calcium Carbonate Composite Particles", Key Engineering Materials Vols. 280-283, 2005, 593-6
- D37 G.S. Gai et al., "Preparation and properties of composite mineral powders", Powder Technology, 153, 2005, 153-8
- D39 G. Wypych, "Handbook of Fillers", ChemTec Publishing, 2010, 115-9

- D51 EDX elemental analysis of TiO₂ (submitted as "Exhibit 47" by the appellant on 11 March 2022)
- D52 EDX elemental analysis of pigment particle according to claim 1 (submitted as "Exhibit 48" by the appellant on 11 March 2022)
- D53 EDX elemental analysis of pigment particle according to claim 1 with an additional 10% TiO₂ (submitted as "Exhibit 49" by the appellant on 11 March 2022)
- D54 TEM micrograph of pigment particle composition according to claim 1 (submitted as "Exhibit 50" by the appellant on 11 March 2022)

III. The opposition division concluded that neither the main request nor auxiliary requests 1 to 311 then on file met the requirements of Article 83 EPC.

The opposition division did not consider what was then auxiliary request 312 (current auxiliary request M1).

IV. With their grounds of appeal, the appellant maintained the claims as granted as their main request and submitted auxiliary requests A1 to A4 and M1 to M4.

V. Independent claims 1 and 11 of the main request read as follows:

Feature

- (1) "1. A pigment particle composition which comprises
- (2) calcium carbonate particles and
- (3) pigment particles, and
- (4) optionally other components, such as dispersants, surface-modifying agents and

- stabilising agents or mixtures thereof,
characterized in that
- (2.1) at least part of the calcium carbonate particles are carbonated so that they bind to each other to form calcium carbonate structures which comprise at least one pigment particle, wherein
 - (2.2) the calcium carbonate particles are in the crystalline form of calcite or aragonite and
 - (2.3) are in external form at least mainly rhombic or rhombohedral, and which calcium carbonate structures, together with the pigment particles, form
 - (1.1) essentially opaque and
 - (1.2) stable pigment-calcium carbonate aggregates,
 - (2.4) the calcium carbonate particles, which are carbonated so that they bind to each other, forming a shell, which at least partly encases the said, at least one, pigment particle, wherein the
 - (1.3) weight ratio between the pigment particles and the calcium carbonate particles is approximately 60:40 ... 10:90 and wherein
 - (1.4) more than 50 weight-% of the pigment particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

"11. A method of manufacturing the composition according to any of the Claims 1-10, according to which method the pigment particles are combined with the calcium carbonate particles, characterized in that

- the calcium hydroxide-bearing aqueous slurry which comprises pigment particles and optionally dispersants, surface modifying agents or stabilising agents or mixtures thereof is atomized into carbon dioxide-bearing gas in order to carbonate the calcium hydroxide, and in turn to generate a pigment composition which comprises calcium carbonate,
- the amount of calcium hydroxide in the aqueous slurry is chosen in such a way that the percentage of calcium carbonate in the pigment composition is equivalent to a predefined weight percentage, and

the calcium hydroxide is carbonated in order to precipitate the calcium carbonate particles which are to be attached to each other, and the carbonation is continued until essentially all of the calcium hydroxide has been converted into calcium carbonate."

VI. Independent product claim 1 of auxiliary request A1 reads as follows (differences with respect to claim 1 of main request underlined or in strikethrough, emphasis added by the board):

"1. A pigment particle composition which comprises calcium carbonate particles and ~~pigment particles~~titanium dioxide particles, and optionally other components, such as dispersants, surface-modifying agents and stabilising agents or mixtures thereof, characterized in that at least part of the calcium carbonate particles are carbonated so that they bind to each other to form calcium carbonate structures which comprise at least one ~~pigment~~titanium dioxide particle, wherein the calcium carbonate particles are in the crystalline form of calcite or aragonite and are in external form at least mainly rhombic or

rhombohedric, and which calcium carbonate structures, together with the ~~pigment~~titanium dioxide particles, form essentially opaque and stable pigment-calcium carbonate aggregates, the calcium carbonate particles, which are carbonated so that they bind to each other, forming a shell, which at least partly encases the said, at least one, ~~pigment~~titanium dioxide particle, wherein the weight ratio between the ~~pigment~~titanium dioxide particles and the calcium carbonate particles is approximately 60:40 ... 10:90 and wherein more than 50 weight-% of the ~~pigment~~titanium dioxide particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

