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**Datasheet for the decision
of 10 September 2021**

Case Number: T 2817/19 - 3.3.03

Application Number: 12755843.5

Publication Number: 2817374

IPC: C08L79/02

Language of the proceedings: EN

Title of invention:

CARBOHYDRATE BASED BINDER SYSTEM AND METHOD OF ITS PRODUCTION

Patent Proprietor:

Knauf Insulation

Opponents:

Johns Manville
SAINT-GOBAIN ISOVER
ROCKWOOL INTERNATIONAL A/S

Relevant legal provisions:

EPC Art. 84, 111(1), 123(2)
EPC R. 101(1)
RPBA 2020 Art. 11, 13(2)

Keyword:

Oral proceedings by video conference without consent of one party (yes)
Admissibility of appeal (yes)
Claims - clarity - main request (no)
Amendments - allowable (first auxiliary request: yes)
Amendment after summons - exceptional circumstances (no)
Appeal decision - remittal to the department of first instance (yes)

Decisions cited:

G 0002/10, G 0003/14, G 0001/21



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Case Number: T 2817/19 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 10 September 2021

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 8 August 2019
revoking European patent No. 2817374 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman D. Semino
Members: O. Dury
 C. Brandt

Summary of Facts and Submissions

I. The appeal by the patent proprietor lies against the decision of the opposition division posted on 8 August 2019 revoking European patent No. 2 817 374.

II. The claims of the application as filed which are relevant to the present decision read as follows:

"1. An aqueous binder composition comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass%, based on the mass of the total carbohydrate component (a)."

"2. The binder composition according to claim 1 , wherein the carbohydrate component (a) further comprises one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a)."

"7. A method of producing an aqueous binder composition comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass%, based on the mass of the total carbohydrate component (a), wherein the method comprises the steps:

(i) hydrolyzing one or more cellulose-based carbohydrate source(s),

(ii) isolating the carbohydrates from the one or more hydrolyzed cellulose-based carbohydrate source(s),

(iii) using the isolated carbohydrates from the one or more cellulose-based carbohydrate source(s) to form a carbohydrate component (a), comprising one or more pentose(s) in a total amount of 3 to 70 mass%, based on the mass of the total carbohydrate component (a), and

(iv) adding an amine component (b).

"9. The method according to claim 7 or 8, wherein the carbohydrate component (a) further comprises one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a)."

"16. A method of manufacturing a product selected from the group consisting of: mineral wool insulation, glass wool insulation, stone wool insulation, a collection of fibers, a collection of particles, a collection of cellulose containing particles or fibers, a wood board, an orientated strand board, a wood particle board, plywood, an abrasive, a non-woven fiber product, a woven fiber product, a foundry mould, a refractory product, a briquette, a friction material, a filter, and an impregnated laminate comprising the steps of:

- applying to non-or loosely assembled matter a binder in accordance with any of claims 1 to 4 or a binder manufactured in accordance with any of claims 7 to 15; and

- curing the binder."

- III. Three notices of opposition against the patent were filed, requesting the revocation of the patent in its entirety on the grounds of Article 100(a) EPC (lack of novelty and lack of an inventive step), Article 100(b) EPC and Article 100(c) EPC.
- IV. The decision under appeal was based on the main request filed with letter of 21 August 2018, the first to fifth auxiliary requests filed with letter of 30 April 2019 and auxiliary request 4b filed during the oral proceedings on 2 July 2019, whereby only the fourth and fifth auxiliary requests are relevant for the present decision.

Claim 1 of the fourth auxiliary request read as follows (additions as compared to claim 16 of the application as filed are indicated in **bold**, deletions in ~~strikethrough~~):

"1. A method of manufacturing a product selected from the group consisting of: mineral wool insulation, glass wool insulation, stone wool insulation, a collection of fibers, a collection of particles, a collection of cellulose containing particles or fibers, a wood board, an orientated strand board, a wood particle board, plywood, an abrasive, a non-woven fiber product, a woven fiber product, a foundry mould, a refractory product, a briquette, a friction material, a filter, and an impregnated laminate comprising the steps of:

- applying to non-or loosely assembled matter ~~a binder in accordance with any of claims 1 to 4 or a binder manufactured in accordance with any of claims 7 to 15;~~

an aqueous binder composition, comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass% and one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a); and

- curing the aqueous binder composition,

wherein the product is wood board or cellulosic material and the amount of cured binder is $\geq 7\%$ and $\leq 25\%$ weight of dry binder to weight of dry wood or to weight of dry cellulosic containing material."

The fifth auxiliary request comprised following claims 1 and 4 (additions as compared to claim 16 of the application as filed are indicated in **bold**, deletions in ~~strikethrough~~):

"1. A method of manufacturing a product selected from the group consisting of: mineral wool insulation, glass wool insulation, stone wool insulation, a collection of fibers, a collection of particles, a collection of cellulose containing particles or fibers, a wood board, an orientated strand board, a wood particle board, plywood, an abrasive, a non-woven fiber product, a woven fiber product, a foundry mould, a refractory product, a briquette, a friction material, a filter, and an impregnated laminate comprising the steps of:

~~- applying to non-or loosely assembled matter a binder in accordance with any of claims 1 to 4 or a binder manufactured in accordance with any of claims 7 to 15;~~

an aqueous binder composition, comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass% and one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a);

and wherein the amine component (b) is selected from the group consisting of hexamethylenediamine (HMDA) and ammonium sulfate; and

- curing the aqueous binder composition."

