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**Datasheet for the decision
of 4 February 2021**

Case Number: T 2644/17 - 3.2.07

Application Number: 11778526.1

Publication Number: 2635502

IPC: B65D71/00, B65D85/46, E04D13/16

Language of the proceedings: EN

Title of invention:

PACKING- AND/OR TRANSPORT UNIT AND METHOD FOR PRODUCING AN
INSULATION LAYER

Patent Proprietor:

Rockwool International A/S

Opponents:

Paroc Group Oy
Knauf Insulation SPRL

Headword:

Relevant legal provisions:

EPC Art. 100(b), 83, 100(a), 54, 56, 107
EPC R. 103(4)(a)

Keyword:

Grounds for opposition - insufficiency of disclosure (no) -
lack of patentability (no)
Sufficiency of disclosure - (yes)
Novelty - (yes)
Inventive step - (yes) - ex post facto analysis
Reimbursement of appeal fee - (yes) - withdrawal of appeal

Decisions cited:

T 0862/11

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2644/17 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 4 February 2021

Appellant: Paroc Group Oy
(Opponent 01) Energiakuja 3
00180 Helsinki (FI)

Representative: Berggren Oy, Turku
P.O. Box 99
Tykistökatu 2-4 B
20521 Turku (FI)

Party as of right: Knauf Insulation SPRL
(Opponent 02) Rue de Maastricht, 95
4600 Visé (BE)

Representative: ARC-IP
ARC-IP sprl
Rue Emile Francqui 4
1435 Mont-Saint-Guibert (BE)

Respondent: Rockwool International A/S
(Patent Proprietor) Hovedgaden 584
2640 Hedehusene (DK)

Representative: Rausch Wanischeck-Bergmann Brinkmann
Partnerschaft mbB Patentanwälte
Am Seestern 8
40547 Düsseldorf (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 19 October 2017
rejecting the opposition filed against European
patent No. 2635502 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman I. Beckedorf
Members: A. Cano Palmero
 B. Paul

Summary of Facts and Submissions

- I. Opponent 01 (appellant) lodged an appeal within the prescribed period and in the prescribed form against the decision of the Opposition Division rejecting the oppositions and maintaining European patent No. 2 635 502 as granted.
- II. Two oppositions were filed, which were directed against the patent in its entirety and based on the grounds for opposition pursuant to Article 100(b) EPC (insufficiency of disclosure) and Article 100(a) EPC (lack of novelty and inventive step).
- III. Opponent 02 likewise lodged an appeal against the decision, which it withdrew during the oral proceedings before the Board on 4 February 2021.
- IV. In preparation for oral proceedings, scheduled upon the parties' requests, the Board communicated its preliminary assessment of the case to the parties by means of a communication pursuant to Article 15(1) RPBA 2020. The Board indicated that the appeals were likely to be dismissed.
- V. In response to this communication, opponent 01 filed a submission dated 16 December 2020.
- VI. Oral proceedings before the Board took place by videoconference on 4 February 2021. At the conclusion of the proceedings the decision was announced. Further details of the proceedings can be found in the minutes thereof.

VII. The lines of arguments of the parties, which are focused on sufficiency of disclosure and on novelty and the inventive step of the subject-matter of claims 1, 13 and 14 as granted, are dealt with in detail in the reasons for the decision.

VIII. The final requests of the parties are as follows,

for the appellant:

that the decision under appeal be set aside and
that the patent be revoked;

for the respondent (patent proprietor):

that the appeal be dismissed, *i.e.* that the patent be maintained as granted (main request),
or, in the alternative,
when setting aside the decision under appeal, that the patent be maintained in amended form according to one of the set of claims filed as auxiliary requests 1 to 4 filed with letter of 11 December 2019.

IX. Independent **claim 1** according to the patent as granted reads as follows:

"Packing and/or transport unit comprising several fibrous insulation elements for flat roof insulation being arranged in at least one stack and at least one support means being arranged under the stack, whereby the stack contains at least two different types of insulation elements, which differ with respect to their material properties, for example their compression strength,
characterized in that,

the stacked insulation elements (4, 5) comprise lamellas (4) and/or lamella boards having a high compression strength but low point load resistance due to their fiber orientation and at least one insulation board (5) having an even higher compression strength and high point load resistance."

X. Independent **claim 13** according to the patent as granted reads as follows:

"Method for producing an insulation layer on a flat or a flat inclined roof on a building, consisting of at least two different insulation elements (4, 5) being arranged stacked in the insulation layer, whereby the insulation elements (4, 5) are arranged in one packing and/or transport unit (1), having the following steps:

- taking at least a first insulation element from the packing and/or transport unit (1);
- arranging the first insulation element in the insulation layer on the roof;
- taking at least a second insulation element from the packing and/or transport unit (1) and
- arranging the second insulation element on the first insulation element of the insulation layer, whereby the first and the second insulation element being arranged stacked in the insulation layer have different properties, especially a different compression strength and point load resistance, and whereby the first and the second insulation elements are arranged in the packing and/or transport unit (1) in that with the first insulation elements an insulation area can be build up, having a size being substantially equal to the size of an insulation area being build up with the second insulation elements and

whereby the insulation elements comprise lamellas (4) and/or lamella boards having a high compression strength and low point load resistance due to their fiber orientation and at least one insulation board (5) having an even higher compression strength and high point load resistance, said lamellas (4) and/or lamella boards and said insulation boards (5) being arranged as stacked insulation elements (4, 5) in the packing and/or transport unit (1)."

XI. Independent **claim 14** according to the patent as granted reads as follows:

"Method for providing an insulation layer for a flat or a flat inclined roof in a packing and/or transport unit (1), which insulation layer consists of at least two insulation elements being stacked and having different properties, whereby the different insulation elements of the insulation layer are arranged in fractions in the packing and/or transport unit (1) in such manner that the insulation elements can be taken from the packing and/or transport unit (1) in succession according to the build-up progress and the array of the insulation elements in the insulation layer, preferably in that layers of insulation elements having different properties are provided with substantially equal areas and whereby the insulation elements comprise lamellas (4) and/or lamella boards having a high compression strength and low point load resistance due to their fiber orientation and at least one insulation board (5) having an even higher compression strength and high point load resistance, said lamellas (4) and/or lamella boards and said insulation boards (5) being arranged as stacked insulation elements (4, 5) in the packing and/or transport unit (1)."

XII. As the auxiliary requests do not form part of this decision, it is not necessary to reproduce them here.

Reasons for the Decision

1. *Procedural issues*

Because opponent 02 withdrew its appeal, opponent 01 is the sole appellant in the present case. Opponent 02 has no longer the status of appellant but remains a party as of right pursuant to Article 107, second sentence, EPC.

From this it also follows that the objections and the lines of argument which had been submitted by opponent 02 as part of its appeal, but which were not relied upon by the appellant are not discussed in this decision beyond the Board's opinion expressed in its communication pursuant to Article 15(1) RPBA 2020. This holds true in particular concerning the grounds for opposition according to Articles 100(b) and 83 EPC directed to claims 13 and 14 of the patent as granted as well as the ground for opposition according to Articles 100(a) and 54 EPC directed to the subject-matter of claim 1 of the patent as granted over the disclosure of document D11 (**EP 1 266 842 B1**) and to the subject-matter of claims 13 and 14 of the patent as granted. This applies also to the references to documents D13 (**EP 2 141 303 A2**), D14 (**EP 1 283 181 B1**) and D15 (**Ikea wardrobe "Dombås" - Assembly instructions**) made by opponent 02 but not relied upon by the appellant.

By withdrawing its appeal before the final decision was announced at the end of the oral proceedings before the Board the appeal fee paid by opponent 02 is to be reimbursed at 25% pursuant to Rule 103(4) (a) EPC.

2. *Patent as granted - Sufficiency of disclosure -
Articles 100(b) and 83 EPC*

2.1 The appellant argues that the skilled person would not be able to carry out the invention, since it is not given in the patent which compression strength or point load resistance values should be considered as "high" or "low" in the sense of claim 1. These are rather relative terms for which there is no well-recognised meaning in the art. While claim 1 of the patent in suit might be assumed to compare the compression resistance values of the insulation elements (lamellae/lamella boards with the insulation boards), there is no comparison between the point load values. Furthermore, these relative terms used in claim 1 contain no reference to each other, neither from the claim itself, nor from paragraph [0017] of the contested patent, as it had been indicated by the respondent. The skilled addressee has thus insufficient disclosure to enable him to know if a specific lamella or lamella board is considered to have a high compression strength and a low point load resistance. In consequence, the skilled person had thus insufficient disclosure to operate the alleged invention, notably because there is no disclosure to enable him to know whether for a particular packaging he is working inside or outside of the claims.

2.2 The Board cannot follow these arguments and substantially follows the reasoning of the decision

under appeal and of the respondent that the patent is sufficiently disclosed for the following reasons.

- 2.3 The subject-matter of claim 1 is clear and to be interpreted in its broadest sense. The invention according to claim 1 requires that the stack of the packing contains at least **two different types of insulation elements** with **different material properties**. The invention further requires that:
- at least one type of insulation elements are lamellae and/or lamella boards having a certain (which is a broad interpretation of the term high) compression strength and a certain (broad interpretation of the term low) point load resistance;
 - at least one other type of insulation elements are insulation boards having a compression strength of a certain value but greater than the compression strength of the lamellae and/or lamella boards and a point load resistance of a certain value, but nevertheless higher to that of the lamellae (which is the interpretation of the term "high" in contrast to "low").
- 2.4 While it is acknowledged by the appellant that a comparison of the compression resistances between the lamella elements and the insulation boards *might* be assumed in view of the wording of claim 1, such a comparison is not apparent for the appellant in the case of the point load values.
- 2.5 The Board disagrees and is of the view that the skilled reader immediately and unambiguously understands by the terms "low" and "high" point resistance in the same sentence of the characterising portion of claim 1 of the patent as granted that a "high" value must be read as being greater than the other "low" value. Any other interpretation, such that a "low" point resistance

value could be greater than a "high" point resistance value, even in the absence of an explicit comparative adjective, would be forced and misleading. The Board thus considers claim 1 clear and covering the broad subject-matter detailed in point 2.3 above.

- 2.6 The appellant makes further reference to the decision T 862/11 (not published in the OJ EPO), according to which when inventions are defined by claims which have ambiguous features and which are not clarified by the description, the invention may be understood only by the effect to be achieved. This effect should then be taken into account and examined under Article 83 EPC in order to assess the practicability of the invention.
- 2.7 Since the claims are considered clear and the effect is not described in the claim, the question whether the effect is achieved is not relevant for the assessment of Article 83 EPC (see catchword of the decision T 862/11).
- 2.8 The Board is of the view that the skilled person would, without undue burden, be able to carry out the invention, namely to provide a packing unit comprising at least one insulation board and also lamellae (and/or lamella boards), wherein at least one insulation board has a higher compression strength compared to compression strength of the lamella and/or lamella board and simultaneously the insulation board has a high point load resistance which is of higher value compared to the point load resistance of the lamellae and/or lamella board.
- 2.9 The Board thus considers the invention to be sufficiently disclosed. The findings of the opposition division on this ground of opposition reflected in

point 1 of the decision withstand a revision under appeal.

3. *Patent as granted - Novelty - Articles 100(a) and 54 EPC*

3.1 The appellant argues that document D1 (**DE 2008 004 018 A1**) anticipates the subject-matter of claim 1 of the patent as granted, including the feature of a transport unit comprising lamellae or lamella boards. Paragraphs [0018] and [0019] of D1 describe the method of longitudinal compression, which is employed in the art of mineral wool making for manipulating the compression properties of the produced products. The formation of the mineral fibre web, results in a first stage in a web with fibres that are mainly oriented in direction parallel with the travel of the fibre web, *i.e.* parallel with the length of the fibre web. When such a web is horizontally compressed in a subsequent step, as disclosed in paragraph [0019] and as it is confirmed by documents D5 (**CH 620861 A5**) and D6 (**US 2,500,690**), folds are formed where the mineral fibres are mainly oriented perpendicular to the main surface of the web. The resulting insulation element has a high compression strength but low point load resistance due to its fibre orientation. Consequently, D1 discloses insulation elements that are structurally and technically identical to the lamella boards as defined in claim 1 of the contested patent.

