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Datasheet for the decision of 28 October 2008

Case Number: T 1685/06 - 3.2.05

Application Number: 91112831.2

Publication Number: 0469564

IPC: B29B 13/02

Language of the proceedings: EN

Title of invention:
Method of packaging an adhesive composition and corresponding packaged article

Patentee:
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Opponents:
Henkel France S.A.
Henkel AG & Co. KGaA
BOSTIK SA
SAVARE' INDUSTRIA CHIMICA S.r.l.
National Starch and Chemical

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (all requests, no)"

Decisions cited:
T 0045/02

Catchword:
-

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Case Number: T 1685/06 **-** 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 28 October 2008

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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 5 September 2006 concerning maintenance of European patent No. 0469564 in amended form.**

Composition of the Board:

Chairman: W. Zellhuber
Members: P. Michel
C. Rennie-Smith
W. Widmeier
E. Lachacinski

Summary of Facts and Submissions

I. Appellant I (patent proprietor) and appellant II (opponent 05) lodged appeals against the interlocutory decision of the Opposition Division maintaining European patent No. 0 469 564 in amended form.

In the decision under appeal, it was held that the subject-matter of the independent claims of the main request and auxiliary requests I to IV did not involve an inventive step, but that auxiliary request V was allowable.

II. Oral Proceedings were held before the Board of Appeal on 28 October 2008.

Appellant I requested that the decision under appeal be set aside and that the patent in suit be maintained on the basis of one of the sets of claims filed as main and first to fifth subsidiary requests on 4 January 2007 or one of the sets of claims filed as sixth to tenth subsidiary requests during the oral proceedings.

Appellant II requested that the decision under appeal be set aside and that the European patent no. 469564 be revoked.

The respondents (opponents 02 and 03) requested that the appeal of appellant I be dismissed.

Former respondent (opponent 04), Savare' Industria Chimica S.r.l., withdrew its opposition by telefax on 27 October 2008.

III. Claim 18 of the main request reads as follows:

"18. A package adhesive, especially a thermoplastic or thermosetting hot melt adhesive, comprising a uniform portion of adhesive substantially completely surrounded by a plastics film packaging material, wherein

- said packaging film material has a melting point below 120°C
- said packaging film material has a sharp melting point rather than a softening temperature range;
- it is meltable together with the adhesive and blendable into said molten adhesive;
- said film material is a component of the adhesive or a component physically and chemically compatible with the adhesive in the melt, so as to cause no physical phasing or separation of the adhesive, such that
- the kind and amount of said packaging film material are chosen so as not to disadvantageously affect the properties of the adhesive when blended into same."

Claim 18 of the first auxiliary request differs from claim 18 of the main request in that the term "adhesive" is replaced by "adhesive composition" throughout the claim, and the term "package adhesive, especially a thermoplastic or thermosetting hot melt adhesive" is replaced by "packaged thermoplastic or thermosetting hot melt adhesive composition".

Claim 16 of the second auxiliary request differs from claim 18 of the first auxiliary request in that the following additional feature is introduced:

"- the packaging material enclosure is a sack or a bag made of plastics film weighing between 0.1 and 3 % by weight with respect to the weight of the adhesive composition contained in the package"

Claim 16 of the third auxiliary request differs from claim 16 of the second auxiliary request in that the following additional feature is introduced:

"- said plastics film material has a thickness in the range between about 5 µm and 200 µm"

Claim 15 of the fourth auxiliary request differs from claim 16 of the second auxiliary request in that the following additional feature is introduced:

"- said plastics film material has a thickness in the range from 15 µm to 50 µm"

Claim 13 of the fifth auxiliary request differs from claim 15 of the fourth auxiliary request in that the following additional feature is introduced:

"and wherein said packaging material is weld-sealed".

Claim 1 of the sixth auxiliary request reads as follows:

"1. A method of packaging an adhesive, especially a thermoplastic or thermosetting hot melt adhesive, said method comprising the steps of:
b) providing the adhesive in flowable form, sufficiently plastified for packaging;

c) inserting a portion of said flowable, plastified adhesive into a plastics film packaging material enclosure;
d) separating and substantially completely surrounding said portion with said plastics film packaging material;
wherein
- said packaging film material has a melting point below 120°C;
- said packaging film material has a sharp melting point rather than a softening temperature range;
- it is meltable together with the adhesive and blendable into said molten adhesive;
- said film material is a component of the adhesive or a component physically and chemically compatible with the adhesive in the melt, so as to cause no physical phasing or separation of the adhesive, such that
- the kind and amount of said packaging film material are chosen so as not to disadvantageously affect the properties of the adhesive when blended into same."

Claim 1 of the seventh to tenth auxiliary requests involves the introduction of the (cumulative) amendments as set out above in respect of the first to fourth auxiliary requests into claim 1 of the sixth auxiliary request.

IV. The following documents are referred to in the present decision:

D1: DE-A-36 25 358
D7: CA-B-1 243 569

D10: FR-A-2 601 616
D17: US-A-2,639,808
D23: Declaration of Mark Kroll

V. The arguments of appellant I in the written and oral proceedings can be summarised as follows:

As regards claim 18 of the main request, the closest prior art is represented by document D1. The subject-matter of claim 18 is distinguished from the disclosure of this document by the features of the packaging film having a melting point below 120°C and a sharper melting point than that of the adhesive. Whilst the adhesive has a melting range of 1°C, as shown in the Examples of the patent in suit, Platilon H2, as disclosed in document D1, is known to have a melting temperature range of 5°C.

In addition, as demonstrated by document D23, the melting of an adhesive packaged in Platilon H2 does not result in a homogeneous mixture.

Hot melt adhesives exhibit a broad variety of melting behaviour. The subject-matter of claim 18 sets out rules which avoid unworkable combinations of film and adhesive and enable the selection of a packaging film which is compatible with a particular adhesive depending on the melting behaviour of the adhesive.

The packaged adhesives of document D1 are melted using a pressure melting device and are not meltable and blendable in a melt tank without stirring. In addition, none of the remaining cited prior art documents discloses a packaged adhesive which can be melted in a

melt tank without giving rise to problems, such as nozzle clogging and inhomogeneity.

Document D7 is concerned with solving the problem of blocking and thus does not offer a solution to these problems.

The subject-matter of claim 18 of the main request thus involves an inventive step.

The feature of the sharp melting point has particular relevance in the context of thermoplastic or thermosetting hot melt adhesives.

Document D1 is concerned with an incompatible packaging film and adhesive. The disclosure of this document is thus not relevant to the present invention. The use of an amount of packaging material exceeding 3% by weight, or an excessively thick film, would prevent blending when the adhesive is melted in a melt tank. Document D1 also does not disclose packaging material in the form of a sack or bag.

Document D1 discloses at column 5, lines 4 to 5, the use of film thicknesses of 20 to 3000 µm, preferably 100 to 200 µm. Thus, the person skilled in the art would choose a value within the preferred range and not a value at the lower end of the broad range.

The subject-matter of the product claims of the first to fifth auxiliary requests thus also involves an inventive step.

Document D1 does not disclose a method of packaging an adhesive, in which the adhesive is inserted in flowable form into a packaging material enclosure. The combination as specified in claim 1 of the sixth to tenth auxiliary requests is not derivable from the prior art.

The subject-matter of claim 1 of the sixth to tenth auxiliary requests thus also involves an inventive step.

VI. The arguments of appellant II and the respondents in the written and oral proceedings can be summarised as follows:

Document D1 is regarded as the closest prior art. Claim 18 of the main request is distinguished from the disclosure of this document solely by the feature of the sharper melting point. The problem to be solved is thus to achieve a homogeneous blend of molten packaging material and adhesive and to avoid blocking.

It is clear for the person skilled in the art that, in order to achieve this, the packaging material must have the same melting characteristics or a sharper melting characteristic than the adhesive. This question is also correctly dealt with in decision T 0045/02.

The subject-matter of claim 18 of the main request thus does not involve an inventive step.

Document D1 discloses packaged thermoplastic or thermosetting hot melt adhesives.

A rough calculation based on the disclosure of document D1 at column 5, lines 59 to 68 indicates that the amount of packaging material is within the range claimed in claim 1 of the second auxiliary request. This feature is also disclosed in document D10 at page 4, lines 22 to 24.

The subject-matter of the product claims of the first to fifth auxiliary requests thus also does not involve an inventive step.

Document D1 discloses a method in which the adhesive is extruded into the packaging film and sealed at both ends. The subject-matter of claim 1 of the sixth to tenth auxiliary requests thus also does not involve an inventive step.

Reasons for the Decision

1. *Main Request*

1.1 Inventive Step

The closest prior art is represented by document D1. This document discloses a package of hot melt adhesive, comprising a portion of adhesive completely surrounded by a plastics film packaging material (see column 3, lines 16 and 17). As stated in document D1 at column 4, lines 27 to 31 and 56 to 59, the film material is compatible with known hot melt adhesives and at the least does not disadvantageously affect the properties of the adhesive and may even improve the properties of the adhesive when blended into same.

The melting point of the film is disclosed in document D1 as being around 120 to 150°C (column 4, lines 40 and 41). Whilst the document refers to the use of "Platilon H2" as the film material at column 5, lines 67 and 68, the Board does not have any information about the melting behaviour of this material at the priority date of the patent in suit.

The subject-matter of claim 18 is thus distinguished over the disclosure of document D1 in that the film material has:
a) a melting point below 120°C,
b) a sharp melting point rather than a softening temperature range, and
c) causes no physical phasing of the adhesive.

As regards feature a), the selection of a melting point below 120°C is regarded as being arbitrary in view of the remaining requirements for the film specified in the claim, insofar as the melting point of the packaging film must be adapted to that of the adhesive. Thus, for example, hot melt adhesives are known which have melting points as low as 60°C (see document D7, page 3(a), line 4). A film having a melting temperature as high as 120°C would not satisfy the requirement of being meltable together with the adhesive composition. The person skilled in the art would thus select a film having a melting point below 120°C as a matter of routine if this was appropriate in view of the melting point of the adhesive. This feature is thus not regarded as contributing towards an inventive step.

The problem to be solved by features b) and c) is to provide a packaged adhesive which forms a homogeneous blend when melted, so that, for example, clogging of the nozzles of a hot melt tool can be avoided (see the patent in suit, page 2, line 56 to page 3, line 2 and page 4, lines 21 to 24).

As stated in decision T 0045/02, dated 25 May 2004, which is concerned with the question of sufficiency of disclosure of the patent in suit, the reference to a sharp melting point is understood to mean that the melting characteristic of the packaging material is at least as sharp as the melting characteristic of the adhesive.

It is immediately apparent to the person skilled in the art that the packaging material must have a melting characteristic which is the same as or sharper than that of the adhesive in order for the material to be melted during melting of the adhesive without leaving unmelted pieces which will result in undesired effects such as clogging of the nozzles of a hot melt tool. It may be noted that it was this fact that enabled the Board in case T 0045/02 to decide that the term "sharp melting point" is sufficiently disclosed in the patent in suit.

It is not accepted that the patent in suit discloses film materials having a sharp melting characteristic of 1°C or less, as suggested by appellant I. Rather, the Examples of the patent in suit relate to films for which a value of the DSC (differential softening calorimetry) softening point is given. This value represents an endothermic peak in the DSC curve and,

whilst the value is given with an accuracy within one degree, it does not give any indication of the melting temperature range of the material from the onset melting temperature to the end melting temperature.

Whilst appellant I referred to the fact that document D1 describes the melting of the packaged adhesive in a pressure melting device rather than a melt tank, the intended use of the packaged adhesive is not specified in the claim and is not relevant to a claim directed to the packaged adhesive *per se*.

Document D23 describes experiments in which samples of a Platilon H2 film and a polyethylene based film (NA-0420) were each heated in contact with two different adhesives. The experiments showed that the polyethylene based film blended with the adhesives, whilst this was not possible with the Platilon H2 film (a copolyamide material). These experiments do not, however, demonstrate that the features specified in claim 18 lead to improved blending.

As indicated in document D7 at page 11, line 7, it is also desirable that the molten adhesive should not show any phasing. It is noted that this document is concerned with the problem of preventing "blocking", that is, blocks of adhesive sticking together. Nevertheless, the document demonstrates that the person skilled in the art, when attempting to fulfill the requirement of compatibility of the packaging film and adhesive referred to at column 4, lines 27 to 29 of document D1, will choose a packaging film and adhesive combination which, in use, will undergo melting without phase separation.

The subject-matter of claim 18 thus does not involve an inventive step.

2. *First Auxiliary Request*

Claim 18 is restricted to packaging of a thermoplastic or thermosetting hot-melt adhesive. This feature is, however, known from document D1 (column 1, line 66) and thus does not serve to distinguish the subject-matter of the claim from the disclosure of document D1.

The subject-matter of claim 18 thus does not involve an inventive step.

3. *Second Auxiliary Request*

The independent claims are restricted to the packaging material being a sack or a bag of plastics material weighing between 0.1 and 3% by weight with respect to the weight of the adhesive composition.

A rough calculation based on the dimensions given in document D1 in column 5, lines 59 to 65, based on the assumption that the specific gravity of the film and adhesive are similar, indicates that the claimed values are not dissimilar from those taught in document D1. In addition, document D10, at page 4, lines 22 to 24, discloses the use of a packaging film weighing between 0.5 and 3% by weight with respect to the weight of the adhesive composition.

The specified amount of packaging material thus corresponds generally to that which would be used by the person skilled in the art.

As regards the provision of the film in the form of a sack or bag, this is one of a few generally available alternatives for wrapping a block of material with a film, as illustrated by document D17 at column 3, line 62 to column 4, line 5.

The subject-matter of claim 16 thus does not involve an inventive step.

4. *Third and Fourth Auxiliary Requests*

Document D1 proposes at column 5, lines 4 to 5, the use of film thicknesses of 20 to 3000 µm, preferably 100 to 200 µm. The fact that there is a disclosure of a preferred range in addition to the broad range does not detract from the disclosure of the broad range.

Document D1 thus discloses a film thickness (20 µm) falling within the ranges specified in claim 16 of the third auxiliary request and claim 15 of the fourth auxiliary request. The specified film thickness thus does not contribute towards an inventive step.

5. *Fifth Auxiliary Request*

Document D1 proposes the use of weld sealing of the packaging film at column 4, line 49. In addition, it is generally well known to use welding in order to obtain a sealed package of plastics films. The application of

this method of sealing to a sack or bag is thus a generally available expedient.

The subject-matter of claim 13 thus does not involve an inventive step.

6. *Sixth Auxiliary Request*

Claim 1 is directed to a method of packaging an adhesive, the resulting packaged adhesive being defined in the terms of claim 18 of the main request.

In column 4, lines 43 to 53, document D1 suggests three alternative methods of packaging the adhesive. The second of these methods involves extruding the adhesive in a comparatively thick strand, separating blocks of adhesive from the strand, and enclosing the blocks in a tubular film which is then closed by welding at both ends. The method of packaging as claimed in claim 1 thus differs from the method disclosed in document D1 in that the packaging steps are carried out in a different order.

There is nothing to suggest that any technical effect results from the separation step being carried out after insertion of the adhesive into the packaging material. This reversal of the procedural steps thus does not involve an inventive step.

7. *Seventh to Tenth Auxiliary Requests*

Claim 1 of each of these requests differs from claim 1 of the sixth auxiliary request in that the resulting packaged adhesive is defined in the terms of the

product claim of the first to fourth auxiliary requests respectively. In view of the fact that the packaged adhesive *per se* in each case does not involve an inventive step (see sections 2 to 4 above), the utilisation of a method of packaging the adhesive which does not involve an inventive step (see section 6 above) similarly does not involve an inventive step.

8. Thus, the subject-matter of at least one claim of each of the requests of appellant I does not involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

D. Meyfarth W. Zellhuber