"4. A method of manufacturing a product selected from the group consisting of: mineral wool insulation, glass wool insulation, stone wool insulation, a collection of fibers, a collection of particles, a collection of cellulose containing particles or fibers, a wood board, an orientated strand board, a wood particle board, plywood, an abrasive, a non-woven fiber product, a woven fiber product, a foundry mould, a refractory product, a briquette, a friction material, a filter, and an impregnated laminate comprising the steps of:

~~- applying to non-or loosely assembled matter a binder in accordance with any of claims 1 to 4 or a binder manufactured in accordance with any of claims 7 to 15;~~
an aqueous binder composition, comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass% and one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a),

wherein the aqueous binder composition is manufactured by a method comprising the steps of:

(i) hydrolyzing one or more cellulose-based carbohydrate source(s),

(ii) isolating the carbohydrates from the one or more hydrolyzed cellulose-based carbohydrate source(s),

(iii) using the isolated carbohydrates from the one or more cellulose-based carbohydrate source(s) to form a carbohydrate component (a), comprising one or more pentose(s) in a total amount of 3 to 70 mass%, based on the mass of the total carbohydrate component (a), and

(iv) adding an amine component (b); and

and wherein the amine component (b) is selected from the group consisting of hexamethylenediamine (HMDA) and ammonium sulfate;

- curing the aqueous binder composition."

V. In the decision under appeal the opposition division held *inter alia* that:

- Neither the main request nor any of the first to fourth auxiliary requests met the requirements of Article 123(2) EPC;

- Auxiliary request 4b was not admitted into the proceedings;

- Also the fifth auxiliary request did not meet the requirements of Article 123(2) EPC.

Therefore, the patent was revoked.

- VI. The patent proprietor (appellant) appealed the above decision. With the statement setting out the grounds of appeal (page 1) the appellant requested that the contested decision be set aside and that any of the main request, "one of the Auxiliary Requests submitted during the opposition proceedings" or the sixth auxiliary request filed therewith be held to satisfy the requirements of Article 123(2) EPC and that the case be remitted to the department of first instance to deal with the objections pursuant to Article 100(a) and (b) EPC.
- VII. With their rejoinder to the statement of grounds of appeal, opponents 1 to 3 (respondents 1 to 3) all requested that the appeal be dismissed. Respondent 2 further requested that, should any of the requests defended by the appellant be held to fulfil the requirements of Article 123(2) EPC, the case be remitted to the department of first instance to deal with the objections pursuant to Article 100(a) and (b) EPC.
- VIII. With letter of 9 October 2020, the parties were summoned to oral proceedings to be held on 10 September 2021. Issues to be discussed at the oral proceedings were further specified by the Board in a communication joined thereto.
- IX. With letter of 20 November 2020, respondent 1 requested that the statement of grounds of appeal be held not to contain any request other than the sixth auxiliary

request submitted therewith and that the sixth auxiliary request be not admitted into the proceedings.

- X. With letter of 17 June 2021 the appellant requested that the scheduled oral proceedings be held by videoconference or alternatively be postponed.
- XI. With letters of 29 June 2021 and 2 July 2021 respondents 1 and 2, respectively, provided information regarding the representatives who would take part to the scheduled oral proceedings.
- XII. With a communication dated 12 July 2021 the Board informed the parties that in view of the appellant's request of 17 June 2021 and taking into account the possible travel restrictions that might arise in view of the Covid pandemic, it regarded the case as being suitable for the holding of oral proceedings by videoconference and asked the parties to communicate to the Board by 23 July 2021 any reasons that spoke against this assessment as well as any difficulty in participating in person. The parties were further informed that the Board would decide thereafter whether to run the oral proceedings via videoconference and that, in case of a refusal of the request of videoconference, a decision on the request of postponement would be taken two weeks before the foreseen date at the latest.
- XIII. With letter of 13 July 2021 respondent 1 indicated that they would prefer that oral proceedings be held in person and provided reasons why they considered that a videoconference would be less appropriate. They further indicated that they would have no difficulty attending oral proceedings in person.

XIV. On 16 July 2021, the Enlarged Board of Appeal issued by press release the order of its decision in case G 1/21, which read as follows:

"During a general emergency impairing the parties' possibilities to attend in-person oral proceedings at the EPO premises, the conduct of oral proceedings before the boards of appeal in the form of a videoconference is compatible with the EPC even if not all of the parties to the proceedings have given their consent to the conduct of oral proceedings in the form of a videoconference."

XV. With letter of 19 July 2021 the appellant withdrew the then pending main request and first to third auxiliary requests and resubmitted the pending fourth to sixth auxiliary requests as main request, first and second auxiliary requests, respectively.

XVI. With a first letter dated 22 July 2021, respondent 3 indicated that they would have no difficulties attending in person the oral proceedings scheduled on 10 September 2021. Further arguments were provided in an additional letter also dated 22 July 2021.

XVII. With letter of 6 August 2021 (page 14, penultimate paragraph) respondent 1 explicitly disagreed that oral proceedings be held by means of videoconference.

XVIII. Oral proceedings were held on 10 September 2021 by videoconference, in the presence of all parties, whereby the first issue dealt with was directed to the question related to holding the oral proceedings by videoconference or in person. During these oral proceedings, each of respondents 1 to 3 requested that, should any of the requests defended by the appellant be

held to fulfil the requirements of Articles 123(2) and 84 EPC, the case be remitted to the department of first instance for further prosecution.