VII. Compared with claim 1 of auxiliary request A1, the end of product claim 1 of auxiliary request A2 has been modified as follows (differences with respect to claim 1 of auxiliary request A1 underlined or in strikethrough, emphasis added by the board):

"[...] approximately 60:40 ... 10:90 and wherein calcium carbonate crystals are attached to at least the majority, typically to more than 95 % of the titanium dioxide particles, in such a way that in the majority of instances, and typically in more than 95 % of instances, of the titanium dioxide particles, the calcium carbonate crystals remain attached, both in the dry pigment composition and in the aqueous slurry of the pigment composition~~more than 50 weight-% of the pigment titanium dioxide particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried.~~

VIII. Compared with claim 1 of auxiliary request A1, the end of product claim 1 of auxiliary request A3 has been modified as follows (differences with respect to claim 1 of auxiliary request A1 underlined or in strikethrough, emphasis added by the board):

"[...] wherein ~~more than 50~~ at least 90 weight-% of the titanium dioxide particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

IX. Compared with claim 1 of auxiliary request A1, the end of product claim 1 of auxiliary request A4 has been modified as follows (differences with respect to claim 1 of auxiliary request A1 underlined or in strikethrough, emphasis added by the board):

"[...] approximately 40:60~~60:40~~ ... 10:90 and wherein ~~more than 50~~ at least 90 weight-% of the titanium dioxide particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

X. In auxiliary request M1 (auxiliary request 312 at the opposition stage) the product claims have been deleted. Independent method claim 1 reads as follows:

"1. A method of manufacturing a pigment particle composition which comprises calcium carbonate particles and pigment particles, and optionally other components, such as dispersants, surface-modifying agents and stabilising agents or mixtures thereof, according to which method the pigment particles are combined with

the calcium carbonate particles,
c h a r a c t e r i z e d in that

- the calcium hydroxide-bearing aqueous slurry which comprises pigment particles and optionally dispersants, surface modifying agents or stabilising agents or mixtures thereof is atomized into carbon dioxide-bearing gas in order to carbonate the calcium hydroxide, and in turn to generate a pigment composition which comprises calcium carbonate,
- the amount of calcium hydroxide in the aqueous slurry is chosen in such a way that the percentage of calcium carbonate in the pigment composition is equivalent to a predefined weight percentage, and

the calcium hydroxide is carbonated in order to precipitate the calcium carbonate particles which are to be attached to each other, and the carbonation is continued until essentially all of the calcium hydroxide has been converted into calcium carbonate,

whereby at least part of the calcium carbonate particles are carbonated so that they bind to each other to form calcium carbonate structures which comprise at least one pigment particle, wherein the calcium carbonate particles are in the crystalline form of calcite or aragonite and are in external form at least mainly rhombic or rhombohedric, and which calcium carbonate structures, together with the pigment particles, form essentially opaque and stable pigment-calcium carbonate aggregates, the calcium carbonate particles, which are carbonated so that they bind to each other, forming a shell, which at least partly encases the said, at least one, pigment particle, wherein the weight ratio between the pigment particles

and the calcium carbonate particles is approximately 60:40 ... 10:90 and wherein more than 50 weight-% of the pigment particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

XI. Independent method claim 1 of auxiliary request M2 reads as follows (differences with respect to claim 1 of auxiliary request M1 underlined or in strikethrough, emphasis added by the board):

"1. A method of manufacturing a pigment particle composition which comprises calcium carbonate particles and titanium dioxide particles ~~pigment particles~~, and optionally other components, such as dispersants, surface-modifying agents and stabilising agents or mixtures thereof, according to which method the titanium dioxide particles ~~pigment particles~~ are combined with the calcium carbonate particles, c h a r a c t e r i z e d in that

- the calcium hydroxide-bearing aqueous slurry which comprises titanium dioxide particles ~~pigment particles~~ and optionally dispersants, surface modifying agents or stabilising agents or mixtures thereof is atomized into carbon dioxide-bearing gas in order to carbonate the calcium hydroxide, and in turn to generate a pigment composition which comprises calcium carbonate,
- the amount of calcium hydroxide in the aqueous slurry is chosen in such a way that the percentage of calcium carbonate in the pigment composition is equivalent to a predefined weight percentage, and

the calcium hydroxide is carbonated in order to precipitate the calcium carbonate particles which are to be attached to each other, and the carbonation is continued until essentially all of the calcium hydroxide has been converted into calcium carbonate,

whereby at least part of the calcium carbonate particles are carbonated so that they bind to each other to form calcium carbonate structures which comprise at least one titanium dioxide particle~~particle~~^{pigment particle}, wherein the calcium carbonate particles are in the crystalline form of calcite or aragonite and are in external form at least mainly rhombic or rhombohedral, and which calcium carbonate structures, together with the titanium dioxide particles~~particles~~^{pigment particles}, form essentially opaque and stable pigment-calcium carbonate aggregates, the calcium carbonate particles, which are carbonated so that they bind to each other, forming a shell, which at least partly encases the said, at least one, titanium dioxide particle~~particle~~^{pigment particle}, wherein the weight ratio between the titanium dioxide particles~~particles~~^{pigment particles} and the calcium carbonate particles is approximately 60:40 ... 10:90 and wherein more than 50 weight-% of the titanium dioxide particles~~particles~~^{pigment particles} which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

XII. Compared with claim 1 of auxiliary request M2, the end of method claim 1 of auxiliary request M3 has been modified as follows (differences with respect to claim 1 of auxiliary request M1 underlined or in strikethrough, emphasis added by the board):

"[...] approximately ~~40:60:40~~ ... 10:90 and wherein at least 90 weight-%~~more than 50 weight-%~~ of the titanium dioxide particles which are part of the aggregate remain attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried."

XIII. Compared with claim 1 of auxiliary request M3, the following features have been added in method claim 1 of auxiliary request M4 (differences with respect to claim 1 of auxiliary request M1 underlined or in strikethrough, emphasis added by the board):

"[...] generate a pigment composition which comprises calcium carbonate, wherein the calcium hydroxide-bearing aqueous slurry, which comprises light-scattering pigment particles, is directed through a high energy mixing zone, in which zone the aqueous slurry is broken up into drops or even into nebulous drops, and then dripped into a carbon dioxide-bearing gas,

[...]

calcium carbonate particles which are to be attached to each other, the method is carried out in a surplus of carbon dioxide, [...]"

XIV. The arguments put forward by the appellant during the appeal proceedings which are relevant to the present decision can be summarised as follows:

The opposition division had committed several substantial procedural violations. The case was hence to be remitted to the opposition division.

The invention was sufficiently disclosed.

XV. Opponent 1's (respondent 1's) and opponent 2's (respondent 2's) arguments at the appeal stage are reflected in the reasons below.

XVI. The appellant requests that the decision under appeal be set aside and amended such that the opposition be rejected (main request). As an auxiliary measure, they request that the patent be maintained on the basis of one of auxiliary requests A1 to A4 and M1 to M4 submitted with the grounds of appeal.

Respondents 1 and 2 request that the appeal be dismissed.

Reasons for the Decision

1. Substantial procedural violation and remittal

In the appellant's view, the opposition division had committed several substantial procedural violations. The case was hence to be remitted to them as the department of first instance for further prosecution.

However, as a preliminary remark, the deciding body is under no obligation to address each and every argument presented by the parties concerned, provided that the reasons given enable those parties to understand whether the decision was justified or not (Case Law of the Boards of Appeal, 10th edition, 2022, III.B.2.4.3).

For the reasons set out below, the decision under appeal includes a logical chain of facts and reasons,

and also includes motivation on the crucial points of dispute (see T 740/93, Reasons 5.4).

Consequently, no substantial procedural violation occurred and there is neither room nor need for the case to be remitted.

1.1 Issues under Article 84 EPC rather than under Article 83 EPC

The appellant argues that the opposition division did not take into consideration their argument that the determination of the amount of attached particles was at most a clarity issue, in particular for method claim 11 of the main request. The minutes were not accurate in this regard.

However, on pages 13 to 15, the decision under appeal provides reasons why claims 1 and 11 of the main request do not meet the requirements of Article 83 EPC, one reason being that "the skilled person is not in position to determine the amount of attached or detached pigment particles" (page 15, second full paragraph).

The opposition division's reasoning in this regard addresses the essential points, and the appellant's arguments. The facts that:

(a) pigment particles (even if TiO_2) cannot be distinguished from calcium carbonate particles (point (1) on page 13 of the decision under appeal), and that

(b) attached/partially encased particles cannot be distinguished from loose pigment particles or

pigment particles that are only in contact with calcium carbonate particles (point (2) starting on page 13 of the decision under appeal)

clearly show that the problem is not merely the precise quantitative determination of the amount of pigment particles that "remain attached". Rather, fundamental problems are revealed that permeate the entire claimed subject-matter.

The minutes prove that these aspects were discussed in depth during the oral proceedings before the opposition division (see pages 3 to 6 under the heading "Art. 83 EPC"). A correction of the minutes was not requested.

1.2 Non-compliance of auxiliary requests 1 and 8 then on file with Article 83 EPC

The decision under appeal indicates that auxiliary requests 1 and 8 then on file contained the feature relating to the amount of pigment particles that "remain attached" (feature (1.4)), too. Consequently, just like the main request, auxiliary requests 1 and 8 did not meet the requirements of Article 83 EPC either.

The appellant argued that, unlike the main request, auxiliary requests 1 and 8 then on file did not contain the feature "more than 50 weight-% of the pigment particles [...] remain attached". Merely referring to the main request in the decision under appeal thus amounted to a substantial procedural violation.

It is true that said feature in claim 1 was replaced by another feature in claim 1 of auxiliary requests 1 and 8 then on file. This new feature requires that "*calcium carbonate crystals are attached to at least the*

majority [...] of the pigment particles, in such a way that in the majority of instances [...] of the pigment particles, the calcium carbonate crystals remain attached". This means, however, that claim 1 of the then auxiliary requests 1 and 8 also required that a certain amount of pigment "remain attached" to the calcium carbonate particles, just like the main request.

It is hence clear that the argument that it is completely impossible to determine whether pigment particles are attached, let alone their amount, equally applies to situations in which more than 50 weight-%, more than 75 weight-%, more than 95 weight-% or at least the majority of the pigment particles have to "remain attached".

Moreover, none of the parties wished to comment on auxiliary requests 1 to 311 during the oral proceedings at the opposition stage.

The appellant's right to be heard was thus not impaired when the opposition division - dealing with the requirements of Article 83 EPC for the then auxiliary requests 1 and 8 in the decision under appeal - merely refers to the main request.

1.3 Non-consideration of auxiliary request 312

The appellant filed what was at that time auxiliary request 312 (current auxiliary request M1) during the oral proceedings at the opposition stage in response to the fact that the opposition division had changed its mind regarding Article 83 EPC.

The question of whether auxiliary request 312 overcomes the objection under Article 83 EPC and of the consideration of this request was discussed in detail during the oral proceedings (see point 7 of the minutes).

The appellant alleged that the required atomisation of the calcium hydroxide-bearing aqueous slurry into CO₂-bearing gas in independent method claim 1 of auxiliary request 312 *implied* that "more than 50 weight-% of the pigment particles [...] remain attached". Thus feature (1.4) relating to the amount of attached pigment particles (see point V. above) no longer had any relevance, and the objection under Article 83 EPC was overcome. In their view, this central argument was not dealt with in the decision under appeal.

However, this reasoning is not convincing.

The opposition division argues in point 7 of the decision under appeal that claim 1 of auxiliary request 312 still contains the contentious feature (1.4) and that consequently the objection under Article 83 EPC raised against the main request is not overcome. Auxiliary request 312 was therefore disregarded.

These indications in the decision under appeal have to be seen in context.

The opposition division explains in point 2.2 of the reasons of the decision under appeal that claim 1 of the main request does not meet the requirements of Article 83 EPC, in particular since it is impossible to distinguish between attached and loose pigment particles. It is therefore also fundamentally impossible to determine the amount of attached

particles, not to mention the accuracy of such determination.

Thus the decision under appeal demonstrates that, due to the unverifiable feature (1.4), the invention of the main request is insufficiently disclosed. It is thus clear that the issue is not limited to a lack of clarity.

The end of point 2.2 of the reasons of the decision under appeal explains that, because of the claim dependencies, the same contentious features are also present in the independent method claim 11 of the main request, which therefore also contravenes Article 83 EPC.

In auxiliary request 312 the product claims were omitted, and independent method claim 1 contains the contentious product features *verbatim*. It is therefore clear that the reasoning of the decision under appeal regarding the main request clearly also applies to auxiliary request 312.

While the opposition division in the decision under appeal does not explicitly refute the appellant's allegation that "atomising" inevitably led to "50% attached" pigment particles, the opposition division explains in detail why it is impossible to validate or refute this allegation, namely since the skilled person is at a loss as to how to distinguish attached pigments from loose ones and how to determine the amount of attached pigments.

There is thus no violation of the appellant's right to be heard in this regard either.

1.4 Decision based on incorrectly reflected argument

In the appellant's view, the decision was based on the incorrect allegation that the appellant was of the opinion that TiO₂ pigment particles were lozenge-shaped and therefore distinguishable from calcium carbonate particles. The appellant disputes that they had made such a statement.

This is not convincing either. The decision under appeal indicates that it is generally not possible to distinguish pigment particles (such as TiO₂) and calcium carbonate particles in electron micrographs. In particular, TiO₂ particles were not necessarily lozenge-shaped.

In view of this, it is irrelevant whether the appellant actually made the argument that TiO₂ pigment particles were typically lozenge-shaped or not.

There is thus no substantial procedural violation in this regard either.

1.5 At least one claim request to be admitted

Lastly, the argument that at least one claim request should have been admitted by the opposition division "in order for the patentee to have a fair chance to defend their case ..." cannot, in view of being an issue related to the substance of the decision on admittance and consideration, amount to a substantial procedural violation either.

2. Admission of new arguments

At the oral proceedings at the appeal stage, the appellant referred for the first time to Example 4 of the patent in suit. They argued that the increased opacity of inventive "Test point 1" proved an increased degree of attachment/encasing of the TiO₂ pigment particles to the calcium carbonate particles. By contrast, the reduced opacity of "Reference 2" proved that the pigment particles stayed on the surface of the calcium carbonate.

At these oral proceedings, the appellant also argued for the first time that the attachment of the pigment particles to the calcium carbonate particles was a necessary consequence of the mutual attraction between negatively-charged pigment particles and positively-charged calcium carbonate particles upon atomisation of the pigment particles and calcium hydroxide into carbon dioxide-bearing gas.

However, in the absence of exceptional circumstances these submissions cannot be considered (Article 13(2) RPBA).

Main request (patent as granted)

3. Sufficiency of disclosure

The opposition division concluded that the main request did not meet the requirements of Article 83 EPC.

For the reasons set out below, this finding is correct and the main request has to fail.

3.1 Distinction between loose and partially encased pigment particles

Claim 1 of the main request requires that a certain fraction (here more than 50 weight-%) of the pigment particles "*remain[s] attached to the calcium carbonate particles when said pigment particle composition is dispersed in water and dried*".

The appellant alleges that SEM and TEM images make it possible to distinguish between pigment particles that are attached and those that are not. The appellant refers to the bottom right TEM image of **D54** in this regard. In their view, the claim wording made clear that the pigment particles were "attached" due to their at least partial encasing.

