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D E C I S I O N
of 23 October 2001

Case Number: T 0883/99 - 3.2.5

Application Number: 92101529.3

Publication Number: 0497335

IPC: B29C 45/14

Language of the proceedings: EN

Title of invention:

Method for the production of coated panels

Patentee:

Johnson Control S.P.A.

Opponent:

IBS Brocke GmbH & Co. KG
Battenfeld GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 100b

Keyword:

"Sufficiency of disclosure (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0883/99 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 23 October 2001

Appellant: Johnson Control S.P.A.
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Representative: Marietti, Giuseppe
Marietti, Gislone e Trupiano S.r.l.
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Respondent I: IBS Brocke GmbH & Co. KG
(Opponent 01) Bergstrasse 29
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Representative: Godemeyer, Thomas, Dr.
Sternagel, Fleischer, Godemeyer & Partner
Patentanwälte
An den Gärten 7
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Respondent II: Battenfeld GmbH
(Opponent 02) Scherl 10
D-58540 Meinerzhagen (DE)

Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 24 June 1999
revoking European patent No. 0 497 335 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: W. Moser
Members: W. R. Zellhuber
A. Burkhardt

Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged an appeal against the decision of the Opposition Division revoking the European patent No. 0 497 335.
- II. Oppositions were filed against the patent as a whole and based on Article 100(a) and (b) EPC. The Opposition Division held that the grounds for opposition according to Article 100(b) EPC prejudiced the maintenance of the patent in suit.
- III. Oral proceedings were held before the Board of Appeal on 23 October 2001.
- (i) The appellant requested that the decision under appeal be set aside and the patent in suit be maintained on the basis of the following documents:
- (a) main request: patent in suit as granted; or
- (b) first auxiliary request: claims 1 to 9 filed as first auxiliary request on 24 September 2001; or
- (c) second auxiliary request: claims 1 to 9 filed as second auxiliary request on 24 September 2001.

The appellant further requested that only the issue of insufficiency of disclosure under Article 100(b) EPC be decided by the Board and that, for assessment of novelty and inventive step, the case be remitted to the Opposition

Division.

(ii) Respondents I and II (opponents 01 and 02) requested that the appeal be dismissed.

IV. Claim 1 according to the main request reads as follows:

"1. A method for the production of coated panels (7), comprising the simultaneous coupling and molding of a thermoplastic supporting material (6') of said panel with the relevant coating material (1), and the steps of: positioning the coating material (1) made of formable material between the two halves (3,4) of a mould, closing said mould to seal it, injecting the supporting material (6'), in plastic conditions and under pressure, into said mould, characterized in that it further comprises the steps of: sealing said mould by means of blankholders (5) located between said mould halves (3, 4); injecting said supporting material (6') into said mould, to have a coating (1) enrichment and to simultaneously shape said coating (1) and said supporting material (6'); and controlling the enrichment of said coating (1) within said mould by means of said blankholders (5)."

The characterizing part of claim 1 of the first auxiliary request reads as follows:

"... sealing said mould by means of blankholders (5) located between said mould halves (3, 4); injecting said supporting material (6') into said mould to force said coating material (1) against the relevant mould half (3) and to draw additional coating material through said blankholders into said mould, thus having a coating enrichment and simultaneously shaping said

coating material and said supporting material (6') according to the shape of said mould; said enrichment of the coating (1) within said mould being controlled by means of said blankholders (5)."

The characterizing part of claim 1 of the second auxiliary request reads as follows:

"... sealing said mould by means of blankholders (5) located between said mould halves (3, 4) to allow further coating material to be drawn into the mould; injecting said supporting material (6') into said mould to force said coating material (1) against the relevant mould half (3) and to draw additional coating material through said blankholders into said mould, to have said coating enrichment and to simultaneously shape said coating material and said supporting material (6') according to the shape of said mould; said enrichment of the coating (1) within said mould being controlled by means of said blankholders (5)."

V. The following documents have been referred to in the course of the appeal procedure:

D4: DE-A 2 548 318;

D6: M. Böcklein, H. Eckardt: "Dekorieren von Spritzgußteilen im Werkzeug", Kunststoffe 76 (1986) 11, pages 1028 to 1032;

D7: EP-A 0 416 216;

D8: EP-A 0 329 792;

D9: Declaration of 26 October 1999 by Mr Guisepp
Antonio Rossi;

D10: Declaration of 24 September 2001 by Mr Paolino
della Putta.

VI. In the written and oral procedure, the appellant argued
essentially as follows:

The patent in suit concerned a process for the
production of coated panels comprising the steps of
positioning a coating material like a fabric between
two halves of a mould, closing the mould and injecting
a thermoplastic supporting material into the mould.

In order to avoid coating material from being torn when
forced against the inner wall of the mould, it had to
be allowed that more coating was drawn into the mould.
That was expressed in the patent in suit by the term
"coating enrichment". The patent in suit also referred
to document D7, which was an example of that technique
of coating enrichment. Document D7 disclosed a method
of forming panels wherein coating material held by
dandy rolls was drawn into the mould before it was
completely closed.

The declaration D10 made by an expert further showed
that the term "coating enrichment" signified that, at
the end of the injection step, there was more coating
material in the mould than at the beginning of the
injection step.

The gist of the invention consisted therefore in the
fact that coating material was drawn into the mould
during the injection of the supporting material.

There was no discrepancy between the subject-matter of the claims and that of the description. The passage on column 3, lines 14 to 21 of the description of the patent in suit did not indicate when the coating enrichment actually took place. However, the wording of the claims made it clear that coating enrichment occurred during injection of the supporting material.

The blankholders had the functions of ensuring sealing when the mould was closed, and holding the fabric in such a way that coating material could be drawn into mould. That was expressed in claim 1 of the patent in suit according to the main request by the feature "controlling the enrichment of said coating within said mould by means of said blankholders", wherein the term "controlling" meant restraining rather than actively controlling.

A person skilled in the art would obviously know how to proceed in order to perform and to control coating enrichment.

Any form of a blankholder might be used. Documents D4 and D8 disclosed blankholders allowing coating enrichment. It had further to be taken into account that the patent in suit was directed to a process rather than to a specific structure of blankholders. Document D6 also described the method without going into detail as far as the apparatus was concerned.

A person skilled in the art was capable of selecting the process parameters like closing force and injection pressure, accordingly, as shown by the declarations D9 and D10 of the experts. Moreover, the figures of the patent in suit showed an injection moulding apparatus

comprising three injection channels. A skilled person would thus understand that the process was carried out at a low injection pressure. Furthermore, the patent in suit did not claim a method wherein high pressures were applied or wherein the mould was completely sealed.

Therefore, the patent in suit disclosed the invention in a manner sufficiently clear and complete for it to be carried by a person skilled in the art.

VII. In the written and oral procedure, the respondents argued essentially as follows:

The patent in suit did not explain what was meant by the term "coating enrichment". On the one hand, it might signify an increase of the amount of coating material in the mould by drawing coating material into the latter. On the other, it might also signify backing the coating material by filling the mould with supporting material.

Furthermore, the patent in suit comprised contrary statements concerning the question when the step of "coating enrichment" occurred. According to claim 1 of the patent in suit, "coating enrichment" occurred during the injection step. However, according to the description and the figures, in particular column 3, lines 13 and Figure 2, "coating enrichment" occurred when closing the mould. The injection process was described in column 3, lines 22 to 31 of the patent in suit without referring to any "coating enrichment".

Provided that the term "coating enrichment" signified that coating material was drawn into mould, the patent in suit did not disclose how such a "coating

enrichment" might be achieved during injection of the supporting material.

According to the patent in suit, the blankholders should ensure sealing when the mould was closed, and, at the same time, they should allow coating material to be drawn into the mould during injection. The patent in suit thus only indicated the desired functioning of the blankholders, but disclosed neither their structure nor any process parameters.

Moreover, the blankholders had contrary functions, and a person skilled in the art had therefore to be inventive in order to be able to carry out the process according to the patent in suit.

Documents D4, D7 and D8 concerned blankholders which were suitable to draw coating material into the mould before closing it.

In addition, the patent in suit did not disclose how the blankholders might "control" any form of "enrichment" of the coating.

Therefore, the patent in suit did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

Reasons for the Decision

Main request

1. Insufficiency of disclosure (Article 100(b) EPC)

1.1 The patent in suit does not explicitly define the term "coating enrichment". Furthermore, the term itself is not a technical term which is particularly used in the technical domain the patent in suit relates to. In the technical field of chemistry, the term enrichment is used to indicate an increase of the amount or proportion of a particular element or isotope in a substance. Accordingly, in the present case, the term "coating enrichment" can be construed as an increase of the amount of coating material within the mould.

1.2 As can be seen from Figures 1 and 2 of the patent in suit, such an increase of coating material within the mould occurs, for example, when closing the mould. In order to allow the coating material to align along the convex shape of the mould cavity without being torn, further coating material is drawn into the mould.

That procedure is also known in the prior art. In the injection moulding process disclosed in document D4, coating material is drawn into the mould and brought into contact with the inner surface of one of the mould halves by suction means. Thereafter, supporting material is injected into the mould and distributed within the mould cavity by further approaching the two mould halves, cf. the paragraph bridging pages 4 and 5.

Document D8, cf. in particular column 8, lines 11 to 48, and Figures 1, 2 and 4, discloses an injection moulding apparatus wherein a supplemental element is inserted between the two mould halves. That element comprises means for pressing the coating material against the inner surface of one of the mould halves by air pressure where it is held by suction means provided for in that mould half. Thereafter, the element is

withdrawn. After closing of the mould, thermoplastic supporting material is injected into the mould cavity.

Document D7, cf. in particular column 4, lines 7 to 13, and Figures 1 and 2, discloses a method wherein coating material is coupled to a plate of thermoplastic material by applying heat and pressure. A movable pressing member, i.e. a dandy roll, is provided within the die to bring the two materials into contact at the predetermined position during the die closure.

- 1.3 However, according to claim 1 of the patent in suit, the method for which protection is sought comprises the step of **injecting the supporting material** into the mould **to have a coating enrichment** and controlling the enrichment of said coating within said mould by means of the blankholders. Thus, according to claim 1 of the patent in suit, "coating enrichment" occurs when injecting the supporting material.

Accordingly, supported by the declarations D9 and D10 of the experts, the appellant argued that, with respect to the patent in suit, the term "coating enrichment" has to be construed as coating material being drawn into the mould during the injection of supporting material, thus avoiding coating material from being torn when forced against the inner wall of the mould by the injected thermoplastic material.

Thus, the invention of the patent in suit concerns a method for the production of coated panels wherein coating material is drawn into the mould during the injection of the supporting material.

- 1.4 However, the patent in suit does not disclose the

invention in a manner sufficiently clear and complete for it to be carried by a person skilled in the art.

1.4.1 The patent in suit does not go into detail as far as the process and the means for carrying it out are concerned. It only makes mention of blankholders which should have the function of

- (a) sealing the mould when it is closed, and
- (b) allowing and controlling the "coating enrichment" within said mould.

In order to be able to carry out the method according to the patent in suit, a person skilled in the art had to find out a suitable process and, in particular, he had to dispose of appropriate blankholders. On the one hand, they must be suitable to seal the mould and, on the other, they must be suitable to let coating material being drawn into the mould after the mould has been closed and during the injection of supporting material. The blankholders thus have contrary functions.

1.4.2 The cited prior art does not relate to a method wherein coating material is drawn into the mould during the injection of supporting material. Therefore, the skilled person could not rely on the prior art in order to solve that problem. Documents D4, D7 and D8 all disclose blankholders which are used in a process wherein coating material is drawn into the mould before the latter is completely closed and sealed.

1.4.3 In the declaration D9, an expert suggests that "it will be sufficient to select a suitable closing strength of

the mold to obtain an acceptable sealing action and an enrichment of the coating material" (page 1, penultimate paragraph). The declaration D10 comprises a similar suggestion at the end of the second paragraph: "The mould is closed with a strength that results in an acceptable sealing and in the possibility of the coating material to be drawn into the mould cavity."

These declarations, however, do not disclose how such a process may actually be performed, and how blankholders have to be constructed in order to achieve the desired result. Consequently, they neither prove that appropriate blankholder constructions were available, nor that a skilled person would arrive at suitable process parameters within a reasonable number of tests.

- 1.4.4 Furthermore, no evidence has been produced which shows that appropriate blankholders and a process allowing coating material to be drawn into a mould during injection were part of the common general knowledge.
- 1.4.5 It is further remarked that the patent in suit relates to an injection moulding process. In general, relatively high pressures are applied when injecting molten plastic material into a mould cavity and, accordingly, relatively high forces are needed to close and seal the mould, which does not facilitate the search for a solution to the problem of allowing coating material to be drawn into the mould during the injection of supporting material. It has also not been shown that the use of an injection mould comprising a plurality of injection channels would allow coating material to be drawn into the mould during injection.

- 1.5 The Board, therefore, comes to the conclusion that a

skilled person was not able without being inventive, to solve the problem of providing a process wherein blankholders perform the function of sealing the mould and holding the coating material and at the same time allow coating material to be drawn into the mould during injection of supporting material.

- 1.6 The Board also comes to the conclusion of insufficiency of disclosure when taking into consideration the alternative interpretation of the term "coating enrichment". According to the respondents, a form of "coating enrichment" also may be achieved by filling the mould with supporting material and thus backing the coating material.

However, the patent in suit does not disclose what has to be done in order to control "by means of the blankholders" that form of "enrichment" of the coating material within the mould. It is completely unclear in which way the injection of supporting material, which, according to claim 1 of the patent in suit, should result in a "coating enrichment", may be "controlled" by the blankholders.

- 1.7 It follows that the patent in suit does not disclose the feature "sealing said mould by means of blankholders (5) located between said mould halves (3, 4); injecting said supporting material (6') into said mould, to have a coating (1) enrichment and ... controlling the enrichment of said coating (1) within said mould by means of said blankholders (5)", and hence the subject-matter of claim 1 according to the main request, in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art as required by Article 83 EPC. Therefore,

appellant's main request is not allowable.

First and second auxiliary requests

2. *Insufficiency of disclosure (Article 100(b) EPC)*

The claims of the first and second auxiliary request do not differ from those of the main request in a way which could provide a basis for a different assessment of the issue of insufficiency of disclosure as regards the patent in suit. Claim 1 of each of these requests relates to a method comprising the steps of sealing a mould by means of blankholders, injecting supporting material into the mould to bring about an enrichment of the coating within the mould, and controlling this enrichment by means of these blankholders. The above reasoning, therefore, applies. The auxiliary requests are not allowable either.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Dainese

W. Moser