XIX. The appellants' arguments, insofar as relevant to the decision, may be summarised as follows:

Oral proceedings by videoconference

(a) The COVID-19 pandemic was still going on. In addition, in view of the emergence of variants, the measures taken in that respect, including restriction on travels, in the different countries were constantly evolving. Therefore, it was almost impossible to predict what measures would be in force at the time of the oral proceedings. Under these special circumstances, the oral proceedings should be held by videoconference or be postponed.

Admissibility of the appeal

(b) Considering the requests indicated on the first page of the statement of grounds of appeal and the arguments further put forward in defense of each of these requests, it was clear that the main request and first to fifth auxiliary requests dealt with in the decision under appeal were further defended in appeal. Since these requests were already filed during the opposition proceedings, there was no need to file them again with the statement of grounds of appeal. Also, the fact that all three respondents commented on these requests in their respective rejoinder to the statement of grounds of appeal showed that all parties understood that these requests made part of the appeal proceedings. Under these circumstances, there was no reason to

hold the appeal inadmissible.

Main request - Article 84 EPC

- (c) The wording of operative claim 1 should be read with a mind willing to understand. For a product to fall under the definition of operative claim 1, it had to belong both to the list of products listed in the preamble of claim 1 and to be a wood board or a cellulosic material. The skilled person could determine without difficulty whether or not a given product satisfied these requirements. In that context, the juxtaposition of the more generic term "cellulosic material" with the more specific term "wood board" did not lead to a problem of clarity.

First auxiliary request - Article 123(2) EPC

- (d) Claim 1 of the first auxiliary request was directly and unambiguously derivable from the combinations of original claims 16, 1 and 2 with the passage at page 3, line 33 to page 4, line 8 of the application as filed, whereby examples 1 to 3 of the application as filed constituted pointers to the use of the specific amine component (b) being either hexamethylenediamine (hereinafter "HMDA") or ammonium sulfate. In that respect, since it was explicitly stated in the application as filed that the nature of component (b) was not restricted, the selection of these two specific components did not add any additional information. Also, the wording of operative claim 1 did not encompass the combination of HMDA and ammonium sulfate.
- (e) Similarly, claim 4 of the first auxiliary request was directly and unambiguously derivable from the

combinations of original claims 16, 7 and 9 with the same passages of the application as filed as identified above for claim 1.

- (f) For these reasons, claims 1 and 4 met the requirements of Article 123(2) EPC.

First auxiliary request - Admittance of the objections pursuant to Rule 80 EPC and Article 84 EPC

- (g) Considering that the first auxiliary request corresponded to the fifth auxiliary request dealt with in the decision under appeal, there were no exceptional circumstances which could justify the filing of an objection pursuant to Rule 80 EPC in reaction to the communication accompanying the summons to oral proceedings and/or of an objection pursuant to Article 84 EPC at the oral proceedings before the Board. Therefore, these objections should be not admitted into the proceedings.

XX. The respondents' arguments, insofar as relevant to the decision, may be summarised as follows:

Oral proceedings by videoconference

- (a) At the request of the Chairman, it was clarified at the oral proceedings before the Board that respondent 1 expressly requested that the oral proceedings be held in person and not by videoconference. In that respect, in view of the progresses made regarding vaccination, it was unlikely that higher number of infections would result in travel restrictions within continental Europe, so respondent 1. In addition, in the present case, the admittance of the requests

defended by the appellant was highly questionable and such formal matters could be better discussed in person than by videoconference.

Admissibility of the appeal

(b) In its written submissions, respondent 1 requested that the appeal be rejected because:

- No valid request was specified expressly either in the notice of appeal or in the statement of grounds of appeal. In particular, since the statement of grounds of appeal referred to a "Main Request or one of the Auxiliary Request", i.e. the term "auxiliary request" was in the singular form, it did not specify expressly all the requests effectively defended by the appellant. In addition, only a sixth auxiliary request - but no main request and/or first to fifth auxiliary requests - was filed together with the statement of grounds of appeal. Therefore, only the sixth auxiliary request was expressly specified in the statement of grounds of appeal. Also, neither the main request, nor any of the first to fifth auxiliary requests were "a document" in the sense of Article 12(3) RPBA, third sentence. Under these circumstances, the statement of grounds of appeal did not contain any request other than the sixth auxiliary request submitted therewith;

- Since the sixth auxiliary request filed with the statement of grounds of appeal was late-filed, could have been presented earlier and was *prima facie* not allowable, it should not be admitted

into the proceedings.

At the request of the Chairman, it was clarified at the oral proceedings before the Board that these arguments amounted to a request by respondent 1 that the appeal be rejected as inadmissible.

Main request - Article 84 EPC

- (c) Considering that the amendments "wherein the product is wood board or cellulosic material and ... dry cellulosic containing material" were not present in the granted claims, it could be examined whether these amendments introduced non-compliance with Article 84 EPC.

- (d) In that respect, the juxtaposition in the amendments of the term "wood board" and "cellulosic material" separated by the conjunction "or" implied that the wording of claim 1 intended to give to the expressions "wood board" and "cellulosic material" a meaning which was different from their usual ones.

That ambiguity was reinforced by the fact that, in the preamble of operative claim 1, a list of products was given for defining the "product", which encompassed "a collection of cellulose containing particles" and "wood particle boards". Also, said list of products contained items which could contain cellulose or not, thereby rendering the effective limitation of the amendment "is wood board or cellulosic material" unclear.

In view of the above, the skilled person was not in a position to determine unambiguously which

products were effectively defined in operative claim 1. For that reason, the requirements of Article 84 EPC were not met.