3.2 The Board disagrees and sees no direct and unambiguous disclosure of a packaging in which at least one of the stacked insulation elements is **a lamella or a lamella board** in D1. In particular, the Board is not persuaded by the argument of the appellant that paragraphs [0018] and [0019] of D1 describe a manufacturing process which

necessarily leads to no other result than a lamella element as a final product. This argument remains a mere allegation despite appellant's reference to the processes disclosed in D5 and D6 as further substantiation. Even in the theoretical case that it could be considered at all that the processes of D5 and D6 result in lamella elements, there is still no proof that the process of paragraphs [0018] and [0019] of D1 matches any of the processes described in documents D5 and D6.

3.3 The appellant further argues that D1 discloses in paragraph [0056] that in addition to the insulation elements (which in their view are to be seen lamella boards) the stack comprises a cover plate, which is compression resistant and has a high density. The cover plate thus has a higher compression strength than the lamella/lamella boards and it has a certain point load resistance. Irrespective if the cover plate is used together with the insulation elements for the roof insulation, the packing/transport unit disclosed in D1 still deprives the novelty of claim 1.

3.4 The Board cannot follow this argument either. Quite apart from the conclusion that D1 does not anticipate lamellae or lamella boards (see point 3.2 above), in paragraph [0056] of D1 it is merely required that the cover plate foreseen for the stack is made of high compressed mineral fibres, but no direct and unambiguous disclosure is to be found in D1 about the **relative** compression strength and point load resistance between this cover plate and the rest of insulation elements.

3.5 The Board thus considers the subject-matter of claim 1 of the patent as granted to be new. The reasoning of

the opposition division on this ground of opposition reflected in point 2 of the decision withstands a revision under appeal.

4. *Patent as granted - Inventive step - Articles 100(a) and 56 EPC*

4.1 Claim 1 in view of D1 (**DE 2008 004 018 A1**) alone

4.1.1 The appellant argues that the subject-matter of claim 1, even in the case that it differed from the known packing of D1 in the presence of lamella boards and in that the cover plates had higher compression strength and a higher point load resistance than those lamella elements, still lacks an inventive step.

4.1.2 According to the appellant, D1 explicitly provides in paragraphs [0052] to [0056] a solution to the the problem posed in paragraph [0008] of the contested patent, namely to provide a packing/transport unit which is easy to handle and which enables most of the materials to be close to the places where it is needed, by providing a packing unit with two different types of roof insulation elements that saves space during transport and storage and enables improved working on the roof. D1 further discloses that the packing unit comprises isolation elements not only having different shapes, but also isolation elements having different compression strengths in the form of cover plates, as it is disclosed in paragraph [0056].

4.1.3 In view of this, the appellant points out that the specific properties of the individual packed elements lack importance in the assessment of inventive step, since they do not amount to any recognisable technical

effect on the packing/transport unit, and therefore do not contribute to the solution of the problem.

4.1.4 In order to solve the problem posed, the appellant concludes that it would be obvious for the skilled person to replace the insulating elements of D1 by alternative, well-known lamella boards, which form part of the common general knowledge of the skilled person and depicted for example by D7 (**article "Aktuell Isolering"**).

4.1.5 The Board is not convinced by these arguments for the following reasons.

Indeed, departing from D1 as closest prior art, and considering that the distinguishing features are that claim 1 discloses two different types of insulating elements with different compression strength and a point load resistance, one of them being lamellae or lamella boards (see novelty, point 2 above), the Board concurs with the opposition division in the formulation of the objective technical problem, which can be seen as providing a packaging unit which enables the operation of insulating a flat roof in a more effective way, and that in the sense of the less room requirement and less movement of packages, while guaranteeing a required insulation and pressure resistance in the flat roof. In this sense, the Board notes that the content of the packaging and the mechanical properties of the individual insulation elements are indeed technical features that entail a technical effect.

4.1.6 Document D1 rather deals with the problem of improving the efficiency of the logistics involved at the construction of sloped roofs, through the combination in the same packaging of insulating elements with

cuboid and trapezoidal shapes. The idea of dealing with the problem of guaranteeing a required isolation and pressure resistance by the delivered packages specifically for flat roofs is not contemplated in D1.

