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**Datasheet for the decision
of 10 April 2024**

Case Number: T 1726/22 - 3.3.05

Application Number: 14175220.4

Publication Number: 2818287

IPC: B27K5/00, C08H8/00, C08B3/06,
B27K3/34, B27K3/08

Language of the proceedings: EN

Title of invention:
Process for wood acetylation and product thereof

Applicant:
Titan Wood Limited

Headword:
Wood acetylation/Titan Wood

Relevant legal provisions:
EPC Art. 84, 113(1)
EPC R. 106

Keyword:
Claims - clarity - main request (no) - auxiliary requests (no)
Right to be heard - violation (no)
Obligation to raise objections - objection dismissed

Decisions cited:

T 0849/11

Catchword:



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Case Number: T 1726/22 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 10 April 2024

Appellant: Titan Wood Limited
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Representative: V.O.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 19 January 2022
refusing European patent application No.
14175220.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair E. Bendl
Members: S. Besselmann
R. Winkelhofer

Summary of Facts and Submissions

- I. The present appeal lies from the examining division's decision to refuse European patent application No. 14175220.4. The patent application concerns a process for wood acetylation and a product thereof.
- II. The examining division found, *inter alia*, that the claimed invention was insufficiently disclosed.
- III. With their statement of grounds of appeal, the appellant maintained the same claim requests on which the impugned decision was based (a main request and auxiliary requests 1 to 4, all submitted on 18 November 2021), but swapped the main request and auxiliary request 1.
- IV. Independent claim 1 of the present main request reads as follows:
"Acetylated wood having:
a) a radial shrinkage ratio R_2/R_1 of 0.27 to 0.64, preferably of 0.30 to 0.58, wherein R_2 is the radial shrinkage after acetylation and R_1 is the shrinkage before acetylation, and
b) a tangential shrinkage ratio T_2/T_1 of 0.26 to 0.48, preferably of 0.29 to 0.44, wherein T_2 is the tangential shrinkage after acetylation and T_1 is the shrinkage before acetylation,
wherein the acetylated wood has a width of 2 cm to 30 cm, a thickness of 2 cm to 16 cm and a length of from 1.5 m to 6.0 m,
wherein the wood is acetylated to at least 14% by weight at its geometrical centre."

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the feature "*wherein the radial shrinkage and the tangential shrinkage are measured at 60% to 90% relative humidity*" has been added to the end of the claim.

Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the ranges of the radial shrinkage ratio R_2/R_1 and the tangential shrinkage ratio T_2/T_1 have been limited to the preferred ranges.

Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that the upper limits of the width, the thickness and the length have been amended to 10 cm, 10 cm and 4.0 m, respectively.

Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 3 in that it is specified that the wood is acetylated to 14% to 22% by weight at its geometrical centre.

- V. In a communication pursuant to Article 15(1) RPBA (12 December 2023), the board was of the preliminary opinion that the requirements of Articles 84 and 83 EPC were not met by all of the requests.

- VI. The appellant made a further submission (28 March 2024), in particular in reply to the board's objection of lack of clarity.

- VII. During the oral proceedings before the board, over the course of the discussion, the appellant requested an opportunity to submit further evidence by postponing the oral proceedings and/or continuing in writing.

When this request was not granted, the appellant raised an objection pursuant to Rule 106 EPC, reading as follows:

"Objection under Rule 106 EPC

We hereby object under Rule 106 EPC to the decision to not give us an opportunity to submit evidence about the selection of appropriate reference untreated wood, in connection with the issue raised in point 6.13 and 6.14 of the preliminary opinion. Hereby our right to be heard is violated, Article 113(1) EPC."

VIII. The appellant's arguments, as far as relevant to the present decision, may be summarised as follows:

Clarity

The shrinkage ratios provided a clear definition of the acetylated wood. They could be easily determined during the manufacture of the acetylated wood. Alternatively, they could be determined by using an unacetylated reference wood, and the skilled person would know how to identify a suitable reference wood. Pursuant to T 849/11, there had been no need to specify a measuring method because all the methods provided essentially the same results. The appellant did not bear the burden of proof in this respect.

Request for an opportunity to submit evidence

An opportunity was to be granted to file new evidence regarding the selection of appropriate untreated reference wood by postponing the oral proceedings and/or resuming the written proceedings. Fresh issues had been raised during the oral proceedings before the board, namely the question of whether the shrinkage ratios could be determined on the basis of the acetylated wood insofar it was addressed under

Article 84 EPC, and in addition the question of how the skilled person could identify a suitable reference wood to measure the shrinkage ratio. The appellant was thus to be given the opportunity to respond by filing new evidence. Moreover, the board bore the "burden of proof" if it did not agree that an unacetylated reference wood could be used.

Right to be heard

Not being given the requested opportunity to submit evidence was a violation of the right to be heard.

- IX. The appellant requests that the decision under appeal be set aside and amended such that a patent be granted on the basis of the main request, or on the basis of one of auxiliary requests 1-4, with the main request and auxiliary request 1 having been submitted with the grounds of appeal, and auxiliary requests 2-4 being the requests of 18 November 2021.

Reasons for the Decision

1. Clarity
- 1.1 Claim 1 relates to an acetylated wood with specified dimensions, which is acetylated to at least 14% by weight at its geometrical centre and which has a "radial shrinkage ratio $R2/R1$ " and a "tangential shrinkage ratio $T2/T1$ " within the specified ranges, wherein $R2$ ($T2$) is the radial (tangential) shrinkage after acetylation and $R1$ ($T1$) is the radial (tangential) shrinkage before acetylation.

- 1.2 The claimed subject-matter is thus defined by parameters; however, even though the claims relate to an acetylated wood as such, the parameters, i.e. the shrinkage ratios, are defined in relation to the wood *before acetylation*. The application does not mention anything regarding how the shrinkage ratios, relative to the shrinkage *before acetylation*, could be determined on the basis of the *acetylated* wood.
- 1.3 According to the appellant, the shrinkage ratios could be easily determined during the manufacture of the acetylated wood, during which the wood before acetylation was necessarily available and its shrinkage could thus be measured easily. In their opinion, it was sufficient that the relevant parameter could be determined at some point over the course of the manufacturing process.
- 1.4 These arguments are not convincing. It is not enough for the requirement of clarity to be fulfilled in that the parameter can be measured when manufacturing the wood, as the manufacturing method is not specified in the claim. The skilled person needs to be able to determine whether a given acetylated wood falls within the scope of the claim, the claim being directed to an acetylated wood as such. As outlined in T 849/11, an applicant who chooses to define the scope of the claim by parameters should ensure, *inter alia*, that a skilled person can easily and unambiguously verify whether they are working inside or outside the scope of the claim (point 1.1.A(3) of the Reasons); however, in the present case, it is impossible for the skilled person faced with the acetylated wood to revert to the manufacturing process during which the shrinkage before acetylation could have been measured, or to the unacetylated wood.

- 1.5 The appellant also argued that the skilled person could alternatively measure the shrinkage ratio by using "*a reference non-acetylated wood sample of the same wood species having similar properties*" (submission of 28 March 2024, page 6, lines 13-15). During the oral proceedings, they added that this meant the same wood species of the same geographic origin, and the same part of the tree, i.e. heartwood or sapwood. The appellant submitted that the skilled person could identify the wood species by isotope analysis.
- 1.6 However, the question of how the shrinkage ratio could be measured on the basis of an acetylated wood is not addressed in the application. Using a reference wood is not suggested anywhere, let alone specified in the claim. Even if it is nevertheless assumed that the skilled person had the idea to turn to using a reference wood, they would not find any instructions on how to select a suitable reference wood. In contrast to the appellant's submission, it thus cannot be concluded that the skilled person would necessarily select a wood using the same criteria as identified by the appellant. Considering that the choice of the reference wood, and indeed the choice of the measuring method in general, is in no way limited, it cannot be concluded that repeatable and reliable results for the shrinkage ratios would be obtained on this basis, irrespective of the question of whether such a reference wood can be reliably identified, and whether such a reference wood is at all representative of the (acetylated) wood under consideration. This is all the more true as the tangential and radial shrinkage have to be determined independently, as specified in the claim, meaning that the reference wood must also reproduce the radial and tangential contributions.

- 1.7 There are cases in which it is not necessary to specify the measuring method for a parameter in the claim, namely when it is (*"convincingly"*) shown that the method to be employed belongs to the skilled person's common general knowledge, *or all the methodologies known in the relevant technical field for determining this parameter yield the same result within the appropriate limit of measurement accuracy* [emphasis added] (T [849/11](#), point 1.1.B(ii) of the Reasons); however, it is a mere assertion by the appellant that the skilled person could and would use a reference wood, and that this would lead to reliable results. This assertion is not even supported by the application, nor is any other supporting information available. By contrast with the appellant's view, it thus cannot be concluded that the present case would be such an exceptional case in which it would be unnecessary to specify the measuring method.
- 1.8 The appellant was of the opinion that they should not bear the burden of proof in this regard; however, this view is contradictory to the "if it could be [*"convincingly"*] shown" wording in T 849/11 (point 1.1.B of the Reasons). Moreover, it is established case law that each party bears the burden of proof for the facts they allege (Case Law of the Boards of Appeal of the EPO, 10th edition, 2022 III.G.5.1.1).
- 1.9 For these reasons, the reference to the shrinkage *ratios* relative to the wood *before acetylation* does not provide a clear definition of the claimed *acetylated* wood.
- 1.10 The requirements of Article 84 EPC are therefore not met.

Auxiliary requests 1-4

2. Clarity

- 2.1 The same considerations as outlined with regard to the main request (see point 1. above) apply to auxiliary requests 1-4, in which claim 1 also relates to an acetylated wood defined, *inter alia*, by reference to the radial and tangential shrinkage ratios.

Procedural requests

3. Request for an opportunity to file new evidence

- 3.1 During the oral proceedings, the appellant requested that they be postponed and/or continued in writing, to have an opportunity to file new evidence regarding the selection of appropriate untreated reference wood. The appellant was of the view that they had been confronted with a new objection during the oral proceedings before the board, when the question of whether the shrinkage ratios could be determined on the basis of the acetylated wood had been addressed under Article 84 EPC. According to the appellant, this question had previously only been raised as a possible issue of sufficiency of disclosure. It could not have been understood from the preliminary opinion that Article 84 EPC was invoked in this respect.

Also according to the appellant, the question of how the skilled person could identify a suitable reference wood to measure the shrinkage ratio was also a fresh issue raised for the first time during the oral

proceedings before the board. Accordingly, they should be given the opportunity to file further evidence in response to it.

3.2 However, there was no unexpected procedural development during the oral proceedings before the board that would have warranted the oral proceedings being postponed or the written proceedings being resumed to provide a further opportunity for the appellant to make new submissions.

3.3 The issue that there was no indication of how the shrinkage ratios, which were defined in relation to wood before acetylation, could be determined on the basis of the acetylated wood was raised in the board's communication with its preliminary opinion (point 6.13). It was indicated that "these ratios thus appear to be *per se* unsuitable to define the claimed wood" (point 6.13, last sentence). It was then explicitly stated in the next sentence (point 6.14) that "[t]he unsuitability of the parameter to characterise the claimed wood is not only a further reason why the claims lack clarity (Article 84 EPC), but ...", i.e. this issue was explicitly raised under Article 84 EPC.

Insufficiency of disclosure (Article 83 EPC) was additionally invoked, but was based on the observation that the ambiguities as a whole appeared to permeate the whole claim (point 6.14 of the preliminary opinion). This means that the objection under Article 83 EPC was presented as the consequence of the extent and the impact of the clarity issues, thereby underlining that Article 84 EPC was also invoked. Furthermore, the relevant section 6. of the

preliminary opinion was entitled "Clarity and sufficiency of disclosure".

- 3.4 During the oral proceedings before the board, the question of whether the shrinkage ratios, relative to the untreated wood, could be determined on the basis of the acetylated wood was discussed under Article 84 EPC. In the light of the above, and by contrast with the appellant's assertion, invoking Article 84 EPC was fully in line with the board's preliminary opinion and did not confront the appellant with any new or unexpected matter.
- 3.5 The appellant had replied to the board's preliminary opinion (submission of 28 March 2024) by arguing, *inter alia*, that "*even downstream of the supply chain, the skilled person can determine the ratios without undue burden, namely by using a reference non-acetylated wood sample of the same wood species and having similar properties*" (page 6, lines 13-15).

Indeed, it was thus the appellant themselves who brought up the possibility of using a reference wood. This assertion was neither corroborated in any way, with no further explanations or evidence having been provided, nor was it supported by the application itself. The application does not in any way address the issue of measuring the shrinkage ratios downstream of the supply chain or of using a reference wood for this purpose. During the oral proceedings before the board, it was put to the appellant that there appeared to be no proof for their assertion that the skilled person would be able to measure the shrinkage ratio even if the non-acetylated wood was unavailable, namely by using a reference non-acetylated wood sample, and would be able to identify a suitable reference wood.

The question of whether a reference wood could be used is not a separate, new issue, but relates to the general question of whether the skilled person would be able to measure the shrinkage ratios relative to the shrinkage *before acetylation* on the basis of the *acetylated* wood, when the non-acetylated wood is no longer available. It was not contested that this general question was raised in the preliminary opinion (points 6.13 and 6.14); see the objection under Rule 106 EPC. The appellant should have submitted their complete reply to this question with their submission of 28 March 2024, or at the latest during the oral proceedings before the board.

- 3.6 The appellant was of the opinion that their argument that a reference wood could be used overcame the board's objection on a *prima facie* basis, and that the board bore the "burden of proof" to provide counter-evidence in the form of "verifiable" facts if it did not agree.
- 3.7 However, it was the appellant who alleged that a reference wood could be used, as indicated. It is established case law that each party bears the burden of proof for the facts they allege (Case Law of the Boards of Appeal of the EPO, 10th edition, 2022 III.G. 5.1.1). Assessing whether the appellant's submission is an unsupported assertion or a proven fact is an essential element of the appeal proceedings. To the contrary, this does not amount to raising fresh technical issues that could take the appellant by surprise.
- 3.8 For these reasons, there was no unexpected procedural development that would have warranted a further

opportunity for the appellant to make new submissions by postponing the oral proceedings or resuming the written proceedings.

4. Rule 106 EPC in conjunction with Article 113(1) EPC

4.1 In this context, the appellant objected to not being given an opportunity to submit evidence regarding the selection of appropriate reference untreated wood, in connection with the issue raised in point 6.13 and 6.14 of the preliminary opinion. In their view, their right to be heard had thus been violated.

4.2 The appellant thereby acknowledged that the general question of how the shrinkage ratio could be measured on the basis of the acetylated wood was raised in the preliminary opinion. As follows from the above (point 3.), it was the appellant who alleged in the reply to the board's preliminary opinion that "even downstream of the supply chain, the skilled person can determine the ratios without undue burden, namely by using a reference non-acetylated wood sample of the same wood species and having similar properties" (page 6, lines 13-15), but without corroborating this in any way.

However, as indicated, the appellant should have submitted their complete case in this regard with their submission of 28 March 2024, or at the latest during the oral proceedings. There was no unexpected procedural development that would have warranted a further opportunity for the appellant to make new submissions after the oral proceedings. The appellant's right to be heard was not violated by such an opportunity not being granted.

4.3 The appellant's objection under Rule 106 EPC was thus to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



C. Vodz

E. Bendl

Decision electronically authenticated