First auxiliary request - Article 123(2) EPC

- (e) The specific combination of features defined in claims 1 and 4 of the first auxiliary request, in particular the combination of component (b) being HMDA or ammonium sulfate with the specific range of pentose(s) and hexose(s), was not supported by the application as filed. In that respect, the application as filed should not be considered as a reservoir from which features pertaining to separate embodiments could be combined to artificially create a particular embodiment.

In addition, the application as filed disclosed a long list of compounds which could be suitably used as component (b) but contained no indication that HMDA or ammonium sulfate was given any preference. Considering that the examples of the application as filed constituted very specific disclosures, they could not be considered as a pointer to the use of "HMDA" or "ammonium sulfate" at the level of generality of operative claims 1 and 4. The extraction from these examples of the sole feature directed to the nature of component (b) amounted to a non-allowable intermediate generalisation.

The definition of component (b) in operative claim 1 further encompassed the combination of HMDA and ammonium sulfate, which found no valid support in the application as filed.

Also, reading the term "ammonium" in the light of

the description of the patent in suit, claim 1 of the first auxiliary request was directed to amine components (b) for which the application as filed provided no pointer.

(f) For these reasons, claims 1 and 4 did not meet the requirements of Article 123(2) EPC.

First auxiliary request - Admittance of the objections pursuant to Rule 80 EPC and Article 84 EPC

(g) Respondent 3 held that the objection pursuant to Rule 80 EPC was raised for the first time with letter of 22 July 2021 as a consequence of the preliminary opinion of the Board which indicated that the opposition division's decision in respect of Article 123(2) EPC for the then pending fifth auxiliary request could be reversed. In addition, the issue of Rule 80 EPC was not complex and could be dealt with easily at the oral proceedings.

(h) Respondent 1 put forward that the objection pursuant to Article 84 EPC was raised for the first time at the oral proceedings in view of arguments put forward by respondent 2 in respect of Article 123(2) EPC regarding the reading of the term "ammonium" in operative claim 1 in the light of the description of the patent in suit. Therefore, that objection could not have been raised earlier.

(i) For these reasons, these objections should be admitted into the proceedings.

XXI. The appellant requested that the decision of the opposition division be set aside, that any of the main

request or first to second auxiliary requests filed with letter of 19 July 2021 be found to satisfy the requirements of Articles 123(2) and 84 EPC and that the case be remitted to the department of first instance for further prosecution.

Respondent 1 requested that the oral proceedings not be conducted by video conference and the appeal be rejected as inadmissible.

Respondents 1 to 3 requested that the appeal be dismissed and that, should any of the requests defended by the appellant be held to fulfil the requirements of Articles 123(2) and 84 EPC, the case be remitted to the department of first instance for further prosecution.

Reasons for the Decision

1. Oral proceedings by videoconference
 - 1.1 In view of the appellant's request that the oral proceedings be held by videoconference (section X), the Board informed the parties by a communication dated 12 July 2021 (section XII) that it considered the case to be suitable for holding the oral proceedings on 10 September 2021 by videoconference and asked the parties to communicate to the Board by 23 July 2021 any reasons that spoke against this assessment as well as any difficulty in participating in person.
 - 1.2 Respondent 1 first disagreed in writing with that view and then effectively requested at the oral proceedings that the oral proceedings be held in person and not by videoconference. In that respect, respondent 1 made

reference to "pending G 1/21" (both in the letter dated 6 August 2021: page 14, penultimate paragraph and at the oral proceedings before the Board) and argued that:

- Although no one could predict possible travel restrictions due to the Covid pandemic, it should be taken into account that due to the progress in vaccination, it was unlikely that even higher number of infections would result in travel restrictions within continental Europe;
- In the present case, the admittance of the requests defended by the appellant was highly questionable and such formal matters could be better discussed in person than by videoconference.

In view of the above, respondent 1's arguments do not put into question that the order of the Enlarged Board of Appeal in case G 1/21, which allows the conduct of oral proceedings before the EPO Boards of Appeal in the form of a videoconference during a general emergency even if not all of the parties to the proceedings have given their consent thereto and which had been communicated to the public by press release about four weeks ahead of the date of the oral proceedings, applies to the present case. The Board also sees no reason why it would not.

In addition, the Board considers that the fact that the admittance of the requests defended by the appellant was at stake in the present case and would have to be dealt with at the oral proceedings did not speak against holding the oral proceedings by videoconference. In that respect, the issue of the admittance of requests is very common, is not considered by the Board to introduce any special

difficulty in the proceedings which could not be dealt with in oral proceedings held by videoconference and was already dealt with during oral proceedings held by videoconference without difficulty many times in the past by the Boards of Appeal, including the present one. Therefore, that argument failed to convince and was rejected.

- 1.3 For these reasons, in application of the order of the Enlarged Board of Appeal in case G 1/21 (section XIV above), respondent 1's request that the oral proceedings be held in person was rejected.
2. Admissibility of the appeal
 - 2.1 At the oral proceedings before the Board, respondent 1 requested that the appeal be rejected as inadmissible.
 - 2.2 According to Article 108, third sentence, EPC, a statement setting out the grounds of appeal shall be filed within four months of notification of the decision, in accordance with the Implementing Regulations. Rule 99(2) EPC further stipulates that, in that statement of grounds of appeal, the appellant shall indicate the reasons for setting aside the decision impugned, or the extent to which it is to be amended, and the facts and evidence on which the appeal is based. If the appeal does not comply with those requirements, the appeal shall be rejected as inadmissible (Rule 101(1) CBE).
 - 2.3 Respondent 1's objections were related to the issue of the identification of the requests effectively defended by the appellant in its statement of grounds of appeal.

2.3.1 In the present case, the following statement was made on page 1 of the statement of grounds of appeal :

"We request:

- that the decision of the Opposition Division be set aside and that Main Request and/or one of the Auxiliary Request submitted during the opposition proceedings, or alternatively on the basis of the Auxiliary Request submitted herewith or any auxiliary request to be presented during the appeal procedure be declared by the Board of Appeal to fulfill the requirements of Article 100(c) in combination with Article 123(2)
- that Sixth Auxiliary Request submitted herein be admitted into the appeal proceedings; ..."

Arguments were further put forward to contest the findings of the opposition division in respect of each of a main request and first to fifth auxiliary requests, whereby claims 1, 4 and 5 of said main request and the further amendments made in the relevant claims of each of said first to fifth auxiliary requests were explicitly indicated. Also, it was indicated that auxiliary request 4b was not defended in appeal (statement of grounds of appeal: middle of page 10). On that basis, it was derivable that the main request and first to fifth auxiliary requests mentioned in the statement of grounds of appeal were the main request and first to fifth auxiliary requests dealt with in the decision under appeal. That finding is in particular confirmed by the fact that each of respondents 1 to 3 put forward objections against these requests in their rejoinders to the statement of grounds of appeal. In particular, respondent 1 themselves mentioned the relevant claims of each of the requests they considered as being pending at that time

(rejoinder: section A, pages 1-4; sections B-E, G and H, pages 18-23), whereby it makes no doubt that these requests comprised the main request and the first to fifth auxiliary requests dealt with in the decision under appeal as well as the sixth auxiliary request filed with the statement of grounds of appeal.

2.3.2 In their further submissions (letter of 20 November 2020: pages 1-3; letter of 6 August 2021: section I, pages 2-3), respondent 1 argued that on page 1 of the statement of grounds of appeal, reference was made to a single auxiliary request (see singular form of the expression: "and/or one of the Auxiliary Request submitted during the opposition proceedings"). Also, no main request or auxiliary requests submitted during the opposition proceedings were expressly specified in the statement of grounds of appeal or submitted therewith, contrary to the stipulations of Article 12(3) RPBA 2020, whereby requests were not a "document" in the sense of Article 12(3) RPBA 2020, third sentence, so respondent 1 (letter of 20 November 2020: page 3, second paragraph; letter of 6 August 2021: sentence bridging pages 2 and 3).

However, in view of the indicated requests on page 1 of the statement of grounds of appeal and of the wording of the claims and arguments put forward for each of these requests in the statement of grounds of appeal, it makes no doubt that the appellant effectively defended the main request and each of the first to fifth auxiliary requests dealt with in the decision under appeal in its statement of grounds of appeal. In particular, it would not make sense for the appellant to submit arguments in support of requests that he did not intend to defend. Further considering that each of the main request and of the first to fifth auxiliary

requests were already filed during the opposition proceedings, there was no need for the appellant to file them anew with its statement of grounds of appeal (Article 12(3)(a) RPBA 2020, which effectively mirrors Article 12(2) RPBA 2007). In that respect, the Board sees no reason why operative requests shall not be considered as documents in the sense of Article 12(3) RPBA 2020, third sentence. Therefore, respondent 1's arguments in that respect are rejected.

2.3.3 It is further undisputed that the sixth auxiliary request referred to in the statement of grounds of appeal was effectively filed therewith and that arguments in support of its allowability were also provided in the appellant's statement of grounds of appeal. In the Board's view, respondent 1's arguments regarding the late-filing and the *prima facie* allowability of the sixth auxiliary request are not related to the question of the inadmissibility of the appeal but rather to the question whether the sixth auxiliary request should be held inadmissible pursuant to Article 12(4) RPBA 2007. For that reason, these arguments are not persuasive.

2.4 In view of the above, the statement of grounds of appeal fulfils the requirements of admissibility identified in section 2.2 above. Therefore, the appeal is admissible and respondent 1's request is rejected.

3. As a consequence of the findings in sections 2.3.1 and 2.3.2 above, the operative main request and first auxiliary request, which correspond to the fourth and fifth auxiliary requests dealt with in the decision under appeal, respectively, are in the proceedings.

4. Main request - Article 84 EPC

4.1 It was undisputed between the parties that claim 1 of the main request contains the following amendments which were taken up from a passage of the description of the application as filed but which were not present in the granted claims:

"wherein the product is wood board or cellulosic material and the amount of a cured binder is $\geq 7\%$ and $\leq 25\%$ weight of dry binder to weight of dry wood or to weight of dry cellulosic containing material."

As a consequence, it was also undisputed that it may be examined if these amendments introduce non-compliance with Article 84 EPC (G 3/14, OJ EPO 2015, 102).

4.2 The respondents' objections of lack of clarity were in particular directed to the meaning of the expression "wherein the product is wood board or cellulosic material" in view of the remaining wording of claim 1, in particular the list of products given in the preamble of claim (starting with "mineral wool insulation" and ending with "impregnated laminate").

