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D E C I S I O N
of 15 May 2003

Case Number: T 0009/01 - 3.2.3
Application Number: 95100666.7
Publication Number: 0682159
IPC: E04C 2/292, B32B 3/30,
B32B 15/14
Language of the proceedings: EN

Title of invention:

Deep ribbed sandwich panel and method for its manufacture

Patentee:

METECNO S.p.A.

Opponent:

PAROC OY AB
SIEMPELKAMP HANDLING SYSTEME GmbH & Co.

Headword:

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Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0009/01 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 15 May 2003

Appellant: SIEMPELKAMP HANDLING SYSTEME GmbH & Co.
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Respondent: METECNO S.p.A.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 20 October 2000
rejecting the opposition filed against European
patent No. 0682159 pursuant to Article 102(2)
EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: J. Du Pouget de Nadaillac
J. P. B. Seitz

Summary of Facts and Submissions

I. The appeal is directed against the decision posted on 20 October 2000 of an opposition division of the European Office, which rejected the two oppositions filed against the European patent EP-B-0 682 159.

II. Claim 1 of said patent as granted reads as follows:

"A deep ribbed sandwich panel (1) comprising first (4) and second (3) metal sheets, said second metal sheet being provided with ribs (2) projecting outside, and a layer of insulating material (5) consisting of a series of side-by-side mineral fibre strips (6) placed between said first (4) and second (3) metal sheets, said strips (6) having their longitudinal axis parallel to the longitudinal axis of the panel (1), which is the axis parallel to the ribs (2), whereby the ribs (2) are filled with at least one mineral fibre strip (8) having a cross-section complementary to that of the shaped edge of the ribs (2) characterised in that the layer of insulating material consists of mineral wool fibres, that the strips (8) filling the ribs (2) have their fibre axes perpendicular to the longitudinal axis of the panel (1) and parallel to the surface of the metal sheets (3,4) and that the strips (6) between the metal sheets have their fibres axes arranged perpendicular to the surface of said first (4) and second (3) sheets."

According to the above mentioned decision, the subject matter of claim 1 differs from the deep ribbed sandwich panel known from the prior art document E1 (GB-A-2 077 807) by the three features of the characterising part of claim 1, but if the first and third of these

features are obvious in view of at least either E2 (DE-A-3 928 018), E3 (Rapport No. 132, Mineraluldbaserede Sandwichelementer Hovedrapport, Lyngby, German translation joined), E4 (Deutsche Bauzeitung, 9/93, page 206) or E7 (DE-A-32 23 246), the second distinguishing feature, namely the fibre orientation of the strips, is not suggested by the cited state of the art, so that the subject-matter of claim 1 involves an inventive step.

III. Opponent 02, hereinafter the appellant, lodged the appeal on 21 December 2000 and paid the prescribed fee simultaneously. The statement setting out the grounds of appeal was received on 16 February 2001. Further arguments were received on 6 May 2002, based on a new prior art citation, namely E8: EP-A-0 290 677.

With the summons to oral proceedings sent on 15 July 2002, the board of appeal gave in an annex its preliminary and non-binding opinion, that the fibre orientation according to the second feature of the characterising part of claim 1 seems to be the result of a mere choice, known per se (see E4), without specific disclosed advantage, so that a success of the appeal would not be excluded.

IV. By letters received on 29 August 2002 and 7 May 2003 respectively, opponent 01 and the respondent, proprietor of the patent, indicated that they would not attend the oral proceedings.

The appellant by a letter received on 12 May 2003 announced that it waived its right to oral proceedings, however only under the condition that the board revokes the patent in suit.

On 15 May 2003 the oral proceedings were cancelled.

V. The arguments of the appellant can be summarized as follows:

It is agreed that the first and third or last feature of the characterising part of claim 1 are obvious in view of the disclosures of at least E2, E3 and E7. These two features concern the filling of the space between the two metal sheets and, thus, have nothing to do with the filling of the ribs. The second feature, which was considered by the first instance as implying an inventive step, relates to a particular orientation of the fibres inside of the ribs. This claimed orientation provides no particular effect and was known per se, as shown by E4. Such an orientation could be in particular the result of the cutting of fibre strips of trapezoidal cross-section from a usual mineral fibre sheet, said strips being used to fill the trapezoidal ribs. E8, which concerns insulating elements made of mineral fibres for covering curved surfaces in buildings, also shows that trapezoidal strips can be cut from a fibre sheet with the fibres either in the horizontal or in the vertical direction. Thus, the claimed orientation of the fibres inside of the ribs is only the result of an arbitrary choice.

