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**Datasheet for the decision
of 14 September 2023**

Case Number: T 1440/17 - 3.2.05

Application Number: 10735514.1

Publication Number: 2391490

IPC: B29B7/82, B29B7/92, B27N1/02,
B29B17/00, C08J5/04, C08J5/06

Language of the proceedings: EN

Title of invention:
Process for adding a coupling agent to raw stock

Patent Proprietor:
UPM-Kymmene Corporation

Opponents:
REHAU Industries SE & Co. KG
Schmitz, Joseph
Stora Enso Oyj

Relevant legal provisions:
EPC Art. 123(2)
RPBA 2020 Art. 13(2)

Keyword:

Main request and auxiliary requests 1 to 5: amendment after summons - exceptional circumstances (yes), taken into account (yes)

Main request and auxiliary requests 1 to 5: amendments - allowable (no), extension beyond the content of the application as filed (yes)

Decisions cited:

T 0989/15



Beschwerdekammern

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Case Number: T 1440/17 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 14 September 2023

Appellant I:
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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 May 2017 concerning maintenance of the
European Patent No. 2391490 in amended form.**

Composition of the Board:

Chairman P. Lanz
Members: M. Holz
 T. Karamanli

Summary of Facts and Submissions

- I. The patent proprietor (appellant I), opponent 2 (appellant II) and opponent 3 (appellant III) appealed against the opposition division's interlocutory decision finding that, taking into account the amendments made by the patent proprietor during the opposition proceedings according to auxiliary request IIA, European patent No. 2 391 490 (hereinafter: the "patent") and the invention to which it related met the requirements of the EPC.
- II. On 4 July 2022, a summons to oral proceedings was issued. In a communication pursuant to Article 15(1) RPBA 2020 dated 19 July 2023, the board set out its preliminary opinion that, *inter alia*, the skilled person understood the feature of "*a hot-cold mixer with high mixing rates, long dwell time [...]*" included in claim 1 of auxiliary request IIA, which formed the basis of the opposition division's decision, as referring to (a specification or rating of) the hot-cold mixer, i.e. in terms of what mixing rates and dwell time were supported by the hot-cold mixer, rather than to the mixing rate(s) actually used in the specific implementation of the process of claim 1 (see point 8.1 of the board's communication). The board also indicated that it could not find any basis in the application as published for the definition that the adhesion between the fiber-based lignin-free material and the polymer-based material was ameliorated by the high mixing rate (in addition to the coupling agent, long dwell time, high temperature and large contact

area), as specified in claim 1 of auxiliary request IIA (see point 8.2 of the board's communication).

III. By letter of 21 August 2023, the patent proprietor filed amended claims according to a new main request and new auxiliary requests 1 to 5, stating the following:

"We kindly request that the newly-filed sets of amended claims are admitted to the proceedings, in which case these would replace all requests previously on file.

In the event that the Board of Appeal decides not to admit the newly-filed sets of claims, then our requests with our grounds of Appeal and Response to the Grounds of Appeal are maintained."

IV. Oral proceedings before the board were held on 14 September 2023.

The patent proprietor confirmed that its statement in its letter of 21 August 2023 meant that, if its requests filed by letter dated 21 August 2023 were admitted into the appeal proceedings, its requests filed with its statement of grounds of appeal and its reply were to be regarded as withdrawn.

V. Final requests

The patent proprietor requested that the decision under appeal be set aside and that the patent be maintained as amended on the basis of the claims of the main

request or of one of auxiliary requests 1 to 5, all requests filed by letter dated 21 August 2023.

Opponent 1 (party as of right) requested that the patent proprietor's appeal be dismissed.

Opponents 2 and 3 requested that the decision under appeal be set aside and that the patent be revoked.

VI. Claim versions

Claim 1 of the main request filed by letter dated 21 August 2023 reads as follows (the feature numbering used by the board is included in square brackets):

"**[1]** A process for manufacturing composite material which contains fiber based lignin-free material and polymer based material, **[2]** wherein the manufacture includes a preliminary treatment process to form a raw stock mixture, characterized in that **[3]** the preliminary treatment process includes a hot-cold mixing device which comprises at least a heating stage and a cooling stage, **[4]** and the hot-cold mixing device is used to provide, during the heating stage, a sufficiently long dwell time, sufficiently high temperature, high mixing rates and large contact area, wherein agglomerates are formed from the raw stock mixture in the mixing device, **[5]** wherein a coupling agent and raw stock containing the fiber based lignin-free material and the polymer based material are fed to the hot-cold mixing device to form the raw stock mixture, **[6]** the raw stock mixture is heated in the hot-cold mixing device to a temperature of above 180°C and **[7]** adhesion between the fiber based lignin-free material and the polymer based material of the raw

stock is ameliorated by the coupling agent, long dwell time, high temperature, high mixing rate and large contact area, [8] wherein the hot-cold mixing device is a hot-cold mixer."

Claim 1 of auxiliary request 1 filed by letter dated 21 August 2023 differs from claim 1 of the main request filed with that letter in that feature 6 has been replaced with the following feature 6':

"[6'] the raw stock mixture is heated in the hot-cold mixing device to a temperature of above 185°C and"

Claim 1 of auxiliary request 2 filed by letter dated 21 August 2023 differs from claim 1 of the main request filed with that letter in that feature 4 has been replaced with the following feature 4':

"[4'] and the hot-cold mixing device is used to provide, during the heating stage, a sufficiently long dwell time which is 15-20 minutes, sufficiently high temperature, high mixing rates and large contact area, wherein agglomerates are formed from the raw stock mixture in the mixing device,"

Claim 1 of auxiliary request 3 filed by letter dated 21 August 2023 differs from claim 1 of the main request filed with that letter in that features 4 and 6 have been replaced with features 4' and 6', respectively.

Claim 1 of auxiliary request 4 filed by letter dated 21 August 2023 differs from claim 1 of the main request filed with that letter in that the following feature 5a has been inserted between features 5 and 6:

"[5a] characterized in that adhesive laminate waste is used as at least one raw stock,"

Claim 1 of auxiliary request 5 filed by letter dated 21 August 2023 differs from claim 1 of auxiliary request 4 filed with that letter in that the following feature 5b has been inserted between features 5a and 6:

"[5b] wherein the adhesive laminate waste contains adhesive material onto which a layer of glue has been provided, and fitted onto the layer of glue is release material, wherein the release material contains a silicone based component or the release material is coated with silicone based material,"

VII. The parties' submissions can be summarised as follows.

(a) Admittance of the requests filed with the patent proprietor's letter dated 21 August 2023

(i) Patent proprietor

The main request and auxiliary requests 1 to 5 filed by letter dated 21 August 2023 were a response to the board's communication under Article 15(1) RPBA 2020. As discussed in section 8.1 of that communication, the board considered that the wording of "a hot-cold mixer with high mixing rates, long dwell time [...]" included in claim 1 of auxiliary request IIA, which formed the basis of the opposition division's decision, could and should be understood to mean that the device used in the process had certain capabilities, and not necessarily that the process was carried out in a manner which made use of those features. This was a new way of interpreting the claim which had not been part

of the discussion so far, and it was not in line with what had been intended. In amended claim 1 of the main request and auxiliary requests 1 to 5 filed by letter dated 21 August 2023, the language in question was therefore clearly attached only to the process, thus avoiding an incorrect interpretation regarding mixer capabilities.

(ii) Opponents

There was nothing new in point 8.1 of the board's communication under Article 15(1) RPBA 2020 as compared with point V of opponent 3's statement of grounds of appeal and page 8 of opponent 2's statement of grounds of appeal. Claim 1 of the requests filed by the patent proprietor's letter dated 21 August 2023 included an amended feature taken from the description (see "*during the heating stage*" in feature 4). The new requests thus constituted a fresh case. In view of the primary function of the appeal proceedings, these requests were not to be examined by the board. In addition, the amendments did not overcome the previously raised objections and gave rise to new objections under Article 123(2) EPC.

(b) Objection under Article 123(2) EPC

(i) Patent proprietor

Feature 7 had a basis in claim 1 and in page 2, lines 27 to 34, page 4, lines 4 to 9 and 17 to 34, page 5, lines 1 to 6 and page 8, lines 12 to 19 of the application as filed. Page 8, lines 9 to 28 disclosed that a large contact area improved the adhesion. This passage did not explicitly mention a high mixing rate.

However, it was inherently disclosed by the parameter "large contact area". This followed from the disclosure on page 4, lines 29 to 32, according to which a large contact area was only achieved when high mixing rates were applied. The term "mixing" on page 4, line 31 referred to "substantially powerful mixing" mentioned in the previous sentence. Powerful mixing was necessarily obtained by applying a high mixing rate. This was also why these terms were used in adjacent paragraphs of the application as filed (see the last paragraph on page 4 and the first paragraph on page 5). A similar disclosure establishing a connection between a high mixing rate and a large contact area was found on page 10, lines 26 to 30 of the published application. Feature 7 was included in claim 1 of the main request and of each of auxiliary requests 1 to 5 filed by letter dated 21 August 2023.