4.3 In that respect, the Board agrees with the respondents that the conjunction "or" which is present in the above amendments between "wood board" and "cellulosic material" is generally used to connect different alternative possibilities which are mutually exclusive or at least in part not overlapping. However, considering that wood is known to contain cellulose, the skilled person would read the term "wood board" as a sub-group of the more generic term "cellulosic material". Therefore, the juxtaposition in the amendments done of the term "wood board" and

"cellulosic material" separated by the conjunction "or" may be held to imply that the wording of claim 1 intends to give to the expressions "wood board" and "cellulosic material" a meaning which is different from their usual ones.

- 4.4 That finding is further reinforced by the fact that, in the preamble of claim 1 a closed list of products is given for defining the same "product" which is mentioned in the above amendments. In general, when a closed list of items is provided in the preamble of a claim and it is afterwards indicated "wherein said item is (a) or (b)", the skilled person would expect that items "(a) or (b)" constitute a more specific selection of the former closed list, i.e. is a limitation to specific items of the more generic list given in the preamble of the claim. However, in the present case, whereas the term "wood board" is effectively indicated in the list of products given at the beginning of claim 1, this is not the case for the term "cellulosic material". Indeed, the sole reference to cellulose in the preamble of claim 1 may be found in the expression "a collection of cellulose containing particles or fibers", which cannot be equated with the term "cellulosic material". Therefore, the amendment "cellulosic material" renders unclear whether it implies a limitation to the sole "collection of cellulose containing particles or fibers" (as was put forward by the appellant in its argumentation regarding Article 123(2) EPC: see statement of grounds of appeal: page 10, third paragraph) or whether it encompasses any of the items listed in the preamble of the claim which is also a cellulosic material (as was put forward by the appellant in its letter of 19 July 2021: page 4, second paragraph).

- 4.5 That ambiguity is also further reinforced by the fact that the closed list given in the preamble of claim 1 contains products that are mandatorily cellulosic materials (collection of cellulose containing particles or fibers, wood board, orientated strand board, wood particle board) but also products that would not be expected to be cellulosic materials (mineral wool insulation, glass wool insulation, stone wool insulation, foundry mould, refractory product) as well as products that may be cellulosic materials or not (e.g. a collection of fibers, (non-)woven fiber products).
- 4.6 In addition, in the preamble of claim 1, the term "wood board" is indicated as a separate alternative to *inter alia* "an orientated strand board", "a wood particle board" or "plywood", which are all not only products usually available in the form of wood boards but could also be seen as cellulosic materials. Therefore, in view of the structure of claim 1 itself, the amendment made "wherein the product is wood board" could be held as effectively excluding products such as "an orientated strand board", "a wood particle board", "plywood". However, said products could be held to fall under the more generic term "cellulosic material", should it not be read as being limited to the more specific definition of "collection of cellulose containing particles or fibers" (section 4.4).
- 4.7 In its letter of 19 July 2021 (page 4), the appellant argued that there was no problem of clarity in regard of the products defined in operative claim 1 because the claims should be read with a mind willing to understand. Also, in order to determine whether a product fell under the scope of claim 1, it had to be assessed if the product fulfilled both requirements of

claim 1, namely it had to belong to the closed list according to the preamble of claim 1 and also be either a wood board or a cellulosic material.

However, for the reasons given in sections 4.3 to 4.6 above, the Board considers that, in the present case, in view of both the structure and the wording used in operative claim 1, the nature of the products effectively defined by the combination of these two requirements specified in claim 1 of the main request leaves room to interpretation and may be read in different manners. Under these circumstances, it is concluded that the amendments indicated in section 4.1 read in combination with the preamble of claim 1 may be read as limiting in different manners the definition of the products specified in claim 1. As a consequence, even with a mind willing to understand the meaning of the terms specified in operative claim 1, the subject-matter for which protection is sought is not unambiguously defined, i.e. the skilled person is not in the position to determine unambiguously if he is working within or outside the scope of claim 1.

- 4.8 In view of the above, claim 1 does not meet the requirements of Article 84 EPC and the main request is not allowable.
- 5. First auxiliary request: Article 123(2) EPC
 - 5.1 The respondents argued that claims 1 and 4 of the first auxiliary request did not meet the requirements of Article 123(2) EPC.
 - 5.2 For the assessment of Article 123(2) EPC, the question to be answered is whether or not the subject-matter of an amended claim extends beyond the content of the

application as filed, i.e. whether after the amendment the skilled person is presented with new technical information (see G 2/10, OJ EPO 2012, 376, point 4.5.1 of the Reasons and Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, II.E.1.1). In the case of multiple amendments being made, as is the case here, the question has to be posed whether the specific combination of features now being defined in operative claim 1 emerges from the application as filed, whereby the description is not to be viewed as a reservoir from which features pertaining to separate embodiments can be freely combined in order to artificially create a certain embodiment (Case Law, *supra*, II.E.1.4.1).

5.3 Claim 1 of the main request corresponds to claim 16 as originally filed wherein the reference to the binder being in accordance with any of original claims 1 to 4 was replaced by the following amendments:

- (i) the binder was further defined as being an aqueous binder composition, comprising a carbohydrate component (a) and an amine component (b), wherein the carbohydrate component (a) comprises one or more pentose(s) in a total amount of 3 to 70 mass% and one or more hexose(s) in a total amount of 97 to 30 mass%, based on the mass of the total carbohydrate component (a);
- (ii) the amine component (b) was further defined as being selected from the group consisting of hexamethylenediamine (HMDA) and ammonium sulfate.