VI. The appellant requested that the decision under appeal be set aside and that the European patent be revoked.

Apart from its decision not to attend the oral proceedings, the respondent did not participate in the appeal proceedings and did not forward any request.

Reasons for the Decision

1. The appeal is admissible.
2. In the present case the only issue to be examined is that of inventive step.

The closest prior art is represented by E1, which is cited in the description of the patent in suit. This citation concerns an insulating panel for use in buildings. It can also be used as a flame barrier (page 2, line 96).

Said panel comprises all the features of the preamble of claim 1. Trapezoidal ribs are shown. Mineral fibres are also mentioned for both the insulating material and the rib filling, but without further specification. The orientations of the fibres in the layer of insulating material as well as in the rib filling are not disclosed or even mentioned.

3. During the examination proceedings, the two-part form of claim 1 was based on this prior art. It follows that, in agreement with the parties and the first instance, the distinguishing features of the present invention are the three features of the characterising part of claim 1, which follow with the same references as in the impugned decision:

- (e) the layer of insulating material consists of mineral wool fibres,
- (f) the strips filling the ribs have their fibre axes perpendicular to the longitudinal axis of the panel and parallel to the surface of the metal sheets, and
- (g) the strips between the metal sheets have their fibre axes arranged perpendicular to the surface of said first and second sheets.

4. The original aim of the present invention, as explained in different passages of column 1 of the description of the patent in suit, was to improve the flame resistance and rigidity of the panel. Therefore, the use of polyurethane, a combustible material, for the filling of the ribs should be avoided, and the main solution according to the patent in suit was essentially to use mineral fibres. However, this solution is known from E1. Which advantages are provided or problems solved by the three above distinguishing features is not disclosed in the description of the patent in suit. The first instance held that feature (g) improves the rigidity and shear resistance of the panel, whereas feature (f) avoids the presence of paths along which flames and oxygen can propagate in the case of fire. However, these supposed advantages are doubtful, since they are contradictory to each other, fibre axes in the insulating layer being perpendicular to the metal sheets and thus creating paths for the flames in contrast to the fibre axes in the ribs.

5. Therefore, these three technical features are to be considered as such. Features (e) and (g) concern the insulating material, whereas feature (f) deals with the rib filling. Between these two groups of features, no functional relationship can be seen, so that they can be examined separately.

6. The use of mineral wool fibres as material for the manufacturing of insulating elements was well known as shown by E2, E3 and E7. In E2 and E3, it is moreover disclosed that sandwich panels made of this material located between sheets of metal or the like have the fibre axes arranged perpendicular to the surface of the sheets (figure 2 of E2 and summary of E3). Strength and rigidity of the panels are mentioned in connection with said orientation (E2, column 4, last paragraph to column 5, line 2). In E7, it is also disclosed that this orientation improves the shear resistance and rigidity of the panels. Thus, for the person skilled in the art, features (e) and (g) were obvious technical arrangements with known effects.

7. Strips made of mineral wool fibres having the fibre orientation according to feature (f) and a trapezoidal shape were on the market for use as insulating and fire resistant elements for buildings as shown by E4. Thus, for a person skilled in the art, who looks for elements made of mineral fibres for filling the trapezoidal ribs of the panels known from E1, it seems to be obvious to use such known strips.

He could as well use strips made of the same material, but with a different orientation of the fibre axes, for example parallel to that of the fibre axes of the

insulating layer. Document E8 shows that these two orientations are nearly equivalent possibilities, so that feature (f) is further to be seen as a mere choice for the skilled person.

8. For these various reasons, the subject-matter of claim 1 does not imply an inventive step (Article 56 EPC). Since the patent is to be seen as a whole, it follows from the one unallowable claim that the grounds of opposition according to Article 100(a) prejudice the maintenance of the patent in suit.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The European patent EP-B-0 682 159 is revoked.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson