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Datasheet for the decision of 25 October 2012

Case Number: T 0634/09 - 3.3.03

Application Number: 99965604.4

Publication Number: 1196494

IPC: C08K 9/08

Language of the proceedings: EN

Title of invention:
Antiblock compositions and method of preparation

Patent proprietor:
Minerals Technologies Inc.

Headword:
-

Relevant legal provisions:
EPC Art. 123(2), 83, 54, 56
RPBA R. 12(4), 13(1)

Keyword:
"Amendments - Extension of scope of protection (no)"
"Sufficiency of disclosure (yes)"
"Novelty (yes)"
"Inventive step (yes)"
"Late submitted material - Admissibility of documents (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0634/09 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 25 October 2012

Appellant: (Opponent)
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Decision under appeal:
Decision of the opposition division of the European Patent Office posted 19 January 2009 maintaining the patent 1196494.

Composition of the Board:

Chairman: B. ter Laan
Members: D. Marquis
C. Vallet

Summary of Facts and Submissions

I. The appeal by the opponent lies from the decision of the opposition division dated 19 January 2009 to maintain the European patent N° 1 196 494 based on application number 99 965 604.4, originating from international application PCT/IB99/02099 having an international filing date of 22 December 1999 and published as WO01/02475.

II. The patent was granted with a set of fifteen claims of which claims 1, 12, 13, 14 and 15 were independent and read as follows:

> "1. A method of producing an antiblock agent comprising surface treating talc with a functionalised siloxane, a polyether, a functionalised polyether, or a carbon based polymer."
>
> "12. A composition comprising a talc core component and a surface treating component selected from the group consisting of functionalised siloxane, a polyether, a functionalised polyether, and a carbon based polymer."
>
> "14. A polyolefin containing a composition according to Claim 12."
>
> "15. A polyolefin film according to Claim 14."

The remaining claims were dependent claims directed to embodiments of claim 1 (claims 2 to 11) and 12 (claim 13).

III. A notice of opposition against the patent was filed on 14 April 2005. The opponent requested the revocation of the patent in its entirety based on the grounds according to Article 100(a), 100(b) and 100(c) EPC.

IV. The decision of the opposition division was based, inter alia, on the following documents:

D1: Chemically modified surfaces, E. Papirer et al., "Modification and surface characterization of talc", pages 351-368, 1992, Elsevier Science Publishers B.V.

D4: US-A-4 629 749

D5: Patent Abstracts of Japan, Publication No. 10-237348

D7: US-A-5 229 094

D9: US-A-4 927 874

D10: EP-A-0 779 342

D11: ANTEC '91, J.Radosta and W.Riley: "Treated talc as an effective Anti-Block for LDPE Blown Film", pages 1351-1354, Society of Plastics Engineers & Plastic Engineering,

V. The opposition division decided that the patent could be maintained on the basis of the main request filed during the oral proceedings on 08 May 2008. The main request contained eleven claims, among which claims 1, 9, 10 and 11 were independent claims reading:

"1. The use as an antiblock in polyolefin compositions of talc surface treated with a functionalised siloxane, a polyether, a functionalised polyether, or a carbon based polymer selected from the group consisting of functionalised polyolefins, maleic acid/olefin copolymer, maleic acid/styrene copolymer, mineral oils and paraffin wax."

"9. A composition comprising a talc core component and a surface treating component comprising a functionalised polyether selected from the group consisting of polyethers functionalised by alkyl carboxylate, alkyl amine, alkyl amide, alkyl sulphate, alkyl thiol, alkyl sulphonate, alkyl phosphate and alkyl phosphonate."

"10. A polyolefin containing a composition according to Claim 9."

"11. A polyolefin film containing an antiblock agent comprising a talc core component coated with 0.01 to 10 weight per cent of a surface treating component selected from the group consisting of functionalised siloxane, a polyether and a functionalised polyether."

Claims 2 to 8 were dependent claims directed to embodiments of claim 1.

VI. The opposition division held that the amendments made had a basis in the original application (Article 123(2) EPC) and that they did not introduce unclarities (Article 84 EPC). Regarding the insufficiency objection against the term "talc core component", the skilled person would understand what was meant, e.g. in the light of the examples, and that the claims defined the invention in a manner sufficient to carry it out (Article 83 EPC).

As to novelty, D4 and D5 did not relate to talc. D9 did not disclose all the features of claims 9 and 11, in particular the use of a functionalized polyether. Since in D9 the treated talc was used as a filler, the subject-matter of claim 1 was also not disclosed. Of the late filed documents, only D16, which however did not disclose all the features of claim 11, was admitted to the proceedings.

For inventive step, neither D4 nor D5 were considered to represent the closest prior art. The opposition division considered that a general statement mentioning the existence of untreated talc in the patent in suit represented the closest prior art. Starting from that closest prior art, the problem to be solved was to provide talc antiblock compositions with improved properties. That problem was effectively solved. None of the cited documents suggested the solution as claimed by the patent in suit. Therefore, Article 56 EPC was complied with.

VII. On 18 March 2009, the opponent lodged an appeal and the prescribed appeal fee was paid on the same day. The statement setting out the grounds of appeal was filed on 28 May 2009. The appellant requested that the patent be revoked.

VIII. By letter of 04 December 2009, the respondent (patent proprietor) filed comments on the statement of grounds of appeal and requested the dismissal of the appeal.

IX. On 25 July 2012, the Board issued a summons to attend oral proceedings on 25 October 2012. In a communication the Board set out its preliminary opinion and indicated that the statement of grounds of appeal did not seem to identify the facts and arguments used in support of the objections raised in respect of novelty and inventive step. Referring to Article 12(2) RPBA, the Board underlined that any amendment to a party's case after it had filed its grounds of appeal or reply would only be admitted and considered at the Board's discretion (Article 13(1) RPBA).

X. By letter of 14 September 2012, the appellant submitted arguments regarding novelty and inventive step.

XI. By letter of 10 October 2012, the respondent submitted further arguments as well as a main and a first auxiliary request.

XII. Oral proceedings were held on 25 October 2012 in the presence of both parties, in the course of which the respondent submitted a new main request.

The claims forming the main and the only auxiliary request are claims 1 to 9 and 11, respectively claims 1 to 8 as maintained by the opposition division.

XIII. In the statement setting out the grounds of the appeal, the appellant made an objection under Article 83 EPC against claims 9 to 11 as maintained by the opposition division. In support, nine new documents were cited. Lack of novelty "*of certain claims*" was stated without however indicating on what basis that objection was made. The arguments against the presence of an inventive step were based on documents D4 and D11. D9 was mentioned as well without any further indication.

In the letter dated 14 September 2012 the appellant reiterated the arguments regarding the reproducibility of claims 9 to 11, now also mentioning D16. As regards novelty, reference was now made to D4 and D5 against all claims. As to inventive step, apart from D4, D5 was now also cited, as well as the combination of D4 and D5 with D1.

During the oral proceedings the appellant stated to raise objections under Article 83 EPC against claims 1 and 9 and under Articles 54 and 56 EPC against all claims 1 to 9. Also, objections under Articles 123(2) and 123(3) were mentioned with respect to the meaning of "talc core component". Regarding inventive step, D4 in combination with D1, D7 and/or D11 was cited.

The appellant's arguments may be summarised as follows:

a) The subject matter of claims 1 and 9 of the main request was not sufficiently disclosed. A skilled

man could not understand what was meant by the "talc core component" and could therefore not reproduce the invention. A talc core component could describe a part or fragment of an inner talc particle, talc which was treated by physical or mechanical means in order to remove the external portion of the talc particle or even an undefined entity at the core of the talc particle. As claim 9 allowed several interpretations, it was so ambiguous that it prevented the skilled person from reproducing the invention.

b) The objections raised in the first instance proceedings against the novelty of the claims in view of D4 and D5 were maintained. D4 and D5 disclosed the same particle treatment as in the patent. Even if these documents disclosed silica instead of talc, the claims lacked novelty since from the priority document of the patent in suit it appeared that silica and talc were equivalent.

c) D4 was a better closest prior art than D11 because D11 did not reveal the nature of the surface modification of talc. D4 showed that the prejudice against the surface modification of silica could be overcome. The tables of the patent did not reveal any improvement of the antiblock properties of the talc particles as a result of their coating because the proposed examples differed from one another by two variables, the coating and the amount of processing aid added to the film composition.

d) Starting from the closest prior art D4, the technical problem solved was to find a way to alter the surface of the talc so that it adsorbed less processing aids. The antiblock agent should also be cheap.

e) D1 disclosed that talc could be provided with a silica-like surface, thus suggesting the modification of the talc surface by analogy with surface modified silica. Furthermore, D7 as well as D11 also suggested that the surface properties of talc could be modified to match those of silica particles. The teaching found in D1 and D7 enabled the skilled person to use any surface modifying agent known in the art to arrive at the solution proposed in the present claims. D7 was mentioned for the first time during appeal proceedings at the oral proceedings but it should be admitted because it had already been cited during first instance proceedings. It was common knowledge to treat talc for improving its surface properties. At present no improvement had been shown, so that the claimed subject-matter did not even provide an alternative to the known processes. The selection of features in present claim 1 was therefore not inventive. D10 was also referred to.

XIV. The respondent's arguments may be summarised as follows:

a) The wording "*talc core component*" found in the claims referred to the centre material of the antiblock. The talc became the core of the antiblock once it was coated with the treating

composition. The examples of the patent demonstrated how to produce the antiblock agent.

b) As to novelty, while the claims of the patent required a talc core component, neither D4 nor D5 disclosed the use of talc.

c) Regarding inventive step, none of the documents cited by the opponent addressed the technical problem of reducing the adsorption of processing aids by talc based antiblock agents. Also, neither D4 nor D1 disclosed the use of talc as an antiblock so that a combination of these two documents could not suggest the invention. Furthermore, the teachings of documents disclosing the treatment of talc with sodium carbonate with those disclosing the treatment of silica with polyethylene glycol could not be combined so as to arrive at the subject matter claimed in the patent in suit.

d) D1 had not been mentioned in the statement of grounds of appeal in relation to inventive step and D7 was mentioned for the first time at the oral proceedings; both documents should not be admitted to the proceedings.

e) D11 concerned the use of talc as antiblock agent but not the interaction of talc with processing aids during extrusion. The data in the patent demonstrated that the claimed polyolefin films of the patent in suit displayed lower melt fracture in the presence of a lower amount of processing aid, an effect that could not have been foreseen

on the basis of any of the cited documents. The technical problem was therefore solved in a non obvious way.

XV. The appellant requested that the decision under appeal be set aside and that the European patent N° 1 196 494 be revoked.

The respondent requested that the patent be maintained on the basis of the main request filed during oral proceedings, or alternatively, on the basis of the auxiliary request filed with letter dated 10 October 2012.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. Modifications

2.1 The main request filed at the beginning of the oral proceedings during the appeal procedure corresponds to the claims of the patent as maintained by the opposition division, from which claims 9 and 10 were however deleted. The main request is admitted into the proceedings as it does not raise issues which the Board or the appellant cannot reasonably be expected to deal with without adjournment of the oral proceedings (Article 13(3) RPBA).

2.2 Claim 1 of the main request is directed to the use of modified talc as an antiblock agent in polyolefin compositions. It is based on claims 11 and 17 and on page 4, third paragraph of the application as filed. Claim 9 relates to a polyolefin film containing an antiblock agent comprising a coated talc core. It is based on claim 19 and page 4, third paragraph as originally filed. Claims 2 to 8 are preferred embodiments of claim 1 and are based on claims 3, 4, 6, 8, 9, 10, and 15 as originally filed in conjunction with original claims 11 and 17.

The claims of the main request satisfy therefore the requirements of Article 123(2) EPC.

2.3 Claim 1 of the main request is based on claims 8, 13 and paragraph [0018] of the patent as granted. Claim 9 is based on claim 15 and paragraph [0020] of the patent as granted. Claims 2 to 8 are based on claims 2 to 9 of the patent as granted. Article 123 (3) EPC is therefore complied with.

3. Sufficiency of disclosure

3.1 The term "*talc core component*" used in claims 9 and 10 is not specifically defined in the patent in suit. However, on the basis of the information provided in the whole patent, in particular the information provided in paragraphs [0010], [0012], [0020], [0021] and [0032], this term can be read as describing the part of the claimed antiblock agent that comprises talc and that was surface treated by a functionalised siloxane, a polyether or a functionalised polyether.

Paragraph [0010] of the patent in suit discloses that antiblock agents may be produced by surface treating inorganic minerals with a functionalised siloxane, a polyether or a functionalised polyether polymer. Paragraph [0012] further sets out that when the surface of the organic mineral is talc, this can be treated by coating, partially coating, or using an effective amount of siloxane polymers to inhibit the adsorption of additives. Once the talc is coated, an antiblock agent is produced (paragraph [0021]). This is exemplified in paragraph [0032] wherein an antiblock agent is prepared by dry coating talc in a mixer with a siloxane polymer.

3.2 Although the wording "*talc core component*" of claim 9 can be interpreted with help of the information contained in the patent in suit, a "*talc core component*" encompasses a broad range of entities. It can be untreated talc, talc treated by physical or mechanical means in order to remove the external portion of the talc particle, a fragment of talc or any entity surrounded by talc. This ambiguity, due to the lacking definition of the term "*talc core component*", is however related to an issue of lack of clarity according to Article 84 EPC, which in itself is not a ground of opposition. The appellant argued that several interpretations of the term "*talc core component*" existed but he did not show that any of these interpretations would prevent the skilled person from putting the claimed invention into practice.

3.3 Claim 1 of the main request, against which objections under Article 83 EPC were raised for the first time during oral proceedings, does not contain the contested

wording "*talc core component*". The appellant did not submit any other argument that would support an objection of lack of sufficiency of disclosure against claim 1.

3.4 The Board therefore arrives at the conclusion that the invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, as required by Article 83 EPC.

4. Novelty

4.1 In its written statement of grounds of appeal, the appellant merely stated that certain claims lacked novelty and that the objections submitted during the first instance opposition procedure were maintained.

The statement of grounds of appeal did not indicate which claims maintained by the opposition division were contested and it also did not contain the facts and arguments underlying the alleged lack of novelty. No reason was given why the decision under appeal should be reversed in that respect.

4.2 The letter of the appellant dated 14 September 2012 also does not show how the impugned decision on novelty is challenged and it does not give reasons why the claims maintained by the opposition division would lack novelty. The documents D4 and D5 cited therein are merely said to be relevant to the novelty of all the claims without providing an identification of the claimed features in the documents cited. As the claims of the patent in suit were substantially modified during the oral proceedings before the opposition

division, a mere reference to the notice of opposition is not sufficient to give the reasons why the modified claims would lack novelty.

4.3 During oral proceedings, the appellant stated that he did not whish to discuss novelty, relying on the arguments provided during the appeal proceedings in writing and therefore again failed to indicate why the decision of the opposition division should be set aside as far as novelty was concerned and why the claims would lack novelty in view of the cited documents.

4.4 In the absence of a clear and concise presentation of the facts and arguments relied on against the novelty of the claims as maintained by the opposition division, it is unclear why the decision of the opposition division is challenged in that respect and why the appealed decision should be set aside for that reason. Since none of the documents discloses all the features of the present claims, the Board sees no reason to deviate from the view of the opposition division on the novelty of the claims of the main request.

5. Inventive step

5.1 The patent in suit relates to the use of a surface treated talc as an antiblock agent in polyolefin films.

5.2 D4 discloses the use of polyethylene glycol modified silica or diatomaceous earth antiblock agents to improve the see-through clarity of low density polyethylene resin films (D4, column 1, lines 8 to 13; column 3, lines 6 to 19). D4 (claim 1) more specifically discloses a method for forming

polyethylene films which comprises incorporating an antiblock agent into polyethylene resin and then forming a film from this blend, the improvement comprising treating the antiblock agent with polyethylene glycol prior to addition of the antiblock agent to the polyethylene resin such that sufficient polyethylene glycol is deposited on said antiblock agent that the weight ratio of polyethylene glycol to said antiblock agent is at least about 1:30 in the final polyethylene blend and no more than 1,000 parts per million of the total film content.

5.3 D4 was considered as the closest prior art document by the parties as D4 discloses the production of polyolefin films from surface treated antiblock agents.

5.4 The appellant formulated the technical problem as to modify the surface of a talc antiblock agent so that it adsorbs less processing aids and still remains cheap. D4 does however not disclose talc antiblock agents and does also not address the problem of the adsorption of processing aids by antiblock agents. Hence, the technical problem derived from D4 by the appellant is based on hindsight, knowing the results of the patent in suit. The technical problem has to be assessed on the basis of the closest prior art, starting from the problem formulated in the patent in suit.

5.5 The patent in suit aims at providing polyolefin films with a talc antiblock agent that adsorbs less processing aids than synthetic silica or diatomaceous earth (paragraphs [0001] and [0007]). Examples 1 to 7 in Tables 1 to 11 of the patent in suit assess the surface uniformity of several polyethylene films

containing an antiblock agent in terms of melt fracture and die pressure. Those examples show that a coated talc (ABT-G siloxane coated talc) according to claims 1 and 9 of the patent in suit can be used as an antiblock agent in polyethylene films. However, none of these examples features an antiblock agent based on diatomaceous earth or synthetic silica coated with polyethylene glycol as disclosed in D4, so that the surface uniformity of the claimed films cannot be compared to that of the films of the closest prior art.

5.6 As the patent in suit does not demonstrate the presence of an improvement of the surface uniformity of the claimed films over those of the closest prior art, the problem solved can only be seen as to provide further polyolefin films that display antiblock properties.

5.7 As the examples show, to that problem is effectively solved by the polyolefin film of claim 9 or the use of the antiblock agent of claim 1 in polyolefin compositions.

5.8 It remains to be decided whether the solution to the technical problem defined above is obvious in view of the prior art. Starting from D4, the question to be answered is whether the skilled person would have used a surface treated talc according to claims 1 or 9 of the patent in suit instead of the surface treated silica or diatomaceous earth of D4 in order to provide polyolefin films having antiblock properties.

5.9 D4 describes polyolefin films containing antiblock agents based on silica or diatomaceous earth that are surface treated with polyethylene glycol in order to

improve the see-through clarity of polyolefin films (column 1, lines 50 to 63). The use of a surface treated talc as an antiblock agent is not mentioned, or suggested, so that a skilled person, based on the information of D4 alone, would have had no motivation to substitute the silica or diatomaceous earth of D4 with talc. Also, the purpose of D4 is to coat the surface of synthetic silica or diatomaceous earth with polyethylene glycol because those two antiblock agents are known to cause adverse effects on the see-through clarity of polyethylene films. As it is not known whether talc would cause the same adverse effects on the clarity of the films, it is doubtful whether a skilled man would consider the use of talc and its surface treatment with polyethylene glycol in the context of D4. Even if antiblock agents based on talc are cheaper than those based on silica or diatomaceous earth, that would not motivate the skilled person to use talc for solving the technical problem of D4.

5.10 D9 cited in the statement of the grounds of appeal, discloses a moldable thermoplastic resinous composition comprising: (A) A beneficiated talc hitherto regarded as suitable for use as a filler for thermoplastic resinous compositions comprising a talc which, when ground to an approximately 2,5-5,0 µm median particle size, exhibits a wet powder brightness of at least about 30%, admixed with an effective amount of: (a) one or a mixture of octyl- or nonylphenol/poly(ethylene oxide) condensates, and (b) one or a mixture of poly(ethylene glycols) or alkoxypoly(ethylene glycols); and (B) a moldable thermoplastic resin. D9 discloses the use of surface treated talc as a filler in mouldable thermoplastic resins. It does not suggest its

use as an antiblock agent in polyolefin films so that D9 does not suggest the surface treating agents disclosed in present claims 1 and 9.

5.11 D11 also cited in the statement of the grounds of appeal, discloses the use of surface treated talc as antiblock agent in LDPE and high EVA-LDPE copolymer resins. Films are blown from these resin compositions and the blocking efficiency and film physical properties are reported. The nature of the surface treatment is not revealed so that D11 does not suggest the surface treating agents disclosed in present claims 1 and 9.

5.12 D1 and D5 were cited for the first time with the letter of 14 September 2012 by the appellant. D1 discloses various procedures to render the talc surface either hydrophilic or hydrophobic. D1 does not disclose or suggest the modification of the talc surface with a polymer so that it would not lead the person skilled in the art to the claimed subject-matter. D5 discloses the use of silica as an antiblock agent in plastic films and does not mention talc so that its combination with D4 would not lead a person skilled in the art towards the claimed subject-matter.

5.13 In the course of the oral proceedings, the appellant also cited D7 and D10 for the first time in support of his inventive step objection. However, none of these documents mentions or suggests antiblock agents. The appellant could therefore not convince the Board that these documents were more relevant than those cited earlier in the appeal proceedings so that the arguments

based on D7 and D10 and submitted at such a late stage are not admitted to the proceedings.

5.14 In view of the above, the skilled person would therefore not consider the replacement of the surface treated silica or diatomaceous earth disclosed in D4 by the surface treated talc antiblock agents used in claims 1 or 9 of the patent in suit in order to provide polyolefin films that display antiblock properties.

6. Therefore, the subject-matter of claims 1 and 9 is inventive so that Article 56 EPC is complied with. Since claims 2 to 8 are directed to preferred embodiments of the use of claim 1, those claims, too, comply with Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of the first instance with the order to grant a patent on the basis of the main request filed during the oral proceedings on 25 October 2012 and a description to be adapted thereto.

The Registrar The Chairman

E. Görgmaier B. ter Laan