5.4 Regarding amendment (i), the subject-matter of operative claim 1 amounts to the combination of

claims 16 and claim 2 as originally filed, whereby said claim 16 was explicitly referring to the binder according to any of claims 1 to 4. It is further derivable from the application as filed as a whole that the combination of pentose(s) and hexose(s) so defined was particularly aimed at and was described as being a specific embodiment of the invention being claimed (claim 2; page 5, second paragraph; paragraph bridging pages 5 and 6; examples 1-3 which all disclose aqueous binder compositions containing a carbohydrate component (a) comprising pentose and hexose). It is further noted that the application as filed contained no other alternative embodiment to the use of hexose(s) as additional component to pentose(s) for further defining the carbohydrate component (a) defined in the more general manner in the application as filed (i.e. no selection between various alternatives was needed in order to choose "hexose(s)"), namely according to original claim 1. Therefore, the Board is satisfied that the specific combination of original claims 16 and 2 is directly and unambiguously derivable from the application as filed.

5.5 In order to arrive at the subject-matter of operative claim 1, one has further to define component (b) according to above amendment (ii).

5.5.1 In that respect, the application as filed contains a list of compounds that may suitably be used as component (b) (page 3, lines 33 to page 4, line 8), including "ammonium sulphate" (page 3, line 34) and "hexamethylenediamine" (page 4, line 2). The application as filed further does not contain any limitation regarding the nature of the amine component (b) and even acknowledges that the selection of the amine component is "not specifically

restricted" (page 3, lines 23-25). Therefore, the selection of two specific components - HMDA or ammonium sulfate - within the list of suitable alternatives indicated in the paragraph bridging pages 3 and 4 of the application as filed does not lead to new technical information as compared to the content of the application as filed as a whole. In that respect, it is noted that the selection of HMDA or ammonium sulfate was indicated by respondent 1 to be "arbitrary" (rejoinder: page 22, paragraph preceding section H) and by respondent 3 to "not contribute to the inventive step" (rejoinder: page 29, last paragraph), which are statements that are in line with the disclosure of the application as filed.

In addition, it is agreed with the appellant that the use of each of these two specific components in either example 1 (HMDA is specified in table 1) or examples 2-3 (ammonium sulfate, i.e. chemical compound $(\text{NH}_4)_2\text{SO}_4$ is indicated in table 2 and at page 17, lines 1-2) of the application as filed constitute pointers that each of these components was somewhat preferred ones among the list of alternatives disclosed in a general manner in the description.

Since these components are used as sole amine component (b) in these examples, the fact that the passage at page 3, lines 33 to page 4, line 8 of the application as filed indicates that component (b) "may comprise one or more of" a long list of components "as well as derivatives and combinations thereof" constitutes no valid reason to deviate from the above finding. Indeed, the pointer given by examples 1 to 3 of the application as filed is that, among that list of suitable alternatives, either HMDA alone or ammonium sulfate alone constitute preferred embodiments for

component (b).

- 5.5.2 Respondent 1 (letter of 20 November 2020: pages 8-9) and respondent 3 (letter of 22 July 2021: page 5, second paragraph) argued that the amendment made in relation to the nature of component (b) constituted an intermediate generalisation based on a single feature taken out of more specific examples, which was unallowable.

However, the examples are not the sole support for the amendment made in respect of component (b). Rather, the examples are seen as a pointer that among the list of components indicated in the paragraph bridging pages 3 and 4 as being suitable embodiments for component (b) - which is a mandatory component of the binder defined in original claim 16 due to the back reference to original claims 1 or 2 - two are more preferred, namely HMDA and ammonium sulfate. Therefore, the amendment made is not solely based on the fact that the two components mentioned therein are used in the examples of the application as filed but it constitutes a limitation of a feature already present in original claim 16 (component (b)) on the basis of the general information contained in the description (page 3, lines 23-25; page 3, lines 33 to page 4, line 8) and of the more specific disclosure of the examples. Therefore, in the present case, amendment (ii) is not held to constitute an unallowable intermediate generalisation.

- 5.6 In its letter of 20 November 2020 (page 9, first paragraph), respondent 1 further argued that the application as filed did not provide a valid support for the specific combination of amounts of pentose(s), amounts of hexose(s) and component (b) being selected from the group of HMDA and ammonium sulfate.

However, as explained in section 5.4 and 5.5.1 above, the subject-matter of claim 1 of the first auxiliary request is seen as the combination of original claims 16 and 2 (for which there are pointers in the application as filed) with the general teaching on page 3, lines 33 to page 4, line 8 of the application as filed regarding the nature of the amine compound (b), whereby the examples provide a further pointer to two preferred components (HMDA, ammonium sulfate). Under these circumstances, the Board is satisfied that the skilled person aiming at carrying out the teaching of the application as filed would have been led in a direct and unambiguous manner to the combination of features indicated in claim 1 of the first auxiliary request. In view of the indicated pointers in the application as filed to the amendments made, the Board does not consider that the amendments made to claim 16 of the application as filed result in the present case in artificially creating a particular embodiment. Rather, said combination of features is considered to emerge directly and unambiguously from the content of the application as filed.

- 5.7 Respondent 3 (rejoinder to the statement of grounds of appeal: page 29, fifth paragraph; letter of 22 July 2021: page 4, penultimate paragraph) read claim 1 as being limited to or at least encompassing embodiments in which the amine component (b) contained the combination of both HMDA and ammonium sulfate.

However, in the Board's view, it makes no doubt that the wording "the amine component (b) is **selected from the group consisting of** hexamethylenediamine (HMDA) and ammonium sulfate" (emphasis by the Board) does not encompass the combination of both components but

effectively limits the definition of component being either HMDA alone or ammonium sulfate alone. That view, which was indicated in the Board's communication (section 11.3.3) was adhered to by the appellant (letter of 19 July 2021: page 7, third paragraph, which was confirmed at the oral proceedings before the Board). Also, no reason was advanced by the respondents which would justify to read the otherwise unambiguous wording of claim 1 in a different manner on the basis of a passage of the description (respondent 3's letter of 22 July 2021: paragraph bridging pages 4 and 5). Therefore, the objection did not convince.

- 5.8 At the oral proceedings before the Board, respondent 2 argued that in view of the paragraph at page 4, lines 10-13 of the application as filed, the term "ammonium sulfate" indicated in claim 1 of the first auxiliary request was not limited to the chemical compound $(\text{NH}_4)_2\text{SO}_4$ but encompassed further components for which no pointer was present in the application as filed. Arguing along the same line, respondent 3 further argued that the patent in suit could be used as the patent's own dictionary to assess the correct meaning of a term present in a claim.

However, the normal rule of claim construction is that the terms used in a claim should be given their broadest technically sensible meaning in the context of the claim in which they appear. However, if a term present in a claim has a clear technical meaning, the description cannot be used to interpret such a term in a different way (Case Law, *supra*, section II.A.6.3.1).

In the present case, no evidence was provided by the respondents to show that the term "ammonium sulfate", which is present in claim 1, may be held to encompass

other, different chemical compounds than the chemical component $(\text{NH}_4)_2\text{SO}_4$, which corresponds to the usual and unambiguous meaning of the term "ammonium sulfate". Under these circumstances, there are no reasons to turn to the description to read the term "ammonium sulfate" in a different - here broader - manner than its otherwise unambiguous meaning. Therefore, the respondents' objections related to a broader reading of "ammonium sulfate" on the basis of page 4, lines 10-13 of the application as filed and/or to use said passage as a definition of that term, are both rejected.

- 5.9 In view of sections 5.3 to 5.8 above, the respondents' arguments provide no reason for the Board to conclude that claim 1 of the first auxiliary request does not meet the requirements of Article 123(2) EPC.
- 5.10 The same conclusion is equally valid for claim 4 of the first auxiliary request which is, for the same reasons, directly and unambiguously derivable from the combination of original claims 16, 7 and 9 with the same passages of the application as filed referred to for claim 1 of the first auxiliary request.
- 5.11 For these reasons, the respondents' objections pursuant to Article 123(2) EPC raised against claims 1 and 4 of the first auxiliary request are rejected.
6. First auxiliary request - Admittance of the objections pursuant to Rule 80 EPC and Article 84 EPC
- 6.1 At the oral proceedings before the Board, the appellant requested that
- respondent 3's objection pursuant to Rule 80 EPC, which was raised for the first time with letter of

22 July 2021; and

- respondent 1's objection pursuant to Article 84 EPC which was raised for the first time at the oral proceedings before the Board

be not admitted into the proceedings.

6.2 Since these objections were both raised after the summons to oral proceedings were notified to the parties, they constitute amendments to the respondents' cases and their admittance is subject to the stipulations of Article 13(2) RPBA 2020, according to which such amendments shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

6.3 In the Board's view, considering that the operative first auxiliary request corresponds to the fifth auxiliary request dealt with in the decision under appeal, there can be no exceptional circumstances which may justify the submission of an objection pursuant to Rule 80 EPC or Article 84 EPC at such a late stage.

6.4 Respondent 3 justified the late filing of the objection pursuant to Rule 80 EPC by the fact that the preliminary opinion of the Board pursuant to Article 123(2) EPC did not appear to be in their favour, so that they were incited to raise additional objections. However, as stipulated in Article 12(3) RPBA 2020, a party's complete case should be provided in the statement of grounds of appeal or the reply thereto.

Respondent 1 argued that the objection pursuant to

Article 84 EPC was raised for the first time at the oral proceedings in view of arguments put forward by respondent 2 in respect of Article 123(2) EPC (section 5.6 above). However, that argument is not convincing not only for the same reason as indicated in the preceding paragraph but also e.g. in view of section 8.2 of the decision under appeal, which already addressed that specific issue.

Under these circumstances, the arguments provided by the respondents do not constitute cogent reasons demonstrating that exceptional circumstances in the sense of Article 13(2) RPBA 2020 prevailed in the present case, which would justify the filing of the objections pursuant Rule 80 EPC and/or Article 84 EPC at such a late stage of the proceedings.

6.5 For these reasons, the objection pursuant to Rule 80 EPC raised for the first time with letter dated 22 July 2021 and the objection pursuant to Article 84 EPC raised during the oral proceedings before the Board are not admitted into the proceedings pursuant to Article 13(2) RPBA 2020.

7. Remittal for further prosecution

Remittal of the case to the department of first instance for further prosecution was requested by all parties on the grounds that the grounds of opposition raised against the patent in suit under Article 100(a) EPC and Article 100(b) EPC were not dealt with by the opposition division. In view of that and considering that the primary object of the appeal proceedings is to review the decision under appeal (as now explicitly stated in Article 12(2) RPBA 2020), the Board considers that the circumstances of the present

case amount to special reasons pursuant to Article 11 RPBA 2020. Accordingly, exercising its discretion under Article 111(1), second sentence, EPC, the board decided to remit the case to the department of first instance for further prosecution.

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 first instance for further prosecution on the basis of the first auxiliary request filed with letter dated 19 July 2021.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated