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**Datasheet for the decision  
of 27 January 2026**

**Case Number:** T 0456/24 - 3.2.07

**Application Number:** 14783626.6

**Publication Number:** 3058137

**IPC:** D21J7/00, D21H11/12, B65D85/32

**Language of the proceedings:** EN

**Title of invention:**

PACKAGING UNIT COMPRISING NON-WOOD LIGNOCELLULOSIC BIOMASS AND  
METHOD FOR MANUFACTURING SUCH PACKAGING UNIT

**Patent Proprietor:**

Huhtamaki Molded Fiber Technology B.V.

**Opponent:**

Brødrene Hartmann A/S

**Headword:**

**Relevant legal provisions:**

EPC Art. 54(2), 56  
RPBA 2020 Art. 12(6)

**Keyword:**

Novelty - (yes)

Inventive step - (yes)

Late-filed evidence - should have been submitted in first-  
instance proceedings (yes) - circumstances of appeal case  
justify admittance (no)

**Decisions cited:**

G 0001/24

**Catchword:**



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

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Case Number: T 0456/24 - 3.2.07

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.07**  
**of 27 January 2026**

**Appellant:** Brødrene Hartmann A/S  
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**Respondent:** Huhtamaki Molded Fiber Technology B.V.  
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**Representative:** Arnold & Siedsma  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 29 January 2024  
rejecting the opposition filed against European  
patent No. 3058137 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman** E. Mille  
**Members:** V. Bevilacqua  
S. Watson

## Summary of Facts and Submissions

I. An appeal was filed by the opponent (appellant) against the decision of the opposition division to reject their opposition against European patent No. 3 058 137.

II. The appellant requests that:

- the decision under appeal be set aside;
- the patent be revoked.

The respondent (patent proprietor) replied to the appeal requesting that:

- the appeal be dismissed (main request),  
and therefore the patent be maintained as granted;  
alternatively that
- when setting aside the appealed decision, the patent be maintained in amended form according to one of the auxiliary requests I-V, filed during opposition proceedings  
or alternatively,
- according to one of the auxiliary requests III', IV' or V' filed with the reply to the appeal.

III. The following documents mentioned in the appealed decision will be referred to in the present communication:

- D1: WO 2013141686 A1
- D2: WO 2008035082 A1
- D3: GB 2449507 A
- D4: WO 2013141687 A1
- D5: JP 2002088677 A
- D5a: JP 2002088677 A - English Translation
- D6: WO 2013033405 A1

- D10: Feedipedia - Sugarcane bagasse - Tables of chemical composition and nutritional value, 24 October 2012
- D17: Samadi, S. et al, "Production of Single Cell Protein from Sugarcane Bagasse by *Saccharomyces cerevisiae* in Tray Bioreactor" International Journal of Engineering Transactions B: Applications, Vol.29, No. 8, August 2016, pp. 1029-1036
- D18: Lunsin, R. et al, "Effect of urea- and molasses-treated sugarcane bagasse on nutrient composition and *in vitro* rumen fermentation in dairy cows", Agriculture and Natural Resources, 52, 2018, pp. 622-627
- D19: El-Saed, S. et al, "Bioconversion of sugarcane bagasse into a protein-rich product by white rot fungus", Resources, Conservation and Recycling, 12, 1994, pp. 195-200
- D20: Leang, Y.H. and Saw, H.Y. "Proximate and functional properties of sugarcane bagasse", Agro Food Industry Hi Tech, March 2011.

With the statement setting out the grounds of appeal, the appellant filed the following new documents:

- D21: Report for presence and witnessing during preparation of pulp composition from sugarcane bagasse and subsequent moulding and baking; TÜV Nord Report; 6 May 2024
- D22: Kjeldahl Proficiency Guide, 2018, Büchi Labortechnik AG
- D23: Test Report of 17 May 2024, Ref. Sample Raw Bagasse; Eurofins Product Testing Denmark A/S
- D24: Test Report of 17 May 2024, Processed Bagasse; Eurofins Product Testing Denmark A/S.

IV. In preparation for the oral proceedings, the board gave its preliminary opinion in a communication pursuant to Article 15(1) RPBA according to which the appeal was likely to be dismissed.

V. Oral proceedings before the board took place on 27 January 2026.

At the conclusion of the proceedings both parties confirmed their initial requests as final and the present decision was announced.

Further details of the oral proceedings can be found in the minutes thereof.

The arguments of the parties are dealt with in detail in the reasons for the decision.

VI. Claim 1 of the **main request** reads as follows:

"Packaging unit (2) made of moulded pulp for products like eggs, comprising:

- a bottom part (4) provided with compartments (26) for individual products, wherein the moulded pulp comprises at least 5 wt.% non-wood lignocellulosic biomass, characterized by the non-wood lignocellulosic biomass having a protein content below 2 dry wt. % of the biomass."

VII. Claim 7 of the main request reads as follows:

"Method for manufacturing a moulded fibre packaging unit (2), in particular a food package, more particular an egg package, comprising:

- providing a fibre pulp for a moulding process;

- moulding the moulded fiber packaging unit, wherein the method comprises the step of:
- adding an amount of non-wood lignocellulosic biomass to obtain a pulp mix comprising at least 5 wt.% non-wood lignocellulosic biomass, with the non-wood lignocellulosic biomass having a protein content below 2 dry wt. %."

VIII. The text of the auxiliary requests is not relevant for the present decision.

## Reasons for the Decision

### 1. Admittance of document D20

1.1 The respondent argued that document D20 should not be admitted into the appeal proceedings, contending that the reasoning provided by the opposition division for admitting this document was insufficient, as late-filed documents should only exceptionally be admitted if there are reasons to suspect that such late-filed documents prejudice the maintenance of the patent in suit.

1.2 The board disagrees.

According to established case law, since D20 was part of the opposition proceedings and the decision was based on D20, this document cannot be excluded from appeal proceedings (see Article 12(2) RPBA and the Case Law of the Boards of Appeal, 11th edition 2025, CLB in the following, V.A.3.4.3).

This is because the aim of appeal proceedings is to review the decision under appeal in a judicial manner, which, in the present case, also inevitably requires a review of the findings drawn by the opposition division on the basis of D20.

In addition, no error in the use of discretion from the opposition division is apparent, because the appealed decision clearly shows that the opposition division decided to admit D20 after a *prima facie* review of the content of the disclosure of this document (see point II.3 of the appealed decision).

2. Admittance of documents D21 to D24
  - 2.1 The respondent requested not to admit documents D21 to D24.
  - 2.2 The appellant argued in writing that these documents were filed at the first opportunity in reaction to the decision under appeal.

According to the appellant, throughout the first-instance proceedings, they had considered documents D10 and D20 sufficient to demonstrate that the protein content in sugarcane bagasse was always below 2 wt%.

The opposition division, however, surprisingly decided that documents D1 and D4 did not implicitly disclose that the protein content would be below 2 wt%.

The filing of documents D21 to D24 is to be considered as a timely reaction to the above identified findings of the opposition division, to demonstrate that, irrespective of the initial high protein content of the bagasse, the final product obtained by following the examples of D1/D4 inevitably reduces the protein content to a level that is much lower than 2 wt%.

The appellant further argued (both in writing and during oral proceedings) that documents D21 to D24 could not be excluded on the basis of article 12(4) RPBA. As clearly shown by the decision under appeal, the argument that irrespective of the initial high protein content of the bagasse, the final product obtained when following the examples of D1/D4 inevitably has protein content much lower than 2 wt%, was admissibly raised and maintained during opposition

proceedings. This argument therefore was not an amendment to the appellant's case.

For the first time during oral proceedings, the appellant referred to G 1/24 and contended that when a skilled reader consulted the description, it was clear that the protein content claimed in claim 1 referred to the non-wood lignocellulosic biomass used as a raw material for the production of the claimed packaging unit, rather than to the final product itself.

The appellant further submitted that the publication of G 1/24, even though this decision was issued after documents D21 to D24 were filed, changed the circumstances of the present appeal case. According to the appellant, this new legal development justified the admission of documents D21 to D24, as these documents demonstrated that the final product obtained by following the examples of D1/D4 inevitably had a protein content lower than 2 wt.%.

However, the appellant acknowledged during oral proceedings that if claim 1 was interpreted in accordance with G 1/24 then documents D21 to D24 would not be relevant, as they concerned the protein content of the final product and the description instead indicated that the protein content below 2 wt.% applied to the raw material.

2.3 The board concurs with the respondent that documents D21 to D24 should not be admitted.

2.3.1 This is because D21 to D24 have been filed to contest novelty of the claims as granted, and the protein content of sugarcane bagasse was already a topic of discussion from the start of opposition proceedings,

and was specifically included in the preliminary opinion of the opposition division (paragraph 3 on page 2 of the annex to the summons to oral proceedings dated 24 February 2023), to which the appellant already reacted by filing document D20.

Documents D21 to D24 therefore could and actually should have been submitted at the latest together with D20, which also addresses the protein content of sugarcane bagasse.

- 2.3.2 The board is also not persuaded by the arguments based on G 1/24 which were raised by the appellant for the first time during oral proceedings before the board.

As correctly noted by the respondent, these arguments constitute an amendment within the meaning of Article 13(2) RPBA 2020.

According to this provision, any such amendment to a party's case made after the filing of the grounds of appeal shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

However, even if, to the benefit of the appellant and *pro arguendo*, the board were to admit this new line of argument into the proceedings, it would still not be convincing.

This is because the appellant's reasoning is internally inconsistent.

On the one hand, the appellant invokes G 1/24 to argue that claim 1 should be interpreted, by reference to the

description, as requiring that the protein content below 2 wt.% applies to the raw material used for the production of the packaging unit.

On the other hand, the appellant seeks admittance of documents D21 to D24 to demonstrate that the final product obtained by following the examples of D1/D4 has a protein content below 2 wt.%.

As the appellant itself acknowledged during oral proceedings, if the interpretation based on G 1/24 is adopted, then documents D21 to D24 are not relevant to the assessment of novelty, as they concern the protein content of the final product rather than that of the starting material.

2.3.3 The board is also not convinced by the argument based upon Article 12(4) RPBA.

It is undisputed that documents D21 to D24 were not filed before the opposition division.

Article 12(4) RPBA is not the applicable provision for assessing the admittance of documents which were not part of the case of the parties in the proceedings leading to the decision under appeal.

The fact that the appellant admissibly raised and maintained, during opposition proceedings, an argument concerning the inevitable reduction of protein content does not alter this conclusion.

While the argument was part of the appellant's case before the opposition division, the documentary evidence now relied upon to substantiate that argument, namely documents D21 to D24, was not.

2.3.4 Consequently, documents D21 to D24 are not admitted into the appeal proceedings, in application of Article 12(6) RPBA.

3. Novelty (Article 54 EPC)

3.1 The opposition division found that the subject-matter of claims 1 and 7 of the patent-in-suit was novel over the prior art disclosed by documents D1 to D6 as none of these documents disclosed the feature that the non-wood lignocellulosic biomass had a protein content below 2 dry wt.% of the biomass.

3.2 The appellant contests the above findings arguing as follows.

3.2.1 When reference was made in general to "sugarcane bagasse" without indicating its origin, a skilled person would understand this as sugarcane bagasse having a protein content in the range of 1.4 to 3.4 wt%.

This was because, according to the appellant, Table 1 of document D20 disclosed a range of protein content from a minimum of 1.4% wt to a maximum of 3.4 wt%, depending on where the sugarcane bagasse had been harvested.

Since each of the prior art documents D1 to D6 disclosed sugarcane bagasse in general terms, it was implicit that at least the end point of this range, corresponding to a protein content of 1.4 wt%, would anticipate the claimed range of a protein content below 2 dry wt%.

- 3.2.2 The appellant also argued that D1 implicitly disclosed sugarcane bagasse having a protein content below 2 dry wt.% based on the following reasoning:
- the authors of D1 are Malaysian;
  - they would therefore have used Malaysian sugarcane bagasse in their experiments; and
  - according to D20 (Table 1), Malaysian sugarcane bagasse has a protein content of  $1.7 \pm 0.1$  wt.%, which is below the 2% threshold specified in claim 1.

On this basis, the opponent contended that D1 anticipated the claimed feature despite being silent on protein content.

- 3.3 The arguments of the appellant are not convincing, for the following reasons put forward by the respondent.

- 3.3.1 The appellant's argument, based on Table 1 of document D20, that when "sugarcane bagasse" is mentioned without specifying its origin (as in documents D1 to D6), a skilled person would assume it has a protein content of 1.4 to 3.4 wt%, is not convincing.

This is because this table discloses distinct embodiments of sugarcane bagasse, each having its own specific properties determined by geographical origin.

It is not correct to interpret this table as disclosing a single continuous range of protein content from 1.4 to 3.4 wt% because there is no bagasse therein having a protein content between 3.0 wt% (the maximum for Costa Rica bagasse) and 3.4 wt% (the value for Indian bagasse).

Rather, Table 1 presents discrete data points

corresponding to bagasse from specific geographical origins.

3.3.2 Also the link established by the appellant between Table 1 of D20 and documents D1 to D6 is not convincing.

This is because while Table 1 of document D20 indicates that specific types of bagasse may have the claimed protein content (below 2 dry wt.%), none of documents D1 to D6 refers to these specific types of bagasse. Instead, these documents refer to bagasse in general terms without specifying the origin or protein content.

3.3.3 In summary a skilled person would neither interpret document D20 as disclosing a range from 1.4 to 3.4 wt% for protein content in sugarcane bagasse, nor would the skilled person consider the lower end of this alleged range (1.4 wt%) as being implicitly disclosed in documents D1 to D6.

3.3.4 Documents D17, D18 and D19 also do not support the position of the appellant, as they show protein contents of respectively 2.65 wt% (D17, page 1031, table 1), 2.1-2.9 wt% (D18, page 624) and 2.7% (D19, page 197).

3.3.5

3.3.6 The allegation that the authors of D1 would have only used Malaysian sugarcane bagasse in their experiments, having a protein content as claimed, is also not convincing.

This is because D1 does not disclose the geographical origin of the sugarcane bagasse used.

The assumption that Malaysian researchers would necessarily use Malaysian bagasse is considered speculative, as the authors of D1 would have taken into account other factors when selecting their raw material, such as availability and price.

In the absence of any disclosure in D1 regarding the protein content or the origin of the bagasse, it cannot be concluded that D1 implicitly discloses any specific type of bagasse.

3.3.7 The disclosure in documents D1 to D6 concerning bagasse is generic in nature and, according to established case law, such a general disclosure is not novelty-destroying for a specific embodiment characterized by a protein content below 2 dry wt.% as claimed in the patent in suit (CLB, I.C.5.2.6).

3.4 The board therefore concurs with the opposition division that the subject-matter of claim 1 of the main request differs from the disclosure of documents D1 to D6 in that the non-wood lignocellulosic biomass has a protein content below 2 dry wt.% of the biomass. The same applies to the subject-matter of claim 7, which includes the same feature.

4. Inventive step (Article 56 EPC)

4.1 The opposition division considered document D1 (or equally D4, which substantially corresponds to D1) as the closest prior art.  
Starting from the distinguishing feature of claims 1 and 7 of the main request, that the protein content of the non-wood lignocellulosic biomass is below 2 dry wt.%, the opposition division formulated the objective technical problem as "improving the strength properties

of a packaging material comprising non-wood lignocellulosic raw materials".

They noted that, while the application as originally filed mentioned this beneficial effect already for a protein content of less than 6% (page 2, lines 20-23), it was clear from page 2, lines 26-27 that there was an increased effect for protein content below 2%. A further additional technical effect of the range below 2% was disclosed on page 2, lines 29-31 of the application as originally filed, which explained that the manufacturing process was improved by a protein content below 2% with respect to the prevention of foaming and problematic dewatering, thereby also resulting in a higher speed of the manufacturing process and lower drying costs.

4.2 The appellant contested the problem formulation at the basis of the appealed decision and argued that the objective technical problem should be seen as providing an alternative packaging unit.

4.2.1 According to the appellant, when reference was made to "a lower protein content" on page 2, lines 26-31 of the application as filed, it was to be interpreted in view of the former text passage (page 2, lines 20-25), where "high protein content" was defined as at least 6 wt%.

The appellant also contended that the 2 dry wt% mentioned in the subsequent passage is only a further preferred embodiment and does not mean that the overall stability of the packaging unit is higher when the protein content is less than 2 wt% than when it is less than 6 wt%.

Similarly, the appellant argued that the last sentence

in the text passage (lines 29-31) related to the manufacturing process and was associated with other parameters (e.g., lower manufacturing costs) than the strength or overall stability of the packaging unit, and does not demonstrate that a value of less than 2 wt% was superior to less than 6 wt%.

- 4.2.2 The appellant also argued that D1 disclosed the use of protease to reduce the protein content of the raw material, and that it would be obvious to a skilled person to increase the amount of protease in order to further reduce the protein content below 2 wt.%.

Additionally, the appellant submitted that a skilled person, being aware of the protein-reducing effect of protease, would be motivated to select sugarcane bagasse with the lowest possible protein content in order to facilitate protein removal through enzymatic digestion.

- 4.2.3 The appellant has however not identified any teaching in the available prior art that would lead the skilled person to select non-wood lignocellulosic biomass with a protein content below 2 dry wt.% in order to improve the strength properties of a packaging material or to improve the manufacturing process.

- 4.3 The board is not convinced by the arguments of the appellant.

- 4.3.1 The formulation of the problem to be solved as the mere provision of an alternative is not followed by the board because the appellant's interpretation of the relevant passages of the original description is not correct.

Page 2, lines 20-31 clearly states that a protein content below 2 dry wt.% provides an additional effect (further improves the overall stability) compared to a protein content below 6 dry wt.%.

The board therefore concurs with the problem as formulated by the opposition division.

- 4.3.2 The board also concurs with the assessment of the opposition division on the appellant's arguments related to protease.

The protease disclosed in D1 serves a specific technical purpose, namely the improvement of biodegradability for composting.

This purpose is unrelated to the objective technical problem of the patent in suit, which concerns the improvement of strength properties and the prevention of manufacturing defects such as foaming and problematic dewatering.

- 4.3.3 Given that the appellant has not identified any teaching in the cited prior art addressing the importance of the protein content with respect to the strength properties or the manufacturing process, the board sees no reason to conclude that the findings of the opposition division are not correct and that the subject-matter of granted claims 1 and 7 does not involve an inventive step.

## **Order**

### **For these reasons it is decided that:**

The appeal is dismissed

The Registrar:

The Chairman:



G. Nachtigall

E. Mille

Decision electronically authenticated