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**D E C I S I O N**  
**of 9 March 2006**

**Case Number:** T 0999/02 - 3.3.09

**Application Number:** 95100543.8

**Publication Number:** 0683036

**IPC:** B32B 5/08

**Language of the proceedings:** EN

**Title of invention:**

Apparatus for fabrication of mineral wool panels

**Patentee:**

METECNO S.p.A.

**Opponent:**

Paroc Oy Ab

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 56, 123(2), (3)

**Keyword:**

"New main request: Compliance with Article 123(2), (3) (yes)"  
"Inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 0999/02 - 3.3.09

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.09  
of 9 March 2006

**Appellant:**  
(Opponent)

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**Respondent:**  
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**Decision under appeal:**

Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
13 August 2002 concerning maintenance of  
European patent No. 0683036 in amended form.

**Composition of the Board:**

**Chairman:** P. Kitzmantel  
**Members:** W. Ehrenreich  
K. Garnett

## Summary of Facts and Submissions

I. Mention of the grant of European patent No. 0 683 036 in respect of European patent application No. 95 100 543.8 in the name of Metecno S.p.A. filed on 17 January 1995 and claiming the priority IT VE940023 of 18 May 1994 was announced on 18 November 1998. The patent, entitled "*Apparatus for fabrication of mineral wool panels*" was granted with nine claims, Claim 1 reading as follows:

"1. An apparatus for constructing a mineral wool panel, said panel consisting of covering sheets and a plurality of side-by-side strips (6) having their longitudinal axis parallel to the panel axis and their fibres orientated perpendicular to the surface of the covering sheets, the strips being offset in accordance with a pseudo-random arrangement characterised in that i[n] comprises in succession:

- a feed station (1) for mineral wool blankets (2) having the fibres arranged along a horizontal axis perpendicular to a direction of advancement of the blankets,
- a cutting unit (3) for a single blanket for dividing it into strips (6) having width corresponding to the thickness of the panel to be formed the cutting axis being parallel to the advancing direction of the blanket (2),
- a conveying element (14,33) for advancing the strips in a direction transverse to the cutting axis,
- an overturning unit (4,38) for shifting each strip (6) of 90°C around its longitudinal axis,

- an assembling station (5) of the overturned strips so as to select a suitable number of strips to form the panel of the desired width,
- a spacer member (22,46) of the single strips to align same in the direction of their width,
- an offset member placed longitudinal to the strips so that the front ends of strips are staggered in a pseudo-random fashion the one with respect to the other,
- a transverse compactor device (25) for the staggered strips to form a continuous panel,
- a gluing and press station of the panel for formation of a continuous covering sheet (32,32'),
- a cutting unit of the panel in the desired length."

Claims 2 to 9 were, either directly or indirectly, dependent on Claim 1.

II. Notice of opposition requesting revocation of the patent in its entirety on the grounds of Article 100(a) EPC was filed by

*Partec Paroc OY AB, now Paroc OY AB*

on 18 August 1999.

The Opponent submitted that the claimed subject-matter was not new and/or lacked an inventive step and based its submissions, *inter alia*, on the following documents:

D3 WO-A 90/07040

D5 GB-A 2 247 643.

III. With a letter dated 20 January 2000, the Patent Proprietor filed an amended Claim 1, which was subsequently replaced by a new Claim 1 enclosed with a letter dated 4 October 2000.

In reaction to a communication of the Opposition Division dated 13 September 2001, Claim 1 was again redrafted and filed with a letter dated 17 October 2001. This claim reads as follows:

"1. An apparatus for constructing a mineral wool panel, in continuous manner, said panel consisting of covering sheets and a plurality of side-by-side strips (6) having their longitudinal axis parallel to the panel axis and their fibres orientated perpendicular to the surface of the covering sheets, the strips being offset in accordance with a pseudo-random arrangement, said apparatus comprising in succession:

- a feed station (1) for mineral wool blankets (2) having the fibres arranged along a horizontal axis perpendicular to a direction of advancement of the blankets,
- a cutting unit (3) for a single blanket for dividing it into strips (6) having width corresponding to the thickness of the panel to be formed the cutting axis being parallel to the advancing direction of the blanket (2),
- a conveying element (14,33) for advancing the strips in a direction transverse to the cutting axis,
- an overturning unit (4,38) for shifting each strip (6) of 90° around its longitudinal axis,
- an assembling station (5) of the overturned strips so as to select a suitable number of strips to form the panel of the desired width,

- an offset member placed longitudinal to the strips so that the front ends of strips are staggered in a pseudo-random fashion the one with respect to the other,
- a transverse compactor device (25) for the staggered strips to form a continuous panel,

characterised in that it further comprises

- a gluing and press station of the panel for formation of a continuous covering sheet (32,32'),
- a cutting unit of the panel in the desired length,

said apparatus further comprising between the assembling station (5) and the offset member, a spacer member (22,46) which spaces each strip from the adjacent one transversely with respect to their advancement direction."