(ii) Opponents

There was no disclosure in the application as filed that a high mixing rate was used in the process or that this led to ameliorated adhesion as specified in feature 7. Page 8, lines 9 to 28 of the application as filed did not disclose a high mixing rate. This passage only described a result of the alleged invention, namely a homogeneous composite product. It was not unambiguously and directly derivable that this result was achieved by a high mixing rate. The term "substantially powerful mixing" used on page 4, lines 9 to 34 of the published application was not the same as a high mixing rate. The latter implied a high mixing speed. In contrast, powerful mixing could also be performed at a slow speed over a long mixing time. Consequently, the two terms were not synonymous.

Reasons for the Decision

1. Admittance of the requests filed with the patent proprietor's letter dated 21 August 2023

In the case at hand, the summons to oral proceedings was notified after the date on which RPBA 2020 entered into force, i.e. 1 January 2020 (Article 24(1) RPBA 2020). Therefore, in accordance with Article 25(1) and (3) RPBA 2020, Article 13(2) RPBA 2020 applies to the question of whether to admit the patent proprietor's main request and auxiliary requests 1 to 5, which were filed after notification of the summons to oral proceedings and are therefore amendments to the patent proprietor's appeal case within the meaning of Article 13(2) RPBA 2020.

In accordance with Article 13(2) RPBA 2020, any amendment to a party's appeal case made after notification of a summons to oral proceedings is, in principle, not taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

In this regard, the patent proprietor refers to the claim interpretation set out in point 8.1 of the board's communication under Article 15(1) RPBA 2020. In that passage (see the last paragraph on page 18), the board gave its preliminary opinion that it seemed possible that the skilled person understood the feature "*a hot-cold mixer with high mixing rates, long dwell time [...]*" included in claim 1 of auxiliary request IIA, which formed the basis of the opposition division's decision, as referring to (a specification or rating of) the hot-cold mixer, i.e. in terms of what

mixing rates and dwell time were supported by the hot-cold mixer, rather than to the mixing rate(s) actually used in the specific implementation of the process according to claim 1.

The opponents submit that there was nothing new in point 8.1 of the board's communication under Article 15(1) RPBA 2020 as compared with point V of opponent 3's statement of grounds of appeal and page 8 of opponent 2's statement of grounds of appeal.

The board disagrees. The cited passages of the opponents' statements of grounds of appeal do not contain the above claim interpretation set out in point 8.1 of the board's communication under Article 15(1) RPBA 2020. Point V of opponent 3's statement of grounds of appeal does not present a specific interpretation of the above claim wording. On page 8, lines 17 to 20 of opponent 2's statement of grounds of appeal, it is stated that the relative terms used in the context of the generic hot-cold mixing device were not identical to the relative terms used in the context of the specific hot-cold mixer. This submission, however, does not touch on the above claim interpretation set out in the communication under Article 15(1) RPBA 2020.

The board is therefore satisfied that point 8.1 of the board's communication under Article 15(1) RPBA 2020 includes a new claim interpretation that has not previously been set out in the appeal proceedings. The filing of the amended claims according to the main request and auxiliary requests 1 to 5 with the patent proprietor's letter dated 21 August 2023 is a direct response to this claim interpretation.

The board considers this to represent exceptional circumstances within the meaning of Article 13(2) RPBA 2020.

The opponents set out that claim 1 of the requests filed with the patent proprietor's letter dated 21 August 2023 included an amended feature taken from the description. The new requests thus constituted a fresh case. In view of the primary function of the appeal proceedings to review the decision under appeal, these requests should not be examined by the board. In addition, the amendments did not overcome the previously raised objections and they gave rise to new objections under Article 123(2) EPC.

In the board's view, the opponents' latter considerations address the criteria set out in Article 13(1) RPBA 2020. However, at the third level of the convergence approach, which is implemented by Article 13(2) RPBA 2020, the boards are free to use the criteria set out in Article 13(1) RPBA 2020 when deciding, in the exercise of their discretion in accordance with Article 13(2) RPBA 2020, whether to admit an amendment made at this stage of the proceedings (see, for example, decision T 989/15, points 16 to 16.3 of the Reasons for the decision, and "Case Law of the Boards of Appeal of the European Patent Office", 10th edition, July 2022, V.A.4.5.1).

The board is of the opinion that, in view of the claim interpretation set out for the first time in the appeal proceedings in the communication under Article 15(1) RPBA 2020, which entails a substantial shift in the case, the patent proprietor should be given a fair chance to respond to this. Moreover, the wording "*during the heating stage*" in feature 4 taken from the

description addresses a previous objection of alleged unallowable intermediate generalisation (see, for example, point 5.1.2 of the board's communication under Article 15(1) RPBA 2020).

In view of the above, the board exercised its discretion under Article 13(2) RPBA 2020 and decided to admit the main request and auxiliary requests 1 to 5 filed with the patent proprietor's letter dated 21 August 2023 into the appeal proceedings.

2. Patent proprietor's main request - added subject-matter - Article 123(2) EPC

The parties are in dispute as to whether the application as filed, on which the contested patent is based, discloses feature 7 of claim 1 of the main request. The following assessment is based on the understanding that the content of the published international application is the same as that of the international application as filed, on which the contested patent is based.

Feature 7 specifies that adhesion between the fiber-based lignin-free material and the polymer-based material of the raw stock is ameliorated by five factors: the coupling agent, long dwell time, high temperature, high mixing rate and large contact area.

Claim 1 of the application as filed discloses that adhesion between fiber-based and polymer-based substances of the raw stock is ameliorated by the coupling agent. However, this claim does not disclose that adhesion is ameliorated by the other four factors

specified in feature 7. The same is true in view of page 2, lines 27 to 34 of the application as filed.

Page 4, lines 4 to 9 of the application as filed discloses that, in one embodiment of the invention, the raw stock mixture is heated in the mixing device to a temperature of above 180°C, in which case raw stock and the coupling agent react to provide adhesion between fiber-based and polymer-based substances in the raw stock by means of the coupling agent. However, this passage does not mention a long dwell time, high mixing rate and large contact area or their contribution to the technical effect of ameliorated adhesion between the fiber-based lignin-free material and the polymer-based material.

Page 8, lines 12 to 19 of the application as filed discloses that a sufficiently high temperature, long dwell time and large contact area are provided in the preliminary treatment device, especially in a hot-cold mixing device containing a heating stage, for the reaction between raw stock and the coupling agent, in which case excellent adhesion between polymer-based and fiber-based substances in the raw stock is provided.

In contrast to feature 7, however, this passage does not disclose a high mixing rate or its contribution to the technical effect of ameliorated adhesion between the fiber-based lignin-free material and the polymer-based material.

The patent proprietor submits that a high mixing rate was inherently disclosed by the parameter "large contact area". The board disagrees. Page 4, lines 17 to 34 of the application as filed (cited by the patent proprietor) discloses that, owing to the mixing, a

large contact area is provided between raw stock and the coupling agent (see lines 30 to 32). Even assuming that the term "mixing" at the beginning of line 31 of this passage refers to "substantially powerful mixing" (as used in lines 29 and 30), it is not unambiguously and directly derivable that "substantially powerful mixing" is a factor that, in addition to the coupling agent, long dwell time, high temperature and large contact area, leads to amelioration of the adhesion between the fiber-based lignin-free material and the polymer-based material of the raw stock.

Moreover, it is not unambiguously and directly derivable from the application as filed as a whole, considering the skilled person's common general knowledge, that the term "substantially powerful mixing" used on page 4, lines 29 and 30 is synonymous with a "high mixing rate" (a term used on page 5, lines 3 to 5 of the application as filed). This is not unambiguously derivable from the fact that these terms are used in adjacent paragraphs of the application as filed. In addition, the patent proprietor's view that a large contact area was only achieved when high mixing rates were applied is not unambiguously derivable from page 4, lines 17 to 34 of the application as filed. Moreover, this view seems to be technically incorrect. As set out by the opponents, to achieve a large contact area, it is alternatively possible to apply a low mixing rate for a sufficiently long mixing time.

Page 10, lines 26 to 30 of the application as filed discloses that, in tests, it was observed that a large contact area was provided between raw stock and the coupling agent owing to efficient mixing. However, the patent proprietor has not convincingly demonstrated

that the skilled person understood the term "efficient mixing" to be the same as using a "high mixing rate".

It is thus not unambiguously derivable from the application as filed that adhesion between the fiber-based lignin-free material and the polymer-based material of the raw stock is ameliorated (*inter alia*) by a high mixing rate as specified in feature 7. The subject-matter of claim 1 of the main request thus extends beyond the content of the application as filed.

Claim 1 of the patent proprietor's main request filed by letter dated 21 August 2023 therefore does not meet the requirements of Article 123(2) EPC.

3. Patent proprietor's auxiliary requests 1 to 5 - added subject-matter - Article 123(2) EPC

Feature 7 is included in claim 1 of each of the patent proprietor's auxiliary requests 1 to 5 filed by letter dated 21 August 2023. These requests therefore do not meet the requirements of Article 123(2) EPC for the same reasons as set out above in point 2.

4. Conclusion

Since neither the patent proprietor's main request nor any of the patent proprietor's auxiliary requests 1 to 5 filed by letter dated 21 August 2023 meet the requirements of Article 123(2) EPC, the patent has to be revoked in accordance with Article 101(3)(b) EPC.

Order

For these reasons it is decided that:

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

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated