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**Datasheet for the decision
of 5 December 2006**

Case Number: T 0675/04 - 3.3.09

Application Number: 96943267.3

Publication Number: 0874872

IPC: C08J 5/18

Language of the proceedings: EN

Title of invention:

Film having excellent ink adhesion in combination with enhanced slip, antifog, and/or antistatic properties

Patentee:

Cryovac, Inc.

Opponent:

Treofan Germany GmbH & Co.KG

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (yes)"

Decisions cited:

T 0002/83

Catchword:

-



Case Number: T 0675/04 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 5 December 2006

Appellant: Treofan Germany GmbH & Co.KG
(Opponent) Am Prime Parc 17
D-65479 Raunheim (DE)

Representative: -

Respondent: Cryovac, Inc.
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Representative: Senior, Alan Murray
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
19 March 2004 concerning maintenance of
European patent No. 0874872 in amended form.

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Jardón Álvarez
M. B. Tardo-Dino

Summary of Facts and Submissions

I. The grant of European patent No. 0 874 872 in respect of European patent application No 96943267.3 in the name of Cryovac, Inc., which had been filed on 12 December 1996, was announced on 18 April 2001 (Bulletin 2001/16) on the basis of 25 claims. Claim 1 read as follows:

"1. A film having printing on the outer surface thereof, wherein the outer layer of the film comprises:

- (A) a primary polymer;
- (B) a secondary polymer different from the primary polymer and which is effective to enhance ink adhesion to the outer surface, which secondary polymer is an alpha-olefin/acrylic ester copolymer, alpha-olefin/unsaturated carboxylic acid copolymer, alpha-olefin/ionomer copolymer, an anhydride grafted ethylene/vinyl acetate copolymer or an alpha-olefin/ester/acid anhydride terpolymer; and
- (C) a functional additive comprising at least one of a slip agent, an antifog agent, and an antistatic agent."

II. A Notice of Opposition was filed against the patent by Trespaphan GmbH (now Treofan Germany GmbH & Co. KG) on 16 January 2002. The Opponent requested the revocation of the patent in its entirety based on Article 100(a) EPC (lack of novelty and inventive step).

The opposition was supported by the following documents:

D1: EP - A - 0 620 114

D2: WO - A - 94/03328

D2a: US - 3 845 163

D3: EP - A - 0 356 220

D4: WO - A - 89/03310

D5: US - 5 330 831

D6: US - 4 436 788

D7: US - 4 868 052 and

D8: Rosato's Plastics Encyclopedia and Dictionary,
Carl Hanser Verlag (1993), pages 21, 214, 215, 295,
446 and 698.

III. By its interlocutory decision issued in writing on 19 March 2004 the Opposition Division held that the grounds for opposition raised by the Opponent did not prejudice the maintenance of the patent in amended form.

This decision was based on an amended set of claims filed by the Patent Proprietor with letter dated 14 November 2002. Claim 1 read as follows:

"1. A film having printing on the outer surface thereof, wherein the outer layer of the film comprises:

- (A) a primary polymer;
- (B) a secondary polymer different from the primary polymer and which is effective to enhance ink adhesion to the outer surface, which secondary polymer is an alpha-olefin/acrylic ester copolymer, alpha-olefin/unsaturated carboxylic acid copolymer, alpha-olefin/ionomer copolymer, an anhydride grafted ethylene/vinyl acetate copolymer or an alpha-olefin/ester/acid anhydride terpolymer; and
- (C) a functional additive comprising a slip agent, comprising at least one fatty acid amide having a C₁₁ to C₂₁ alkyl group in the acid chain, oxidized polyethylene wax, fatty acid ester, fatty acid alcohol, glycerol monostearate, or metallic stearate."

The Opposition Division in its decision acknowledged the novelty of the claimed subject-matter over documents D1, D2 and D3 because none of these documents disclosed the use of the slip agents as now defined in Claim 1.

Concerning inventive step, the Opposition Division considered D1 as the closest prior art and saw the problem to be solved as the provision of a polymer film having good printability as well as a low coefficient of friction. The solution to this problem, namely the claimed films whose outer layer comprises a special two-component polymer composition together with a certain slip agent was, in the Opposition Division's view, not suggested by the corresponding compositions of D1.

IV. On 26 May 2004 the Opponent (Appellant) 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 29 July 2004, the Appellant requested the revocation of the patent in its entirety on the grounds of lack of inventive step (Article 100(a) EPC).

V. With letter dated 14 December 2004 the Patent Proprietor (Respondent) requested that the appeal be dismissed and the patent be maintained with the claims in accordance with the decision of the Opposition Division. It also filed sets of claims for four auxiliary requests.

