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**Datasheet for the decision
of 15 November 2023**

Case Number: T 0616/20 - 3.3.10

Application Number: 11701330.0

Publication Number: 2524015

IPC: C09J7/02, G09F3/10

Language of the proceedings: EN

Title of invention:

PROCESS FOR RECYCLING WASTE FILM AND PRODUCT MADE THEREFROM

Patent Proprietor:

Mitsubishi Polyester Film, Inc.

Opponent:

Siliconature S.p.A.

Headword:

Relevant legal provisions:

EPC Art. 56

Keyword:

Main request - Inventive step - (yes)

Decisions cited:

Catchword:



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Case Number: T 0616/20 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 15 November 2023

Appellant: Siliconature S.p.A.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
7 January 2020 concerning maintenance of the
European Patent No. 2524015 in amended form.**

Composition of the Board:

Chairwoman R. Pérez Carlón
Members: A. Zellner
F. Blumer

Summary of Facts and Submissions

- I. The opponent's appeal lies from the decision of the opposition division to maintain European patent No. 2 524 015 in amended form under Article 101(3) (a) EPC.
- II. Notice of opposition has been filed under Article 100(a) EPC on the grounds of lack of inventive step (Article 56 EPC) and under Article 100(c) EPC for unallowable amendments.
- III. The following documents are referred to:
- D1: Recycling of PET, Awaja, F., Pavel, D., European Polymer Journal 41 (2005) 1453-1477
 - D2: EP 0 856 537 A2
 - D3: US 2006/0004114 A1
 - D4: US 4,392,804
 - D5: US 5,331,065
 - D9A: Dornier commercial offer on Dornier's letterhead, filed on 25 September 2019
 - D9B: Excerpts from a complete copy of the Dornier offer, filed on 25 September 2019
 - D10: FINAT, "Avery Dennison Pilots Major Recycling Initiative for PET Release Liner", 06-10-09
- IV. In its decision, the opposition division came to the conclusion that the patent as granted did not meet the requirements of Article 123(2) EPC because amended claim 12 contained subject-matter which extended beyond the content of the application as filed.

Auxiliary request 1 before the opposition division has the claims of the patent as granted with exception of

claim 12. This request was considered to meet the requirements of the EPC. An inventive step was acknowledged in view of the disclosure of document D3 as closest prior art (Article 56 EPC).

V. According to the appellant (opponent), the impugned decision was erroneous because the subject-matter claimed in auxiliary request 1 was not based on an inventive step (Article 56 EPC).

VI. The respondent's main request (auxiliary request 1 in opposition proceedings) contains one independent claim, which reads as follows:

"A process for producing a release liner comprising,

reducing spent liner stock - which is a release liner film that was formed and combined with a laminate material - into chips, the spent liner stock comprises a polyethylene terephthalate polymer and has an intrinsic viscosity (determined according to ASTM Test No. D4603);

increasing the intrinsic viscosity of the liner stock chips to from 0.58 to 0.7;

combining the liner stock with a coloring agent; and

heating and extruding the liner stock into a film, the film having a release surface configured to function as a release liner for a laminate material."

VII. On 1 June 2022 the parties were summoned to oral proceedings pursuant to Rule 115(1) EPC.

VIII. With its submission of 30 September 2022 the appellant announced that it would not attend the oral proceedings.

IX. The oral proceedings were cancelled.

X. The appellant's arguments, as far as they are relevant for this decision, can be summarised as follows:

The process of claim 1 of auxiliary request 1 is not based on an inventive step. In its decision, the opposition division did not take into consideration any arguments related to the process steps as such, to the combination of these steps, or to the process conditions. In particular, the release liner referred to in claim 1 was merely a specific PET film, and the claimed process for its preparation was a simple recycling process. This conclusion was already disclosed in the description of the contested patent. Recycling PET films, however, and even recycling PET release liners was known and disclosed in document D10. The principles and practice generally known in the field were also applicable to the claimed process. The conventional processes for recycling PET films were fully analogous, or even identical, to the claimed process. In the absence of any evidence on file about existing prejudices, these known general processes were also applicable to the recycling of release liners as claimed in the patent. Given the known close linkage between the claimed process and the known recycling of PET films, the skilled person would have used spent liners in the production of further release liners. The presence of an inventive step thus had to be denied.