This claim was attacked under Article 123(2) EPC by the Opponent with respect to the passage "transversely with respect to their advancement direction" in the definition of the spacer member.

The Patent Proprietor requested that the patent be maintained on the basis of Claim 1 as submitted with the letter dated 17 October and Claims 2 to 9 as granted.

IV. With its decision issued in writing on 13 August 2002 the Opposition Division maintained the patent in amended form as requested by the Proprietor.

The Opposition Division held that Claim 1, including the above definition of the spacer member, complied with Article 123(2) EPC.

By the decision it was furthermore held that the apparatus claimed in Claim 1 was new over the cited prior art. In particular D5, pertaining to the production of mineral wool panels and describing a number of the elements of the claimed apparatus, did not disclose an apparatus which was designed for continuous panel production. Moreover, a spacer member placed between an assembling station and an offset member was not disclosed in D5.

With respect to the issue of inventive step the Opposition Division considered D5 representative of the closest prior art and defined the problem to be solved by the claimed invention as the provision of an apparatus for the production of mineral wool panels in a continuous manner whilst avoiding damage to the strips during the production process.

The Opposition Division argued that a skilled person had no incentive to transform the apparatus according to D5 into an apparatus working continuously because this required an essential regrouping of several parts of the apparatus. No information was available from the other documents cited which would motivate a skilled person to redesign the apparatus of D5, since all documents showed panels of distinct lengths or concerned discontinuous processing conditions. Furthermore, no spacer member was disclosed.

- V. On 24 September 2002 the Opponent (Appellant) lodged an appeal against the decision of the Opposition Division.

The Statement of the Grounds of Appeal was submitted on 10 December 2002.

The Appellant maintained the objections raised before the Opposition Division, namely that the amendments in Claim 1 did not meet the requirements of Article 123(2) EPC and that its subject-matter was not based on an inventive step. Furthermore, the Appellant submitted that Claim 1 was not clear, contrary to Article 84 EPC.

- VI. With a letter dated 29 May 2005 the Patent Proprietor (Respondent) enclosed "a new proposal for Claim 1".

In response to a communication of the Board dated 3 November 2005 inviting the Respondent to clarify whether this proposal for Claim 1 constituted the basis for a new main request, the Respondent, by its letter to the Board dated 1 February 2006, stated that this Claim should be regarded as the first auxiliary request. The main request was maintenance of the patent as approved by the Opposition Division. With this letter the Respondent further submitted an amended Claim 1 as the basis for a second auxiliary request.

- VII. Oral proceedings took place on 9 March 2006. In accordance with the notification in its letter dated 17 February 2006, the Appellant did not attend.

In the course of the proceedings the Board observed that the introduction of the wording "characterised in that it further comprises" into Claim 1 of both the main request and the first auxiliary request, between the features defining the transverse compactor device and the gluing and press station, thereby interrupting

the consecutive order of the elements of the apparatus required by Claim 1 as granted, appeared to be contrary to Article 123(3) EPC. In response to this warning, the Respondent submitted a modified Claim 1 as the basis for a new main request. All former requests were abandoned.

Claim 1 of the new main request reads as follows:

"1. An apparatus for constructing a mineral wool panel, in continuous manner, said panel consisting of covering sheets and a plurality of side-by-side strips (6) having their longitudinal axis parallel to the panel axis and their fibres orientated perpendicular to the surface of the covering sheets, the strips being offset in accordance with a pseudo-random arrangement, said apparatus comprising in succession:

- a feed station (1) for mineral wool blankets (2) having the fibres arranged along a horizontal axis perpendicular to a direction of advancement of the blankets,
- a cutting unit (3) for a single blanket for dividing it into strips (6) having width corresponding to the thickness of the panel to be formed the cutting axis being parallel to the advancing direction of the blanket (2),
- a conveying element (14,33) for advancing the strips in a direction transverse to the cutting axis,
- an overturning unit (4,38) for shifting each strip (6) of 90° around its longitudinal axis,
- an assembling station (5) of the overturned strips so as to select a suitable number of strips to form the panel of the desired width,

- an offset member placed longitudinal to the strips so that the front ends of strips are staggered in a pseudo-random fashion the one with respect to the other,
- a transverse compactor device (25) for the staggered strips to form a continuous panel,
- a gluing and press station of the panel for formation of a continuous covering sheet (32,32'),
- a cutting unit of the panel in the desired length,

characterised in that in the assembling station, a spacer member (22,46) is foreseen spacing each strip from the adjacent one transversely with respect to their longitudinal axis."

VIII. With its letter dated 23 November 2005 the Appellant had informed the Board that the opposition would no longer be prosecuted if the patent was maintained on the basis of Claim 1 filed by the Respondent with the letter dated 29 May 2003.