However, while SEM and TEM images show the size and shape of particles, the board concurs with the opposition division that these images do not show whether pigment particles "remain attached" or not (e.g. when they are merely in contact with calcium carbonate particles of the shell).

Under these circumstances, essential technical information is missing. The skilled person does not know how to verify whether this unusual parameter in claim 1 is complied with or not although it would have been the appellant's duty to provide full information in this regard. The board supports the reasoning of T 1553/16 (reasons 2.3.7-2.3.9) and concludes that this is not only a matter of clarity in the current context but also of sufficiency of disclosure.

3.2 Determination of weight fraction of attached pigment particles

As it is not possible to distinguish between attached and loose pigment particles, it is not possible to determine a weight fraction of pigment particles that remain attached to the calcium carbonate particles either.

This finding is not changed by the fact that it may be possible to determine the overall weight fraction of pigment particles (e.g. by EDX analysis: see **D51** to **D53**).

The patent in suit is silent on a method to determine the weight fraction of attached pigment particles, and the common general knowledge does not contain such a method either (see point 3.4 below).

This is thus a further issue that does not only affect the edges of claim 1 but permeates its whole scope.

3.3 Feature (1.4) implied by other claim features

The appellant argued that feature (1.4) of claim 1 was not relevant since it was implied by the other features of claim 1.

However, since the skilled person is at a loss as to how to distinguish attached pigment particles from loose ones, and how to determine the amount of attached pigment particles, it is impossible to confirm or refute the appellant's allegation.

Consequently, the invention is insufficiently disclosed.

3.4 Reference to further documents

The appellant refers to a large number of documents, namely **D11, D21, D18, D2, D8, D20, D32, D24, D25, D26, D36, D37** and **D39**, that would allegedly prove that the skilled person could put the invention into practice, or that features would commonly be formulated in a similar manner to the claims of the patent in suit.

In fact, it has not been disputed that SEM, TEM and EDX are part of the common general knowledge of the skilled person in this technical field and that

- SEM and TEM enable the shape and size of particles to be determined, whereas
- EDX enables the overall weight composition of particles to be determined.

However, references to other documents that do not illustrate the common general knowledge (e.g. patent documents such as D11, D21, D18, D2, D8, D20, D32, or scientific papers such as D36 or D37) cannot prove that the invention in the case at hand is sufficiently disclosed.

Neither these patent documents or scientific papers, nor documents D24, D25, D26 and D39, which appear to illustrate the common general knowledge of the skilled person, can prove that it is possible in the case at hand to:

- distinguish between loose and partially encased pigment particles (even if the pigment particles are TiO₂ particles), or to
- determine, under these circumstances, the weight fraction of the pigment particles that remain attached.

Consequently, the gap in teaching cannot be filled by the common general knowledge either.

Auxiliary requests

4. Sufficiency of disclosure

All the auxiliary requests require a specific minimum amount of pigment particles attached to the calcium carbonate particles. Consequently, it must be possible to determine this amount.

However, as explained above with regard to the main request (see points 3.1 and 3.2 above), the skilled person is at a loss as to how to do this.

This also applies to the case where the pigment particles are more specifically TiO₂ particles (e.g. auxiliary request A1).

Specifically regarding auxiliary request M1, the appellant alleged that the required atomisation of the calcium hydroxide-bearing aqueous slurry into carbon dioxide-bearing gas *implied* that the criterion "more than 50 weight-% of the pigment particles [...] remain attached" in independent method claim 1 was met. Thus feature (1.4) no longer had any relevance, and the objection under Article 83 EPC was overcome.

However, this reasoning is not convincing.

Since the skilled person is at a loss as to how to distinguish attached pigments from loose ones and how to determine the amount of attached pigments, it is impossible to confirm or refute the appellant's allegation that atomising the slurry into carbon

dioxide-bearing gas inevitably results in the claimed amount of attached pigment particles.

Essential technical information is missing and reference is made again to T 1553/16.

For these reasons, all the auxiliary requests contravene Article 83 EPC and must fail.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



C. Vodz

E. Bendl

Decision electronically authenticated