4.1.7 Therefore, the Board agrees with the finding of the opposition division and of the respondent that there is no hint or motivation in document D1 pointing towards a packing and/or transport unit containing in the same stack lamellae and/or lamella boards with any other insulation boards having an even higher compression strength and point load resistance as required by claim 1 of the patent in suit. Therefore, the replacement of one type of the insulating blocks of D1 by lamellae and/or lamella boards, furthermore with different (lower) compression strength and point load resistance compared to the other insulation panel is not rendered obvious by D1 and is consequently to be considered as the result of an *ex post facto* analysis. The skilled person, in view of D1 and in combination with the common general knowledge, would thus only arrive at the subject-matter of claim 1 of the patent as granted exercising an inventive skill.

4.2 Claims 13 and 14 in view of D1 alone

The same reasoning of point 4.1 above applies *mutatis mutandis* to the subject-matter of claims 13 and 14, which are also considered inventive by the Board in view of the teaching of document D1. For claim 14 the Board additionally notes that, contrary to the allegation of the appellant, the term "preferably" is considered to refer to the equal areas and not to the provision of lamellae and/or lamella boards and insulation boards with the physical properties required by claim 1.

- 4.3 Claim 1 in view of D4 (**EP 1 472 421 B1**) as closest prior art alone or in view of D1
- 4.3.1 The appellant argues that D4 discloses that the panels of the transport unit might be a mix of different types of insulating panels.
- 4.3.2 However, as correctly stated in page 8 of the decision under appeal, this alleged feature in D4 relates to panels having one or more pre-cuts mixed with panels without pre-cuts (see paragraph [0036]), *i.e.* these different panels do not appear to have different material properties as required by claim 1 of the patent in suit.
- 4.3.3 The appellant further argues that in the embodiment corresponding to Fig. 20 there are two types of insulation elements 1 and 31. The Board disagrees also with this view and can follow the reasoning of the opposition division in the decision under appeal that in D4 there are not two types of insulation panels. The panels 31 of the embodiment of Fig. 20 are part of the support and they do not seem to be detachable from the feet 32. Furthermore, they are presented, together with the support means 32, as an alternative to a conventional pallet, so that they cannot be considered as part of the stack.
- 4.3.4 Finally and similarly as for D1, the Board sees no teaching in document D4 of lamellae or lamella boards. It thus follows that the skilled person would not arrive in an obvious manner at the subject-matter of claim 1 departing from D4, even under consideration of the teaching of D1.

- 4.4 Claim 1 in view of D2 (**GB 1 504 834**) or D3 (**WO 2008/155401 A1**) as closest prior art taken alone or in view of D1
- 4.4.1 The appellant argues that the packing units of documents D2 or D3 differ from the unit of claim 1 of the patent as granted in that the packing units comprises separate insulation elements, which would be rendered obvious by teaching of D1.
- 4.4.2 The Board cannot agree with this approach. Documents D2 and D3 deal with different composite sandwich-type sheets of bonded mineral with wool fibres. The manufacturing of these sandwich type insulating elements clearly teaches away of providing the separate insulating elements corresponding to the individual layers of the composite material and then stacking them in a packaging unit. It would lack of technical sense to perform in a first cumbersome step a layer bonding process and then perform an additional second separating process in order to destroy the previous bonding. The subject-matter of claim 1 of the patent as granted is therefore not obvious for the skilled person in view of the teaching of any of documents D2 or D3.
- 4.5 The points 4.3 and 4.4 above correspond to the preliminary opinion of the Board, which has been neither commented nor contested by the appellant in writing or at the oral proceedings. Under these circumstances, the Board - having once again taken into consideration all the relevant aspects put forward in the parties' written submissions - sees no reason to deviate from its above-mentioned preliminary opinion and confirms it.

- 4.6 It follows that the subject-matter of claims 1, 13 and 14 as granted is inventive in the sense of Article 56 EPC.
5. In **conclusion**, the Board finds that the arguments relied upon by the sole appellant to demonstrate the incorrectness of the decision under review with respect to the grounds of opposition based on sufficiency of disclosure of the patent in suit and novelty and inventive step of the subject-matter of granted claims 1, 13 and 14 as granted are not convincing. The appeal shall be thus dismissed.

Order

For these reasons it is decided that:

1. **The appeal of appellant-opponent 01 is dismissed.**
2. **The appeal fee paid by appellant-opponent 02 is reimbursed at 25%.**

The Registrar:

The Chairman:



G. Nachtigall

I. Beckedorf

Decision electronically authenticated