Notwithstanding this, the Appellant also submitted in this letter that it considered the claimed subject-matter obvious in view of D5, because it was a matter of course for a skilled person to provide a spacer member within the assembling station depicted in the figures 1b and 1c of D5 taken in context with the paragraph bridging pages 5 and 6.

In view of the fact that Claim 1 filed with the letter dated 29 May 2005 differs from Claim 1 of the above new main request merely in the position of the wording "characterised in that", and considering that no further arguments were provided by the Appellant in the subsequent correspondence, the Board regards the above

statement relating to the issue of inventive step as the Appellant's only argument of relevance for the subject-matter of the main request.

IX. The arguments of the Respondent submitted in writing and during the oral proceedings may be summarized as follows:

D5 disclosed no continuous process for the production of mineral wool panels in the sense of the invention. It could be derived from figure 1 of this document that the overturned mineral wool lamellae assembled in element 2B of figure 1b would be placed offline before they were longitudinally offset by the element 3. In principle the same applied after the lamella mat had passed the cutting step. From figure 2 it was evident that the mat was then again shifted sideways before it was glued and pressed between the pre-cut surface layers.

In contrast thereto, according to the invention, the steps of assembling the lamella strips, longitudinally offsetting the assembled strips, applying a glue onto the compacted strips, positioning and pressing them between the sheets of metal web and cutting the metal sheet-covered mats into the desired length were all performed continuously in one line. This could be deduced from the figures 2 and 8 of the patent specification.

In order to perform the longitudinal offsetting of the overturned strips, a spacer member spacing each strip transversely from the adjacent one was indispensable in order to avoid damage of the lamellae by friction.

Such a spacer member was nowhere disclosed or rendered obvious in the prior art. With respect to figure 6 of D3, which in the drawing IIIb shows spaced-apart strips, there was no reason to assume, in the absence of any explanation thereof, that the space between the strips served the same purpose as that according to the claimed invention.

X. The Appellant requested that the decision under appeal be set aside and that the patent be revoked.

XI. The Respondent requested that:

1. The appeal be dismissed;
2. The patent be maintained on the basis of Claim 1 of the main request filed during the oral proceedings and Claims 2 to 9 as granted.

### **Reasons for the Decision**

1. The appeal is admissible.
2. In spite of the Appellant's absence, a final decision could be taken at the end of the oral proceedings because no new facts had been put forward in the oral proceedings (G 4/92 OJ EPA 1994, 149).
3. *Articles 123(2) and (3) EPC*

The feature in Claim 1 whereby the spacer member spaces "each strip from the adjacent one transversely with respect to their longitudinal axis" [emphasis added]

has a basis in the application as filed (see the A-publication, column 4, lines 16 to 20). Although it is stated in this passage that "the strips ... are spaced axially from each other" it would immediately be evident to a skilled person that, given the longitudinal movement of the assembled strips, the strips can only be spaced transversely to this movement. The requirements of Article 123(2) EPC are therefore fulfilled.

In the Board's judgment, the above feature in Claim 1 of the main request is also technically equivalent to the feature defining the function of the spacer member in Claim 1 as granted, which is "to align same [the strips] in the direction of their width". Thus no extension of the protection conferred, contrary to Article 123(3) EPC, is caused by the definition in the characterising part of Claim 1 of the main request replacing the corresponding feature in the granted Claim 1.

4. *Novelty - Article 54 EPC*

The claimed apparatus is novel over the available prior art. In particular, the presence of a spacer member is not described in any of the cited documents.

Novelty was not contested by the Appellant.

5. *Inventive step - Article 56 EPC*

5.1 The subject-matter of the patent in suit

The patent in suit concerns an apparatus for the continuous production of sandwiched mineral wool panels with an enhanced mechanical bending strength and good transverse rigidity (column 1, lines 18 to 47 of the patent specification).

According to Claim 1 of the main request, the apparatus is composed of the following units which are arranged in succession:

- a feed station;
- a cutting unit;
- a conveying element;
- an overturning unit;
- an assembling station;
- an offset member;
- a transverse compactor device;
- a gluing and press station;
- a cutting unit.

Within the assembling station a spacer member is provided whose function is defined in the characterising part of the claim.

When considering the view along the section line VIII - VIII of figure 2, represented by figure 8, in conjunction with the passages in column 3 lines 14 to 19 and column 4, lines 4 to 41, of the patent specification, it is evident that the assembling station (5), the spacer member (22), the offset member

(21) and the compactor device (25), are all arranged in one straight line along a conveyor belt (24). From above and from below the conveyor belt metal sheets (32, 32') are then continuously fed so as to sandwich the panel strip assembly.

The continuous operation of the claimed apparatus is also confirmed by the statement in column 4, lines 49 to 53 of the patent specification that *"once the initial strip configuration has been set, all the subsequent strips abut against the rear without ever losing the initial configuration."*

It is thus clear from this disclosure that the claimed apparatus is designed for the production on a continuously working production line of "endless" metal sheet-covered mineral wool webs, such webs being made from a plurality of sets of consolidated strips of mineral wool, one set of strips following immediately behind another on the production line. (In this decision, the word "endless" is used to describe webs or panels which are continuous, ie, not yet cut into lengths). The cutting of the webs into panels of the desired length is only performed in the last step.

## 5.2 The closest prior art

The document D5 is representative of the closest prior art. This was not in dispute between the Parties.

D5 describes in Claim 8 an apparatus for the continuous manufacture of sandwich mineral wool panels. According to this claim, taken in context with the figures 1 and 2 and the description, the apparatus comprises the following units:

- a cutting unit (figure 1a) for cutting lamella strips;
- a transverse conveying element (element 2 in the figure 1b);
- an overturning unit (figure 1b between elements 2 and B);
- a compactor device pushing together a number of overturned strips (element B of figure 1b);
- a displacement device longitudinally offsetting an assembly of lamella strips against each other so that the front ends of the strips are staggered (element 3 in figure 1c in conjunction with its explanation at page 7, lines 1 to 5);
- a cutting unit (element 5 in the figure 1c) for cutting the displaced strip assembly to the desired panel length (page 3, second paragraph);
- a device including a gluing and press station for sandwiching the panel core between the cover sheets (figure 2 and page 3, paragraph 4).

While it is not entirely clear from the disclosure of D5 that there is a lateral movement of the compacted overturned strips in order to correctly position them in relation to the displacement device, it is unambiguous from the figures 2a to 2e taken with their explanation at page 7, last paragraph, to page 9, second paragraph, that the apparatus according to D5 comprises elements, in particular the pusher (7), the feed plates (8a,b) and the guides (10a,b), by which the pre-cut lamella panel core assembly is laterally moved towards devices where glue is applied to the surfaces

of the panel cores and where they are covered with upper and lower surface layers.

### 5.3 Problem and solution

The apparatus according to the invention essentially differs from the one according to D5 by the linear arrangement of the various units, which is essential for the continuous production of endless panels of mineral wool strips, as well as by the presence of a spacer member which is integrated within the assembling station and whose function consists in transversely spacing each of the overturned, assembled strips from adjacent strips before the strips are longitudinally offset and moved forward.

The Respondent convincingly argued in the oral proceedings that the spacer member was indispensable, because in the continuous linear production of endless mineral wool panels according to the apparatus of the invention the problem of friction arises during the longitudinal offsetting of the single strips, which friction hampers smooth operation and causes damage to the contiguous surfaces of the strips.

Therefore, the problem to be solved by the invention is seen in the provision of an apparatus for the continuous production of endless mineral wool panels, sandwiched between covering sheets.

### 5.4 Obviousness

The apparatus according to D5 is qualified in Claim 8 as working "continuously". However, as set out above (section 5.2), its mode of operation does not allow for

the production of endless mineral wool sandwich panels. Nor does D5 address the problem of friction occurring during the offsetting step of the overturned mineral wool strips. Thus, the word "continuous" in line 1 of Claim 8 must be understood to relate to the uninterrupted, ie one-after-another, production of separate sandwich panels of restricted, predetermined size/length.

A skilled person starting from D5 would not find any incentive there to modify the disclosed apparatus for the production of sandwich panels of limited size by rearranging its elements to make them suitable for the continuous production of endless sandwich panels; even less is there any hint in D5 of the usefulness of a spacer member in order to avoid friction of the mineral wool strips during their longitudinal offsetting in the course of the continuous manufacturing of endless mineral wool panels.

Nor is there any information in D3 (which is also concerned with the production of mineral wool panels from overturned strip assemblies) suggesting the production of endless sandwich panels by making use of spacer elements (Claim 1; page 3, last paragraph). While the drawing IIIb of figure 6 shows a number of strips which are spaced apart from each other, the relevant explanation at page 7 paragraph 2 to page 8, paragraph 1 only states that *"the cut material board is fed and the rods are rotated 90° about their longitudinal axis in step III"*, and is silent about the presence of the spaces. Nothing can be concluded, therefore, from the graphic representation in figure 6, IIIb, with regard to the function of the spaces between

the strips, and no inference can be made as to their possible friction reducing purpose.

- 5.5 The Board therefore concludes that D5, either alone or in combination with D3, does not render the claimed apparatus obvious.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of Claim 1 of the main request filed during the oral proceedings and Claims 2 to 9 as granted and after any necessary consequential amendment of the description and the drawings.

The Registrar:

The Chairman:

G. Röhn

P. Kitzmantel