VI. On 5 July 2006 the Board dispatched a summons to attend oral proceedings on 5 December 2006. In a communication dated 4 August 2006 the Board drew the attention of the parties to the points to be discussed during the oral proceedings.

VII. The arguments presented by the Appellant in its written submission and at the oral proceedings may be summarized as follows:

- The Appellant considered document D1 as the closest prior art. This document disclosed multilayer films containing a propylene random copolymer and an "acid-modified low-molecular-weight polypropylene" and could incorporate as an additional component an organic lubricant. The films of D1 were suitable for high speed-packaging and could be printed as they were used for food packaging. The Appellant saw no

inventive step in the selection of a specific slip agent as now defined in Claim 1 and consequently in its opinion the claimed subject-matter lacked an inventive step.

- The Appellant further argued that the claimed subject-matter also lacked an inventive step having regard to the disclosure of any of the documents D1, D2, D5 or D6 in combination with general common knowledge as disclosed in D8 or having regard to the combined teaching of D6 and D7. The claimed films included only well known polymers and slip additives. Since the prior art already disclosed very closely related films the choice of the specific polymer components and slip agents, in the absence of an unexpected technical effect, was obvious to the skilled person.

VIII. The Respondent essentially argued as follows:

- The Respondent saw the problem to be solved as the provision of a film having good printability and at the same time having a low film-to-film coefficient of friction. Against the background of the state of the art which taught that slip agents often had an adverse effect on the film's printability, the solution to this problem, i.e. the claimed films including the specific combination of an ink enhancing polymer composition and a slip agent, would not be obvious to the skilled person.

IX. The Appellant requested that the decision under appeal be set aside and that the European patent No. 0 874 872 be revoked.

The Respondent requested that the appeal be dismissed or alternatively the patent be maintained on the basis of the claims of one of the four auxiliary requests filed with the letter dated 14 December 2004.

Reasons for the Decision

1. The appeal is admissible.

MAIN REQUEST

2. *Inventive step (Article 56 EPC)*

The only issue arising from this appeal is whether the subject-matter of the claims of the patent in suit involves an inventive step.

- 2.1 According to the established practice of the Boards of Appeal, the determination of the objective technical problem to be solved should normally take account of the problem acknowledged in the contested patent.

- 2.2 Closest prior art

- 2.2.1 The patent in suit relates to packaging films having good printability and low film-to-film coefficient of friction. The films comprise:

- (A) a primary polymer;

- (B) a secondary polymer which is effective to enhance ink adhesion to the outer surface and which is selected from the list given in Claim 1 and
- (C) a slip agent comprising at least one fatty acid amide having a C₁₁ to C₁₂ alkyl group in the acid chain, oxidized polyethylene wax, fatty acid ester, fatty acid alcohol, glycerol monostearate, or metallic stearate.

2.2.2 According to the introductory section of the specification, it is well known to incorporate a slip agent into an outer film layer in order to reduce the film-to-film coefficient of friction and to provide a film which slides more easily against itself and other materials. It is also known that the presence of the slip agent in the surface of the film adversely affects the printability of the film, i.e., that the degree of adhesion of ink to the surface of the film is reduced by the presence of the slip agent on the film surface.

To avoid this drawback it was known to provide loose dust, e.g., loose corn starch dust, on the outer surface of the film (see [0003]).

2.2.3 This known prior art method has the particular disadvantage that the application of loose dust to a film surface is detrimental to the quality of the atmosphere in which the film is manufactured and used, as the dust is subject to sloughing off of the film during shipping, etc., and other undesirable effects.

2.2.4 In contrast to this background prior art, the Appellant relies on D1 as the closest prior art because, as

compared with the other citations, it has the most technical features in common with the subject-matter of the patent. D1 is directed to a biaxially-oriented multilayer film comprising a propylene random copolymer, which corresponds to component (A) of Claim 1 of the patent in suit, inorganic or organic fine particles, and a polypropylene modified with an acid, which is similar to component (B) of Claim 1 of the patent in suit (see Claim 1 of D1). According to page 5, lines 22 to 37, the film may also contain other optional components including an organic lubricant (see page 5, line 33) such as a silicone oil or silicone gum, which is a slip agent similar to component (C) of Claim 1.

- 2.2.5 In the Board's judgment, the Appellant's choice of D1 as the starting point for assessment of inventive step is flawed, because this document does not address the objectives of the claimed invention, but rather has a very different objective. In fact, D1 seeks to provide biaxially-oriented multi-layer films which have excellent transparency and low-temperature heat-sealing properties and have good suitability for high-speed automatic packaging, and which are free from the trouble of staining on packaging machines (page 2, lines 33 to 35).

