

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 15 January 2009**

Case Number: T 0466/07 - 3.3.09

Application Number: 96922311.4

Publication Number: 0837775

IPC: B32B 31/26

Language of the proceedings: EN

Title of invention:

A method for producing a packaging laminate with barrier properties

Patentee:

Tetra Laval Holdings & Finance SA

Opponent:

SIG Combibloc Systems GmbH

Headword:

-

Relevant legal provisions:

-

Relevant legal provisions (EPC 1973):

EPC Art. 54, 56

Keyword:

"Novelty - yes"

"Inventive step - yes"

Decisions cited:

-

Catchword:

-



Case Number: T 0466/07 - 3.3.09

DECISION
of the Technical Board of Appeal 3.3.09
of 15 January 2009

Appellant: SIG Combibloc Systems GmbH
(Opponent) Rurstraße 58
D-52441 Linnich (DE)

Representative: Thielmann, Andreas
COHAUSZ & FLORACK
Patent- und Rechtsanwälte
Postfach 10 18 30
D-40009 Düsseldorf (DE)

Respondent: Tetra Laval Holdings & Finance SA
(Patent Proprietor) Avenue Général-Guisan 70, P.O. Box 430
CH-1009 Pully (CH)

Representative: Raynor, John
Beck Greener
Fulwood House,
12 Fulwood Place,
London WC1V 6HR (GB)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 January 2007
rejecting the opposition filed against European
patent No. 0837775 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Jardón Álvarez
W. Sekretaruk

Summary of Facts and Submissions

I. The grant of European patent No. 0 837 775 in respect of European patent application No. 96922311.4 in the name of Tetra Laval Holdings & Finance SA, which had been filed on 29 May 1996, was announced on 23 April 2003 (Bulletin 2003/17) on the basis of 11 claims, Claim 1 reading as follows:

"1. Method for fastening a barrier layer to an adjacent laminate layer in a package material, **characterized in that** the fastening is partially carried out in a first step by achieving an adherence, then the package material is subjected to a mechanical treatment, the mechanical treatment being folding or thermoforming, and the fastening is completed by means of heat treatment in a subsequent step."

Claims 2 to 11 were dependent claims.

II. Notice of Opposition requesting the revocation of the patent in its entirety on the grounds of Articles 100(a) and (c) EPC, was filed by SIG Combibloc Systems GmbH on 24 December 2003.

The opposition was supported by the following documents:

D1: GB - 2 027 391

D2: US - 5 066 542

D3: EP - A - 0 414 636 and

D4: EP - A - 0 475 441

III. By its decision orally announced on 5 December 2006 and issued in writing on 19 January 2007, the Opposition Division rejected the opposition.

The Opposition Division concluded that the opposed patent did not contain subject-matter which extended beyond the content of the application as originally filed.

The Opposition Division acknowledged the novelty of the claimed subject-matter because none of the documents then in the proceedings disclosed a method as claimed. Concerning the disclosure of D1, the Opposition Division noted that this document failed to disclose the folding or thermoforming of the partially fastened laminate.

Concerning inventive step, the Opposition Division considered D1 as the closest prior art document. In its opinion, the problem underlying the patent in suit, namely to find a better mechanical treatment e.g. to arrive at a higher automation degree or to avoid crack formation of packaging materials, was solved in an inventive manner by the use of folding or thermoforming as mechanical treatment. Neither D1, nor the other documents cited gave any hint towards modifying the method of D1 in the claimed manner.

IV. On 19 March 2007 the Appellant (Opponent) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 15 May 2007, the Appellant requested that the decision of the Opposition Division be set aside and the patent be revoked because the subject-matter of the claims lacked inventive step. The Appellant also filed the following documents:

D6: DE - A - 1 281 140

D7: Japanese Packaging Report 14, 1989, pages 5-7 and

D8: Japanese Packaging Report 24, 1991, page 12.

V. The Respondent (Patent Proprietor) presented its counterstatement in a written submission dated 23 August 2007. The Respondent disputed the arguments submitted by the Appellant. It requested as main request that the patent be maintained in unamended form and the appeal be dismissed. It also filed seven sets of claims for auxiliary requests 1 to 7.

VI. On 20 August 2008 the Board dispatched the summons to attend oral proceedings on 15 January 2009. In the annexed communication in accordance with Article 15(1) of the RPBA, the Board drew the attention of the parties to the points to be discussed during the oral proceedings.

VII. The Appellant, in a further submission dated 12 December 2008, filed two new documents:

D9: US - 3 942 708 and

D10: US - 4 402 172

and argued that the subject-matter of Claim 1 of the main request lacked novelty over the disclosures of D1, D9 and D10 and the subject-matter of all the requests lacked novelty and/or inventive step over the cited prior art.

VIII. The Appellant's arguments presented in writing and at the oral proceedings may be summarized as follows:

- The Appellant argued that, at least implicitly, documents D1, D9 and D10 anticipated the subject-matter of Claim 1 of the main request. This conclusion was in part supported by the fact that in its opinion the subject-matter of Claim 1 of the patent was not limited to folding or thermoforming but, having regard to the broader disclosure in the description, embraced any other mechanical treatment.

- Concerning inventive step, the Appellant argued that the subject-matter of the claims was obvious over the disclosure of D1 in the light of common general knowledge as disclosed in D6, D7 and/or D8. In its opinion the problem to be solved by the patent in suit was to avoid damaging the barrier layer during formation of the package. The solution to this problem, namely the claimed method, could be derived by the skilled person directly and unambiguously from the disclosure of D1, which disclosed all the features of the claimed process with the exception of the folding or thermoforming step. In fact folded pouches (Standbeutel) were already well known in the field and there was no reason preventing the skilled

person from including a folding step between the two adhesion inducing treatments in the method of D1.

IX. The arguments presented by the Respondent may be summarised as follows:

- The Respondent pointed out that the process of D1 did not disclose an intermediate step of folding or thermoforming between the two adhesion inducing steps. Concerning example 8 of D1 it pointed out that the 'cold-forming' process was carried out at a different temperature and did not include a folding step. It noted that even the wording used by the Appellant in its novelty attack, that is to say, that the disclosure of D1 was 'so close' to the subject-matter of Claim 1, indicated that novelty was accepted.

- Concerning inventive step it submitted that the closest prior art were represented by the state of the art methods dealing with the rupture of the barrier layer in folded laminate packages such as those discussed in paragraphs [0011] to [0013] of the patent in suit.

In consequence, the Appellant saw the technical problem to be solved as to provide a further process for forming a folded, rigid laminate package without rupture of the barrier layer. The solution proposed by the patent in suit, namely that the rupture of the barrier layer could be avoided by folding the laminate before fastening was complete, was based on the finding by the inventors that sufficiently light adhesion between

the barrier and the adjacent laminate layer during folding/thermoforming allowed enough leeway to prevent rupture of the barrier layer. There was, however no hint to this solution in the prior art cited by the Appellant and the claimed method thus involved an inventive step.

- X. The Appellant requested that the decision under appeal be set aside and that the European patent No. 0 837 775 be revoked.

The Respondent requested that the appeal be dismissed, auxiliarily that the patent be maintained on the basis of the requests 1 to 7 filed with letter dated 23 August 2007.

Reasons for the Decision

1. The appeal is admissible

MAIN REQUEST

2. *Late filed documents.*

2.1 Documents D9 and D10 were submitted by the Appellant at a late stage of the proceedings with letter dated 12 December 2008. As they constitute an amendment to its case it has first to be decided if they should be admitted into the proceedings.

2.1.1 D9 discloses a folded container and a method for its preparation (see Figures 1 and 8 and the corresponding parts of the description). The method of D9 includes the

attachment of the layers of the laminate before folding (see column 3, lines 50 - 59). There is no disclosure in D9 of a further adhesion-enhancing treatment of the layers after folding or a reference to a possible rupture of the barrier layer. The disclosure of this document is therefore of no relevance to the claimed process.

2.1.2 D10 discloses a process for making a multiple layer laminate comprising a plurality of sheet-like materials. The process includes the subsequent steps of forming a portion of the multiple layer laminate into a pouch (see Claim 1). There is however in D10 no disclosure of a folding or a thermoforming step and therefore this document does not add any relevant information to the disclosure of D1. It is noted in this context that the existence of folded pouches (Standbeutel) before the filing date of the present patent does not have any influence on the disclosure content of D10, since such embodiments are nowhere suggested therein (see also point 4.4.3 below).

2.2 The Board in exercising its discretion under Article 13(1) RPBA therefore decided not to admit D9 and D10 into the proceedings, because the need for procedural economy prohibits to consider in detail late-filed documents that are of no relevance.

3. *Novelty (Article 54 EPC).*

3.1 Claim 1 of the patent is directed to a method for fastening a barrier layer to an adjacent laminate layer in a package material characterized in that:

- a) the fastening is partially carried out in a first step by achieving adherence,
- b) then the package material is subjected to a mechanical treatment,
- bl) the mechanical treatment being folding or thermoforming, and
- c) the fastening is completed by means of heat treatment in a subsequent step.

3.2 The novelty of this claim was contested by the Appellant having regard to document D1.

3.2.1 D1 relates to a retort-sterilizable laminated structure comprising an aluminium foil, a heat sealable crystalline propylene polymer layer bonded to the aluminium foil through a thin adhesive layer of a modified olefin resin, and a process for its preparation (see Claims 1 and 10).

D1 discloses on page 6, lines 22 - 36 several methods for the bonding of both layers (feature a). It also discloses that the bonding strength can be increased by heat treatment of the laminated structure (see page 6, lines 37 - 41; feature c)). However D1 does not disclose that the package material is subjected to an intermediate step of folding or thermoforming (step bl of the claimed method).

3.2.2 The Appellant admits that there is no disclosure of folding or thermoforming in D1 but argues that the mechanical treatments mentioned in D1 such as draw-forming or press-forming (page 6, line 63 - page 7, line 1) and/or the cold-forming process used in example 8 are within the scope of the claim, in particular when

the claim is read in combination with paragraph [0022] of the specification, which in its opinion should be used to interpret the claim, as including other mechanical treatments.

3.2.3 The Board cannot accept this argument of the Appellant. The subject-matter of Claim 1 of the patent is clearly limited to folding or thermoforming and consequently other mechanical treatments such as cold-forming are excluded from the claimed subject-matter. The wording of the claim is entirely clear and there is no need to go into the description for interpretation. The fact that paragraph [0022] was not correctly adapted to the claims during the examination of the file might justify an objection under Article 84 EPC concerning the support of the claim but cannot question the scope of protection given by it.

3.3 Since the mechanical treatments described in D1 do not include those covered by feature (b1) of the claimed method, the subject-matter of Claim 1 of the patent in suit is novel there over (Article 54 EPC).

4. *Inventive step (Article 56 EPC)*

4.1 According to the established practice of the Boards of Appeal, the determination of the objective technical problem to be solved should normally start from the problem described in the contested patent.

4.2 Closest prior art

4.2.1 The patent in suit relates to a method for fastening a barrier layer to an adjacent layer in a package material.

4.2.2 According to the introductory section of the specification, packaging laminates supplemented with at least one additional layer of a material having barrier properties, such as an aluminium foil, are already well known. A drawback of said barrier layer is its low ability to stretch.

Thus, the preparation of rigid containers from said laminates requiring folding of the material results in tensions along the crease lines, these tensions being aggravated when the material has to be folded along two intersecting crease lines. As a consequence, the packaging material can crack or rupture during the material folding due to said low ability of the barrier layer to stretch.

4.2.3 In order to avoid these ruptures, several methods have been already suggested prior to the claimed invention. Thus, according to paragraphs [0011]-[0013] of the specification the prior art already proposes:

- locally reducing the thickness of the base layer by removing material through milling or grinding in the areas at risk, or
- controlling the folding of the container by means of a suitable number of prefabricated crease lines in the package material, or

- allowing the tensile and/or stress forces to which the aluminium foil is subjected to be accommodated by a binding layer situated next to the barrier layer.

4.2.4 In contrast to this background prior art, the Appellant relies on D1 as the closest prior art because it has the most technical features in common with the subject-matter of the patent (see novelty discussion above).

4.2.5 In the Board's judgment, the Appellant's approach to assess inventive step by starting from D1 is flawed, because this document does not address the objectives of the claimed invention, but rather seeks to provide a modified olefin resin with a certain degree of crystallization in order to achieve an inter-laminar bonding between the aluminium barrier layer and the polypropylene heat-seal layer that can resist retort sterilization (see page 3, lines 5 - 9).

D1 does not relate in any way to the problem of rupture of the aluminium foil and consequently it does not qualify as the closest prior art document regardless of the number of technical features it might have in common with the subject-matter of the patent. Taking it as closest prior art clearly involves a hindsight approach which is to be avoided.

4.2.6 In the Board's judgment, therefore, the prior art mentioned in the introductory section of the patent in suit as discussed above under point 4.2.3 represents

the closest prior art for the assessment of inventive step of the present subject-matter.

4.3 The objective problem to be solved and its solution.

4.3.1 The technical problem to be solved by the patent in relation to said prior art can thus be formulated as to provide a further or alternative method for package preparation wherein cracking of the barrier layer during the manufacture of the package is avoided and folded containers with good barrier properties are obtained.

4.3.2 This problem is solved by the method according to Claim 1, wherein in a first step the laminate layer is partially fastened to the barrier layer and then, after folding or thermoforming to the desired container form, the fastening is completed in a second step.

4.3.3 The Board is satisfied that the above-defined technical problem is plausibly solved by the claimed method. By forming and folding the container while the adhesion of the barrier layer to the laminate layer is still low, the tensions and stresses in the laminate are reduced and consequently the risk of cracking in the barrier layer is reduced. The further completion of the fastening allows the container to be locked in its final form by means of a strong adhesion. This finding was not contested by the Appellant.

4.4 Obviousness.

4.4.1 It remains to be decided whether, in view of the available prior art documents, it would have been

obvious for the skilled person to solve this technical problem by the means claimed, namely by partially fastening of the barrier layer to the adjacent laminate layer and folding the laminate before fastening is completed.

- 4.4.2 There is no hint to this solution in the prior art documents cited by the Appellant during the proceedings; none of them deals with the problem of rupture of the barrier layer during the formation of the container. In fact, only document D4 mentions the occurrence of cracking during extrusion coating of the laminate but not during the forming of the container.

Document D1, on which the Appellant mainly relied, discloses that fastening may be insufficiently achieved in the initial bonding operation (page 6, line 37: "When a sufficient bonding strength cannot be obtained...") and may in that case be enhanced by means of heat treatment of the laminated structure or the pouch or bag formed therefrom (page 6, lines 22 to 41). Consequently, there is no suggestion in D1 of in any way obtaining any benefit from the initial insufficient bonding strength - let alone to prevent rupture of the barrier layer - but rather D1 regards this as a disadvantage that must be addressed.

- 4.4.3 The Board can also not accept the further argument of the Appellant that taking account of the facts (i) that partial adhesion of the barrier layer followed by complete adhesion was already known from D1 and (ii) that folded pouches were already long known in the packaging field (see for instance D6) would justify an

obviousness objection by combining these two separately disclosed and unrelated elements.

When considering a combination of document D1 with D6, and assessing how a person skilled in the art might have proceeded in the face of these disclosures, one has to be careful not to succumb to the temptation to use an ex post facto analysis of the prior art, using knowledge of the invention as assistance. The question to be answered is not whether the skilled person could have arrived at the invention by combining single features of these documents, but whether he would have done so because the prior art incited him to do so in the hope of solving the objective technical problem. As explained above neither D1 nor D6 deals with the problem of rupture of the barrier layer during folding of the laminate. Thus the skilled person faced with the problem underlying the patent would not be motivated by the teaching of D1 or D6 to partially adhere both layers before folding in order to reduce the risk of cracking of the barrier layer. A combination of the respective disclosures of D1 and D6 can only be made with the knowledge of the invention.

4.4.4 Consequently, the Board comes to the conclusion that the claimed method is not obvious over the cited prior art.

4.5 The subject-matter of Claim 1 therefore involves an inventive step within the meaning of Article 56 EPC. Claims 2 to 11 are dependent claims and therefore also satisfy the requirements of Article 56 EPC.

5. As the main request of the Respondent is allowed, there is no need for the Board to deal with the auxiliary requests 1 to 7.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

C. Moser

P. Kitzmantel