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D E C I S I O N
of 28 April 2005

Case Number: T 1074/02 - 3.2.5

Application Number: 94118872.4

Publication Number: 0649718

IPC: B29B 13/02

Language of the proceedings: EN

Title of invention:

Method of packaging an adhesive composition and corresponding packaged article

Patentee:

H.B. FULLER LICENSING & FINANCING, INC.

Opponent:

Henkel KGaA
National Starch and Chemical Investment Holding Corporation
Bostik Findley SA

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 83, 84

Keyword:

"Sufficiency of disclosure - yes"
"Novelty - yes"
"Clarity: fifth auxiliary request - no"
"Inventive step: main request, first to fourth auxiliary requests - no; sixth auxiliary request - yes"

Decisions cited:

G 0009/92

Catchword:

-



Case Number: T 1074/02 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 28 April 2005

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
29 August 2002 concerning maintenance of the
European patent No. 0649718 in amended form.

Composition of the Board:

Chairman: W. Moser
Members: H. M. Schram
W. Widmeier

Summary of Facts and Submissions

- I. Appellants I and II (opponents 01 and 02) each lodged an appeal against the interlocutory decision of the Opposition Division posted 29 August 2002, maintaining the European patent No. 0 649 718 in amended form.

The Opposition Division held that the grounds of opposition under Article 100(a) EPC (lack of novelty, Article 54 EPC, and lack of inventive step, Article 56 EPC) and Article 100(b) EPC (insufficiency of disclosure, Article 83 EPC) did not prejudice the maintenance of the patent in amended form. The main amendment was the replacement of the expressions "adhesive composition" and "composition" throughout the patent specification and in the claims by the expression "adhesive", with a view to exclude chemical compositions displaying an increased molecular adhesion (tackiness) that could theoretically be employed as an adhesive but were not intended as such (see Reasons for the decision, point 4).

- II. Oral proceedings were held before the Board of Appeal on 28 April 2005.
- III. At the end of the oral proceedings, the final requests of the parties were as follows:

Appellants I and II and the other party (opponent 03) requested that the decision under appeal be set aside and that the European patent No. 0 649 718 be revoked in its entirety.

The respondent (patentee) requested as a main request that the decision under appeal be set aside and that the patent in suit be maintained on the basis of claims 1 to 31 as granted. As an auxiliary measure, he requested that the decision under appeal be set aside and that the patent in suit be maintained on the basis of the following documents:

- (i) claims 1 to 31 filed as first auxiliary request on 29 March 2005; or
- (ii) claims 1 to 31 filed as second auxiliary request on 29 March 2005; or
- (iii) claims 1 to 31 filed as third auxiliary request on 29 March 2005; or
- (iv) claims 1 to 30 filed as fourth auxiliary request on 29 March 2005; or
- (v) claims 1 to 29 filed as fifth auxiliary request on 29 March 2005; or
- (vi) claims 1 to 24 presented as sixth auxiliary request in the oral proceedings.

IV. Independent claims 1, 20 and 27 of the main request (claims as granted) read as follows:

"1. A method of packaging an adhesive composition, especially a thermoplastic or thermosetting hot melt adhesive, said method comprising the steps of:

- b) providing a plurality of substantially uniform separate portions of the adhesive composition;
- c) sufficiently solidifying all said portions for packaging;
- d) forming a batch comprising the plurality of solidified portions, and

e) substantially completely surrounding said batch with a plastics packaging material; said packaging material being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same."

"20. A method of packaging an adhesive composition, especially a thermoplastic or thermosetting hot melt adhesive, said method comprising the steps of:

- b) providing the adhesive composition in flowable form, sufficiently plastified for packaging;
- c) inserting a plurality of portions of said flowable, plastified adhesive composition into a plastics packaging material enclosure;
- d) separating and substantially completely surrounding said plurality of portions with said plastics packaging material; said packaging material having a melting or softening point of below 120 °C and being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same."

"27. A packaged adhesive composition, especially a thermoplastic or thermosetting hot melt adhesive, comprising a batch of substantially uniform separate portion pieces of adhesive composition, said batch being substantially completely surrounded by a net or bag of plastics film packaging material, said packaging

material being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same."

The independent claims of all auxiliary requests differ from the corresponding claims of the main request in that the expression "packaging material" is replaced by the expression "packaging film material" (except for the first occurrence of the expression "packaging material" in claim 27 of the main request, which expression is preceded by the term "film").

Independent claims 1, 20 and 27 of the first auxiliary request further differ from the corresponding claims according to the main request in that the optional feature "especially" is deleted, i.e. the method claims 1 and 20 and the product claim 27 now being directed to "A method of packaging a thermoplastic or thermosetting hot melt adhesive composition" and "A packaged thermoplastic or thermosetting hot melt adhesive composition", respectively.

Independent claims 1, 20 and 27 of the second auxiliary request differ from the corresponding claims according to the first auxiliary request by the insertion of the feature "said adhesive being based on a thermoplastic synthetic resin material" after the expression "hot melt adhesive composition"; claim 1 further differs from claim 1 of the first auxiliary request by the addition of the feature "and said packaging film

material having a melting or softening point below about 125 °C" at the end of said claim.

Independent claims 1, 20 and 27 of the third auxiliary request differ from the corresponding claims according to the first auxiliary request by the insertion of the feature "sprayable or pressure-sensitive" before the expression "thermoplastic or thermosetting hot melt adhesive composition".

Independent claims 1, 19 and 26 of the fourth auxiliary request read as follows:

- "1. A method of packaging a thermoplastic or thermosetting hot melt adhesive composition, said method comprising the steps of:
- b) providing a plurality of substantially uniform separate portions of the adhesive composition;
 - c) sufficiently solidifying all said portions for packaging;
 - d) forming a batch comprising the plurality of solidified portions, and
 - e) placing said batch in a bag of plastics packaging film material; said packaging film material being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging film material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same,
 - f) sealing said bag and
 - g) voiding said bag of air."

"19. A method of packaging a thermoplastic or thermosetting hot melt adhesive composition, said method comprising the steps of:

- b) providing the adhesive composition in flowable form, sufficiently plastified for packaging;
- c) inserting a plurality of portions of said flowable, plastified adhesive composition into a plastics packaging film material bag; said packaging film material having a melting or softening point of below 120° C and being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging film material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same;
- d) sealing said bag, and
- e) voiding said bag of air."

"26. A packaged thermoplastic or thermosetting hot melt adhesive composition, comprising a batch of substantially uniform separate portion pieces of adhesive composition, said batch being substantially completely surrounded by a bag of plastics film packaging material, said packaging film material being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging film material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same, and said bag being sealed and voided of air."

Independent claims 1, 18 and 25 of the fifth auxiliary request differ from the corresponding claims 1, 19 and 26 of fourth auxiliary request in that the feature "by compressing the bag at elevated temperature so that the packaging film material is forced into close contact with the adjoining adhesive material and is adhered to the adhesive" is added at the end of the respective claims.

The set of claims of the sixth auxiliary request differ from the set of claims of the fifth auxiliary request in that the product claims 25 to 29 are deleted.

V. The following documents were *inter alia* referred to in the appeal proceedings:

E1 DE-C 36 25 358

E17 DE-A 36 25 385

E20 US-A 2 639 808

E29 US-A 3 723 035

E32 DE-U 87 10 132

E38 "Encyclopedia of Polymer Science and Technology",
John Wiley & Sons, Inc., 1964, Volume 1, pages 481
to 486.

VI. Appellants I and II and the other party argued in writing and/or at the oral proceedings essentially as follows:

The invention was insufficiently disclosed for the following reasons. The independent claims were very broad in the sense that they covered combinations of a quasi infinite number of packaging materials and a quasi infinite number of adhesive compositions, whereas

the examples mentioned in the patent specification only covered two different kinds of packaging materials and four different kinds of adhesive compositions. There was no teaching in the patent how to select "the kind and amount of said packaging material ... so as not to disadvantageously affect the properties of the adhesive composition when blended into same", and which packaging material were meltable and blendable into which adhesive compositions. In short, the patent in suit did not answer the general question which packaging material can be used for which adhesive. It was hence an undue burden for the person skilled in the art to find suitable pairs of packaging material and adhesive. An adhesive could not be flowable and plastified at the same time, as required by step c) of the second method claim (cf. claim 20 of the main request and the corresponding claims of the first to sixth auxiliary requests). Moreover, step d) of said second method claim implied that the claim related to the packaging of a single portion rather than to a plurality of portions of adhesive. The requirements of Article 83 EPC were thus not met.

Document E1 disclosed the packaging of blocks (plural!) of an adhesive composition in a foil, see column 3, lines 33 to 40. Document E17 disclosed a method of packaging a plurality of uniform separate portions of bitumen (see Figure 3), which was an adhesive (see document E38, page 484, last paragraph). Document E20 related to the packaging of masses of tacky materials. The material obtained by the method described in column 2, lines 25 to 30, of this document was an adhesive composition. The repeated use of the plural form of the term mass in document E20 meant that a

plurality of portions were packaged. Lastly, document E32 disclosed a plurality of packaged adhesive in a container comprising sub-containers. In all of said documents the melting and blending of the film material into the adhesive without disadvantageously affect the properties of the adhesive was explicitly mentioned. The subject-matter of the independent claims of the main request thus lacked novelty with respect to documents E1, E17, E20 and E32 (Article 54 EPC).

Document E1 could be considered to represent the closest prior art. Starting from a packaged single block of an adhesive composition known from document E1, it could not be an invention to cut up the block in smaller blocks before packaging it, since there was no new technical problem to solve. Packaging a small number of large blocks or a large number of small blocks was merely a matter of choice, both methods were technically equivalent. The subject-matter of independent claims 1, 20 and 27 of the main request thus lacked an inventive step. The additional features of the first, second and third auxiliary requests were known from the closest prior art document E1, so that the subject-matter of the independent claims of these auxiliary requests likewise lacked an inventive step (Article 56 EPC).

The claims of the fourth auxiliary request were restricted to using a bag as packaging material, and sealing and voiding the bag of air. These steps were known from document E20 with a view to drawing the film tightly and compactly over the tacky material (see the paragraph bridging columns 3 and 4). The claims of the fourth auxiliary request thus lacked an inventive step

with respect to document E1 combined with document E20. Claim 25 of the fifth auxiliary request attempted to define the product in terms of the temperature (range) at which it was produced. Such a temperature (range) could not be ascertained on the final product, so that this claim was not clear (Article 84 EPC). The additional process step of claims 1 and 18 of the fifth (= sixth) auxiliary request, viz. that the bag was voided by compressing the bag at elevated temperature, was an obvious measure for the person skilled in the art seeking to improve voiding the bag of air with a view to drawing the bag more tightly and compactly over the adhesive material. Consequently, both requests were not allowable (Article 56 EPC).

VII. The respondent argued in writing and at the oral proceedings essentially as follows:

The patent disclosed the invention in a manner sufficiently clear and complete to be carried out by a person skilled in the art. It had not been contested that the illustrative Examples given in the patent were operable and permitted practicing the invention. The argument of "undue burden" of the appellants thus failed. There were no inconsistencies in the second method claim (cf. claim 20 of the main request and the corresponding claims of the first to sixth auxiliary requests). Summing up, the objection of insufficiency of disclosure under Article 100(b) EPC (Article 83 EPC) had to fail.

None of the cited documents disclosed the packaging of a plurality of portions of adhesive together in a common packaging material. Moreover, documents E17 and

E20 did not relate to the packaging of adhesive compositions. The subject-matter of independent claims 1, 20 and 27 of the main request was hence novel (Article 54 EPC).

The closest state of the art was document E29 (filed in 1970), which disclosed to package a plurality of pellets of an adhesive composition in a carton. In twenty years, nobody in the industry thought of the idea to package a plurality of portions of an adhesive composition together in a common packaging material. The argument that to do so was obvious for the person skilled in the art was entirely based on hindsight. Following the teachings of the prior art, each individual portion of adhesive of a batch of portions of adhesive would be separately packaged. If the industry would have tried to package a plurality of portions of adhesive in a bag and fed the resulting bag in a melter, it would not have worked, i.e. the bag would not have melted and blended with the adhesive, the reason being the presence of entrapped air. The subject-matter of the independent claims of the main request was thus not obvious for the person skilled in the art (Article 56 EPC).

The restriction to hot melt adhesives in all lower ranking requests definitely ruled out that the adhesive composition was bitumen, or some other tacky material (as for example disclosed in documents E17 and E20). The claims of all lower ranking requests were further restricted with respect to the claims of the main request to plastics packaging material in the form of a film. The copolyamide film material known from document E1 did not melt and blend with hot melt adhesives (see

page 2, line 47, to page 3, line 1, of the patent specification). The subject-matter of the independent claims of the first auxiliary request was hence not obvious with respect to document E1. The claims of the second auxiliary request were limited to hot melt adhesives based on thermoplastic synthetic resins. The restriction to packaging film material having a softening or melting point below about 125°C in claim 1 of the second auxiliary request further distinguished the claimed subject-matter from document E1, which taught to use film material having a high melting point. The subject-matter of the independent claims of the second auxiliary request thus involved an inventive step. There was no example in the prior art to package a plurality of portions of a sprayable or pressure-sensitive hot melt adhesive composition. The subject-matter of the independent claims of the third auxiliary request thus likewise involved an inventive step (Article 56 EPC).

The claims of the fourth to sixth auxiliary requests were directed to a particularly advantageous embodiment of the invention. None of the prior art taught to package a plurality of portions of a hot melt adhesive composition in a bag, and then to seal the bag and to void it of air. The subject-matter of the independent claims of the fourth auxiliary request thus likewise involved an inventive step. In the absence of any art disclosing to void the bag of air by compressing the bag at elevated temperature, it was clear that no prior art could, let alone would, have led the person skilled in the art to the subject-matter of the independent claims of the fifth auxiliary request. As a result of voiding and compressing the bag at elevated

temperature, the packaging film material of the bag was forced into close contact with the adjoining adhesive material and was adhered to the adhesive. The degree of adherence could be examined on the final product and was related to the temperature during compression. Claim 25 of the fifth auxiliary request was thus clear (Article 84 EPC). The method claims 1 to 24 of the fifth auxiliary request, which were identical to the method claims 1 to 24 of the sixth auxiliary request, involved an inventive step (Article 56 EPC).

Reasons for the Decision

1. *Admissibility of the requests*

In the decision under appeal, the patent was maintained in amended form. The amendment entailed replacing the expression "adhesive composition" by the term "adhesive". Appellants I and II have submitted in their respective statements of grounds that the deletion of the term "composition" extended the protection conferred by the claims, contrary to Article 123(3) EPC. In response to the appeals, the respondent reverted to the claims as granted as main request.

This raises the question whether the main request of the respondent, if held allowable, puts the appellants I and II in a worse situation than if they had not appealed (prohibition of *reformatio in peius*), see the decision of the Enlarged Board of Appeal G 9/92 (= G 4/93), OJ EPO 1994, 875, point 2 of the Order.

In the present case, the main request of the respondent does not put appellants I and II in a worse situation than if they had not appealed, since the reinsertion of the term "composition" does not extend the scope of protection conferred by the claims held allowable by the Opposition Division. In the view of appellants I and II, the main request is more restricted than the version in the interlocutory decision (cf. G 9/92, loc. cit, point 15 of the reasons).

It follows that the main request of the respondent is to be admitted. The further amendments proposed by the respondent (cf. the set of claims according to the first to sixth auxiliary requests) are considered to be appropriate and/or necessary; these requests are likewise to be admitted. Since this has not been contested by appellants I and II and the other party, further substantiation is not necessary.

2. *Sufficiency of disclosure*

The invention relates to a method of packaging an adhesive composition, cf. claims 1 and 20, and to a packaged adhesive composition, cf. claim 27 (reference is made to the claims of the main request, but the conclusion drawn in this section applies *mutatis mutandis* to all requests). The invention opens the possibility to melt and blend the packaging material with the adhesive composition. The advantage of the invention is expressed in the patent specification as follows: "*Thus, it is neither necessary to unpack the adhesive composition prior to melting and subsequent use, nor is it necessary to dispose of the packaging*

material in a separate step" (see page 3, lines 41 and 42).

The functional feature in all independent claims "said packaging material being meltable together with the adhesive composition and blendable into said molten adhesive composition, the kind and amount of said packaging material being chosen so as not to disadvantageously affect the properties of the adhesive composition when blended into same" (henceforth referred to as the compatibility requirement) gives, in the opinion of the Board, a clear teaching to the person skilled in the art which criteria are to be met in selecting a suitable packaging material for a given adhesive composition. Whilst the description of the patent in suit discloses a relatively large number of individually named components comprised in adhesive formulations, and a great variety of plastics material that can be used as packaging material (see page 4, line 15, to page 10, line 14) only a relatively small number of suitable combinations of adhesive compositions and packaging material are disclosed as preferred embodiments of the invention in the four Examples (see page 10, line 15, to page 12, line 3).

It is true that the invention does not attempt to define general rules for establishing which combinations of packaging materials and adhesive compositions satisfy the compatibility requirement mentioned above, a fact that was disapproved of by appellants I and II. In the opinion of the Board, providing such general rules is not a necessary requirement for carrying out the invention. It may be noted that the invention relates primarily to the

packaging of adhesive compositions, not to novel combinations of adhesive compositions and packaging material as such. In the judgement of the Board, the person skilled in the art, being guided by the Examples disclosed in the patent in suit and by his common general knowledge, is able to identify suitable combinations of packaging materials and adhesive compositions without undue experimentation.

Appellant II has raised a further objection under Article 83 EPC, viz. that step c) of the second method claim (cf. claim 20 of the main request and the corresponding claims of the first to sixth auxiliary requests) defined two contradictory requirements for the adhesive, namely to be "flowable" and to be "plastified". Moreover, the term "separating" in step d) implied that the plurality of portions was united or made stick together in the preceding step c), so that the claim related in fact to the packaging of a single portion of adhesive.

The Board cannot agree to this assertion. The expression "said flowable, plastified adhesive composition" in step c) refers to step b), which states that the adhesive is provided "in flowable form, sufficiently plastified for packaging". In the opinion of the Board, the term plastified in step c) should thus be interpreted as meaning sufficiently plastified. The effect of "inserting a plurality of portions ... into a plastics packaging material enclosure" in step c) is that a plurality of portions ("batch") is separated from the "bulk" of the adhesive composition provided in step b). The occurrence of the term "separating" in step d) merely emphasizes that said

batch is physically separated from the bulk. In the judgement of the Board, there is no obstacle for the person skilled in the art to understand the second method claim (cf. claim 20 of the main request and the corresponding claims of the first to sixth auxiliary requests), and to carry out the invention claimed therein, when the claim is read as a whole.

For the above reasons, the Board is satisfied that, for all requests, the patent in suit discloses the invention in a manner sufficiently clear and complete to be carried out by a person skilled in the art (Articles 100(b) and 83 EPC).

3. *Interpretation of the independent claims*

The application that matured into the patent in suit is a divisional application of European patent application No. 91 112 831.2, which matured into European patent No. EP-B 0 469 564 (the "parent"). Whilst the claims of the parent relate to a method of packaging of a uniform separate portion of adhesive composition and corresponding packaged article, the patent in suit relates to the packaging of a plurality of portions ("batch") of adhesive composition and corresponding packaged article. This is expressed in the independent claims 1, 20 and 27 of the main request by the features "substantially completely surrounding said batch with a plastics packaging material" (cf. claim 1, feature e)), "substantially completely surrounding said plurality of portions with said plastics packaging material" (cf. claim 20, feature d)) and "said batch being substantially completely surrounded by a bag of plastics film packaging material" (cf. claim 27) (see

also the corresponding features of the independent claims of the first to sixth auxiliary requests).

It is conceivable that a batch of individually packaged single portions of adhesive is also collectively packaged, or that individually packaged single portions of adhesive are connected through their respective packaging materials (as in a strip of pills). In the judgement of the Board, such type of packaging, whereby each portion of batch of adhesive portions is individually "substantially completely surrounded by packaging material", does not fall under the ambit of the claims of the main request or of the claims of the first to sixth auxiliary request.

Main request

4. *Novelty (Article 54 EPC)*

4.1 Lack of novelty has been raised by appellants I and II and the other party with respect to documents E1, E17, E20 and E32.

4.2 Document E1 discloses a method to package an individual block of a hot melt adhesive into a foil, which block is then melted and blended with the foil (column 2, lines 3 to 8, and lines 21 to 24). The preferred foil is made of copolyamide, which is said to have very good compatibility with common hot melt adhesives and even may improve the adhesive properties of the hot melt adhesive (column 3, lines 12 to 21). Two different embodiments are disclosed: In column 3, lines 30 to 33, it is stated that the adhesive can be poured into the foil without destroying the foil. This embodiment

relates to the individual packaging of adhesive. In the next sentence (column 3, lines 33 to 37), a second embodiment is disclosed, namely to extrude the adhesive, cutting the extrudate into blocks, inserting the blocks into a tubular foil and weld-seaming both ends of the foil together. Although the plural form for blocks is used ("... und die von dem Strang abgeschnittenen Blöcke in eine schlauchförmige, an beiden Enden zugeschweißte Folie einzuschließen."), the number of blocks that is weld-seamed in a single compartment of the tubular foil is not specified. In the opinion of the Board, the second embodiment, being an alternative for the first embodiment, also relates to the individual packaging of adhesive as well, whereby the tubular foil is weld-seamed at both ends of a block. This interpretation is in line with the following sentence, which states that the blocks can also be enclosed in thin-walled containers (plural!) made of foil or similar material (see column 3, lines 37 to 40). In column 3, lines 41 to 50, it is said that the size and shape of the blocks of adhesive may vary within a wide range, according to the intended application, and that the size of the blocks could be as small as the size of "Dragees", which are supplied with a copolyamide coating, and which can be processed as granules. In this case, each granule is individually packaged. There is no disclosure in document E1 that the Dragee-size blocks can be collectively packaged.

Document E1 hence fails to disclose that a plurality of portions of an adhesive composition is completely surrounded by plastics packaging material.

The subject-matter of independent claims 1, 20 and 27 of the main request is thus novel within the meaning of Article 54 EPC with respect to document E1.

- 4.3 Document E17 discloses a method to package bitumen, which comprises the steps of pouring hot, molten bitumen in a container, for example a bag, of polyethylene and cooling the container (see column 5, lines 2 to 15, Example 1, column 7, lines 20 to 51, and Figures 1a to 1c). Document E17 also discloses an embodiment, whereby a tubular polyethylene film is subdivided by seams into two or more compartments, which are filled with hot, molten bitumen and then cooled (see column 5, lines 16 to 20, Example 2, column 7, line 53, to column 8, line 18, and Figures 2 to 4). The compartments with the bitumen ("Behälterblock 6") remain connected after cooling. In the opinion of the Board, this type of packaging cannot be equated with batch packaging, since each portion of bitumen is individually surrounded by the film (see point 3 above).

The subject-matter of independent claims 1, 20 and 27 of the main request is thus novel within the meaning of Article 54 EPC with respect to document E17.

- 4.4 Document E20 discloses a method of packaging tacky materials. Appellants I and II and the other party argued that from the expression "masses of tacky materials" in column 1, lines 2 and 3 and in column 1, line 23, it could be deduced that this document was concerned with the packaging of a plurality of portions of adhesives.

The Board cannot agree to this argument. The expression "masses of" normally means great numbers or quantity of something. In column 1, lines 27 to 34, of document E20, the singular form of mass is used: "According to this invention, tacky or gummy materials are packaged by enveloping a mass of the tacky material in a flexible, solid film ...".

The subject-matter of independent claims 1, 20 and 27 of the main request is thus novel within the meaning of Article 54 EPC with respect to document E20.

- 4.5 Document E32 discloses a method of packaging hot melt adhesives, whereby a container or a foil of a thermoplastic polymer is filled with a hot melt adhesive. The packaged adhesive can be fed into a melting oven, without it being necessary to unpack and dispose of the packaging material in separate steps (see page 2, lines 12 to 15, and page 2, line 34, to page 3, line 2). In Figure 3 an embodiment is shown, whereby the individually packaged portions of adhesive are connected by tearing lines ("Abreißlinien") 7 to enable the user to separate off the desired number of individually packaged portions (see page 4, lines 29 to 36, and page 6, lines 13 to 18). In the opinion of the Board, this type of packaging cannot be equated with batch packaging, since each portion of adhesive is individually packaged (see point 3 above).

The subject-matter of independent claims 1, 20 and 27 of the main request is thus novel within the meaning of Article 54 EPC with respect to document E32.

- 4.6 None of the other documents cited by appellants I, II or the other party discloses the packaging of a plurality of portions of an adhesive composition by plastics packaging material, which fulfils the compatibility requirement (see point 2 above).

It follows from the above that the subject-matter of independent claims 1, 20 and 27 of the main request is novel within the meaning of Article 54 EPC.

5. *Inventive step (Article 56 EPC)*

- 5.1 Individual pieces of adhesive compositions have a tendency to stick to each other and to the packaging material wherein they are packaged. The problem the invention seeks to solve is to provide a method of packaging an adhesive composition and a packaged adhesive composition in the form of a multiplicity of individual adhesive pieces, which reduces the amount of handling necessary in using the adhesive and also reduces or even eliminates packaging waste (cf. page 3, lines 15 to 18, of the patent in suit).

The invention opens the possibility to melt and blend the packaging material with the adhesive composition (see page 3, lines 37 and 38). The advantage of no longer having to remove package material is considerable, since adhesive compositions are generally sticky materials and there is no longer need to dispose of the packaging material in a separate step.

- 5.2 The respondent argued that document E29 represented the closest state of the art, since it was one of the few documents that related to the packaging of a plurality

of substantially uniform separate portions of the adhesive composition, rather than to the packaging of single portions of adhesives.

Document E29 proposes breaking up a hot melt adhesive into small pillows, and solidifying these pillows. The surface of a pillow "forms its own package" and is no longer sticky (see column 9, line 61 to column 10, line 2). Hence, the pillows can be shipped into cartons without taking precautions that the pillows stick to the walls of the carton (column 3, lines 38 to 55). Since the material to be shipped is no longer sticky or adhesive, document E29 is, in the judgement of the Board, not relevant to the present invention.

- 5.3 The idea to use package material for an adhesive composition that does not need to be removed and disposed of, but that is melted, blended or admixed with the sticky material is known in the art, see for example document E1 (see column 1, lines 7 to 9, and column 2, lines 21 to 24) and document E32 (see page 2, line 34, to page 3, line 7).
- 5.4 The claims of the patent in suit contain two independent method claims and one product claim. The difference between the two method claims is *inter alia* that claim 1 relates to the packaging of substantially uniform separate portions of adhesive composition, whereas claim 20 does not require that the portions are uniform, that in claim 1 the portions of the adhesive composition are solidified prior to packaging, whereas in claim 20 the adhesive composition is provided in flowable form, sufficiently plastified for packaging, and then packaged, and that claim 1 does not require

that the packaging material has a melting or softening point of below 120°C, whereas claim 20 does.

- 5.5 Document E1 can be considered representing the closest prior art for each independent claim. The subject-matter of claim 1 differs from the method of packaging a thermoplastic hot melt adhesive composition disclosed in document E1 in that a plurality of substantially uniform separate portions of the adhesive composition is provided, all portions are sufficiently solidified for packaging, a batch of solidified portions is formed and said batch is packaged. In contrast, in document E1 a single portion of the adhesive composition is provided, said portion is sufficiently solidified for packaging, and said portion is packaged (see the embodiment described in column 3, lines 33 to 40).

Document E1 also discloses an embodiment, wherein the adhesive composition is provided in flowable form, sufficiently plastified for packaging (see the embodiment described in column 3, lines 30 to 33). The subject-matter of claim 20 differs from the method of packaging a thermoplastic hot melt adhesive composition disclosed in document E1 in that a plurality of portions, rather than a single portion, is packaged, and in that the packaging material has a melting or softening point of below 120°C. The melting temperature of the packaging material made of copolyamide is said to be within the range of about 120 to 150°C (see column 3, lines 27 and 28, of document E1), suggesting that the softening point, which is normally lower than the melting point, could be below 120°C.

The melting or softening point or temperature of the packaging material should be higher than the temperature at which the adhesive composition is in flowable form, sufficiently plastified for packaging, but not so high as to disadvantageously affect the properties of the adhesive composition when blended into same. In the judgement of the Board, the person skilled in the art would, without the exercise of inventive skill, select a packaging material having a melting or softening point of below 120°C, if required to do so by the circumstances, in particular in dependence of the melting or softening point of the adhesive composition. This is corroborated by the comment on the temperature range of about 120 to 150°C in document E1, namely that most hot melt adhesives are flowable at this temperature (see column 3, lines 28 to 30, of document E1).

- 5.6 The main difference between the subject-matter of claims 1, 20 and 27 and the disclosure of document E1 is thus that said claims relate to the packaging of a plurality of portions rather than a single portion of the adhesive composition.

Whether a single portion or a plurality of portions of an adhesive composition is packaged, in both cases the weight ratio of the package material and the adhesive composition must be determined so that the compatibility requirement is met. In the judgement of the Board, it is a matter of normal design option, well within the ordinary skills of the person skilled in the art, to choose the size and weight of a complete packaged article, taking into account the strength of the resulting package material (see document E1,

column 3, lines 41 to 67), and having decided this, depending on customer, transport or costs requirements (see for example document E32, page 5, lines 1 to 6), or with a view to improve the melting and/or blending of the constituents, to package a batch of smaller portions of adhesive composition rather than a single, larger portion with the package material.

- 5.7 The subject-matter of claims 1, 20 and 27 thus does not involve an inventive step, Article 56 EPC. Hence the main request is not allowable.

First, second and third auxiliary requests

6. *Allowability of the amendments*

The Board is satisfied that the amendments made to independent claims 1, 20 and 27 of the first, second and third auxiliary requests meet the requirements of Articles 84, 123 and Rule 57a EPC. Since this was not contested by appellants I and II and the other party, there is no need for further substantiation.

7. *Inventive step*

- 7.1 Method claims 1 and 20 and product claim 27 of the first auxiliary request are directed to "A method of packaging a thermoplastic or thermosetting hot melt adhesive composition" and "A packaged thermoplastic or thermosetting hot melt adhesive composition", respectively (the optional feature "especially" present in the corresponding claims of the main request has been deleted). A further difference is that the

plastics packaging material is restricted to "plastics packaging film material".

Since closest prior art document E1, on the basis of which an inventive step of the subject-matter of the independent claims of the main request was denied, discloses packaging of a thermoplastic hot melt adhesive composition in a plastics packaging film material, the amendments according to the first auxiliary request are already known from this document, so that the conclusions arrived at in point 5.7 above hold mutatis mutandis for the subject-matter of claims 1, 20 and 27 of the first auxiliary request.

- 7.2 Independent claims 1, 20 and 27 of the second auxiliary request are further restricted to hot melt adhesive compositions based on a thermoplastic synthetic resin material (see page 4, line 53 to page 5, line 1, of the patent in suit). Moreover, claim 1 is further restricted by the feature "and said plastics packaging film material having a melting or softening point below about 125 °C".

Hot melt adhesives based on thermoplastic synthetic resins are well-known in the art, see for example document E29, column 1, lines 7 to 11, and column 3, lines 56 to 60. The additional feature of claim 1 is known from document E1, see column 3, lines 27 and 28.

It follows that the subject-matter of claims 1, 20 and 27 of the second auxiliary request thus does not involve an inventive step, Article 56 EPC.

7.3 Independent claims 1, 20 and 27 of the third auxiliary request differ from the corresponding claims according to the first auxiliary request by the insertion of the feature "sprayable or pressure-sensitive" before the expression "thermoplastic or thermosetting hot melt adhesive composition".

Sprayable hot melt adhesive compositions are known from document E1, see column 2, line 55.

It follows that the subject-matter of claims 1, 20 and 27 of the third auxiliary request thus does not involve an inventive step, Article 56 EPC.

Fourth, fifth and sixth auxiliary requests

8. *Allowability of the amendments*

The Board is satisfied that the amendments made to independent claims 1, 19 and 26 of the fourth auxiliary request and independent claims 1 and 18 of the fifth and sixth auxiliary requests meet the requirements of Articles 84, 123 and Rule 57a EPC. Since this was not contested by appellants I and II and the other party, there is no need for further substantiation.

Claim 25 of the fifth auxiliary request relates to a packaged adhesive composition. The penultimate feature is a process step and reads: "said bag being sealed and voided of air by compressing the bag at elevated temperature", which is followed by the statement "so that the packaging film material is forced into close contact with the adjoining adhesive material and is adhered to the adhesive".

Whilst the voiding of air by compression can be readily identified on a bag containing adhesive composition, in the judgement of the Board, it cannot be established on a voided bag containing a batch of an adhesive composition whether it was voided and compressed at an elevated temperature. The expression "at elevated temperature" means in the light of the description "[storing stacked filled bags at] temperatures of 30 °C to 150 °C" (see page 3, lines 56 to 57 of the patent in suit). The respondent failed to discharge the doubt of the Board that the effect of the force of compression and the effect of the elevated temperature, presumably resulting in a softening of both the bag and the adhesive, can be distinguished on the final product at ambient temperature.

The result of the amendment is that claim 25 of the fifth auxiliary request fails to define the matter for which protection is sought, contrary to Article 84 EPC.

9. *Inventive step*

- 9.1 The independent claims 1, 19 and 26 of the fourth auxiliary request are restricted to plastics packaging material that is a bag of plastics packaging film material, whereby the bag is sealed and voided of air after placing the plurality of portions of the thermoplastic or thermosetting hot melt adhesive composition in said bag.

It is stated in the patent in suit that the step of voiding the bag of air overcomes the problem of inhomogeneous, non-uniform melting performance (if the

packaged adhesive composition is integrally melted) due to the air enclosed in a plastics film material sack loosely filled with adhesive composition portion pieces, such as pillow-shaped pieces, respectively the missing mutual contact between film material and adhesive composition pieces (cf. page 3, lines 44 to 56).

Document E20 discloses using a bag of non-tacky film material, for example polyethylene, for packaging a mass of tacky material, which bag is then tied or sealed while applying a vacuum thereto, thus removing the air from within the bag with a view to drawing the film tightly and compactly over the tacky material (see column 1, line 43, and column 3, line 66 to column 4, line 5). This document does not state any advantages of voiding the bag.

However, in the opinion of the Board, the person skilled in the art would readily realize that voiding a bag containing a batch of adhesive composition before storing or shipping it, could be advantageous for saving space, or for preventing degradation of the adhesive due to the exposure to oxygen or air moisture (see document E32, page 2, lines 23 to 32).

The step of voiding a bag containing a plurality of portions of a hot melt adhesive composition is thus considered to be an obvious measure for the person skilled in the art.

Consequently, the subject-matter of claims 1, 19 and 26 of the fourth auxiliary request does not involve an inventive step, Article 56 EPC.

9.2 Independent claims 1 and 18 of the sixth auxiliary request differ from the corresponding claims 1 and 19 of the fourth auxiliary request in that the feature "by compressing the bag at elevated temperature so that the packaging film material is forced into close contact with the adjoining adhesive material and is adhered to the adhesive" is added after the phrase "voiding said bag of air" at the end of the respective claims.

The advantages of this feature are described in the patent in suit as follows: "This proved to be very advantageous upon subsequent cooling and storage as well as handling of the finished adhesive packs. Since the film sticks to the adhesive in the package, it is not easily damaged and even if punctured or slit, the adhesive remains covered by the packaging material", see page 4, lines 7 to 9).

No hint or suggestion to the process step "voiding said bag of air by compressing the bag", let alone by doing so "at elevated temperature" is found in the teachings of the cited prior art documents.

Consequently, the Board comes to the conclusion that the subject-matter of claims 1 and 18 according to the sixth auxiliary request are not obvious to the person skilled in the art and involve an inventive step within the meaning of Article 56 EPC.

The subject-matter of dependent claims 2 to 17 and 19 to 24 according to the sixth auxiliary request, which are appendant to claims 1 and 18 according to the sixth

auxiliary request, respectively, similarly involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents presented in the oral proceedings:
 - (a) claims 1 to 24 as sixth auxiliary request; and
 - (b) description, pages 2 to 12.

The Registrar:

The Chairman:

M. Dainese

W. Moser