Thus, D1 does not address in any way the problem of good printability. The films of D1 are used as overwrap-packaging films for foods, tobaccos, cassette tapes, etc. (page 7, lines 3 to 7), which are usually transparent films and not printed. Although the films of D1 can of course be printed, the only reference to printability is on page 6, line 54 where it is stated that the printability can be improved by subjecting the

film to other treatments such as a corona discharge treatment. In the examples, the suitability of the films for packaging is evaluated but none of the films is printed.

It follows that D1, dealing as it does with a different problem, does not qualify as the closest prior art regardless of the number of technical features it might have in common with the subject-matter of the patent.

2.2.6 For these reasons, the background prior art mentioned in the introductory section of the patent in suit as discussed above under points 2.2.2 and 2.2.3 represents the closest prior art for the assessment of inventive step of the present subject-matter.

2.3 The objective problem to be solved and its solution.

2.3.1 The technical problem to be solved by the patent in relation to said prior art can thus be formulated as the provision of an alternative film having good printability and at the same time having a low coefficient of friction.

2.3.2 This problem is solved by the films according to Claim 1 by the inclusion of a secondary polymer in the outer layer which is effective to enhance ink adhesion (feature (B) of Claim 1).

2.3.3 The results of the examples in the specification credibly demonstrate that by using such polymers good printability and good machinability (i.e. good slip properties) are achieved. Thus, the data provided in Table 2 show that the absence of the ink adhesion

enhancing polymer (see comparative examples 2, 3, 15 and 16) results in films having poor ink adhesion. On the contrary, the films according to the subject-matter of Claim 1, examples 4 to 14, show improved machinability and printability.

2.3.4 The Board cannot agree with the argument of the Appellant that this evidence only shows that the problem was solved for specific polymers (those containing LDPE and/or EVA) and that in fact the printing problem did not arise with other polymers. This suggestion, namely that the problem does not arise when other polymers than those exemplified are used, is merely an assertion by the Appellant (who has the burden of proof) without any supporting facts or evidence.

2.4 *Obviousness*

2.4.1 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 using an ink adhesion enhancing polymer in combination with the specifically selected slip agents.

2.4.2 There is no suggestion of this solution in the prior art documents cited by the Appellant. As stated before, D1 cannot be taken as providing any hint as to how to solve the technical problem since a skilled person would not even take the teaching of D1 into consideration when looking for a solution to the problem underlying the invention.

From the other documents cited during the appeal proceedings only D2 and D5 relate to films having good printability (see D2, page 1, lines 33 to 35 and D5 column 1, lines 6 to 9), but in the films disclosed in these documents no slip agent is present so that the problem of impaired printability in the presence of slip agents does not arise. Consequently, the disclosure of these documents cannot render the claimed subject-matter obvious.

- 2.4.3 It has further been alleged by the Appellant that several combinations of prior art documents (D1, D2 or D5 with D8; D6 with D7) would result in the films of the invention, thus rendering the invention obvious. According to the Appellant all the components of the films were well known from one or the other of these documents and there was no reason for the skilled person not to combine such ingredients and thus arrive at the claimed subject-matter.

In the Board's judgement this approach does not take proper account of the established jurisprudence of the Boards of Appeal according to which, when assessing inventive step, the decisive question is not whether the skilled person could arrive at the invention (in the present case by incorporating the specific ink adhesion promoting polymer), but whether he would have done so in the present case with the reasonable expectation of obtaining a polymer having a good balance of properties (see, for instance T 2/83, OJ EPO 1984, 265, point 7 of the reasons). Thus, the skilled person would not get any incentive from these documents to incorporate an ink adhesion enhancing polymer into

films containing a slip agent in order to obtain films having both good printability and machinability.

2.4.4 It follows that the finding that a control of the friction properties together with the ink adhesion properties is achieved by using in combination a specific slip agent and an ink adhesion enhancing polymer is not a teaching the skilled person being confronted with the task of finding a solution to the existing technical problem, would find in the available prior art.

2.5 Hence, the Board concludes that, in the light of the cited prior art, it would not have been obvious to a person skilled in the art to arrive at the claimed films.

2.6 The subject-matter of Claim 1 of the main request therefore involves an inventive step within the meaning of Article 56 EPC. Claims 2 to 25, which are dependent claims and/or include the inventive features of Claim 1, also satisfy the requirements of Article 56 EPC.

AUXILIARY REQUESTS

3. Since the subject-matter of the main request is allowable, there is no need to comment on the auxiliary requests.

4. The patent in suit is accordingly maintained in the form as maintained by the Opposition Division.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Röhn

P. Kitzmantel