Based on the differing features between the claimed process and the process disclosed in the closest prior

art document D3, *i.e.* the production of a PET release liner instead of PET films, and the use of spent material instead of reclaimed material, no inventive step could be acknowledged because these differing features were obvious to the skilled person, in particular in view of the prior art.

XI. The respondent's arguments can be summarised as follows:

Document D3 was the closest prior art. The claimed process differed from the disclosure of D3 in that a release liner was produced, and in that spent liner stock was used as starting material. Spent liner stock was different from reclaimed liner stock since it was post-consumer. Its exact composition was not under the control of the producer. It could therefore contain unknown impurities and was not considered in the art as suitable starting material for the production of new release liner. The use of spent liner stock, in particular in a process for producing a release liner, was neither known nor suggested in the prior art.

XII. The appellant (opponent) requested that the decision under appeal be set aside and that European patent No. 2 524 015 be revoked.

XIII. The respondent (patent proprietor) requested that the appeal be dismissed. The respondent further requested not to admit documents D9A, D9B and D10 into the proceedings.

Reasons for the Decision

1. The appeal is admissible.

Decision without conduct of oral proceedings

2. The appellant requested oral proceedings under Rule 115(1) EPC. It subsequently declared with its submission of 30 September 2022 that it will not attend oral proceedings.

A decision against the appellant without conduct of oral proceedings can thus be taken without infringing the appellant's right to be heard (Article 113(1) EPC).

Since, as outlined below, the board follows the respondent's main request to dismiss the appeal, a decision at this stage is also permissible without infringing the respondent's right to be heard.

The present decision is thus taken without the conduct of oral proceedings (Article 12(8) RPBA).

Main request - inventive step (Article 56 EPC)

3. The opposition division considered the disclosure of document D3 to be closest prior art. In the opposition division's view the claimed process differed from the process disclosed in this document in that a release liner - rather than a biaxially oriented film - was produced, and in that spent release liner - rather than 80% inherently recycled material - was used as starting material. The technical problem was seen in the provision of an environmentally beneficial process for the production of release liners. The opposition division considered the claimed process to be based on an inventive step, since neither document D3 itself, nor any of the additional documents D1, D2 or D4 to D6 provided the skilled person with an incentive to use spent release liner as starting material in a process

according to document D3. In addition, even the use of spent liner in a process according to document D3 would not lead to a release liner, but to a biaxially oriented film.

4. In the appellant's view, the opposition division failed to recognise the fact that the steps of the claimed process were known in the field of recycling PET material, and that the release liner to be produced was merely a specific PET film.

5. The board agrees with the opposition division's reasoning and conclusion for the following reasons:

The contested patent

6. The patent relates to the production of release liners made from polymer films, in particular by recycling polymers, such as polyester polymers (see the paragraphs [0001], [0002] and [0019]). It mentions several problems related to reusing polyester containing spent release liner, such as the tendency of the polyester to degrade and to possess inferior optical and mechanical properties due to absorbance of water and thus a reduction of molecular weight (decrease in intrinsic viscosity). According to the contested patent, these problems render spent release liners generally unfit for being directly processed into a film. Further problems are related to yellowing and to increased haze of reprocessed polyester, as well as to the collection of material once it has been used (see paragraphs [0003] and [0004]). In order to address these problems, the patent identifies a need for a process for collecting spent release liner and for a process to reuse the liner (see paragraph [0005]). The patent refers to a process for collecting spent release

liner and recycling said liner in order to form new films, in particular new release liner (see paragraph [0006]). Claim 1 of the main request is directed to a process for producing a release liner.

Closest prior art

7. Both parties, as well as the opposition division, considered document D3 to represent the closest prior art. This document relates to the production of a biaxially oriented film (see paragraph [0002]). It discloses that crystallizable recycled materials can be used for that purpose (see paragraph [0003]). The polyester "*polyethylene terephthalate (PET)*" is mentioned as an example of a suitable thermoplastic polymer (see paragraph [0010] and the examples). The document also suggests to use recycled material whose molecular weight has been increased (see paragraphs [0018] and [0019]). It furthermore discloses that the biaxially oriented film comprises a pigment (see paragraph [0002]), and that it may be coated (see paragraph [0014]).

The document represents a suitable starting point for the assessment of inventive step. No other document was suggested for this purpose.

Differing features

8. Document D3 discloses in example 2 a process for producing a biaxially oriented film (see paragraphs [0037] to [0041]). The film is produced by using 28% of inherent recycled material and 40% of inherent recycled material having a standard viscosity value (SV) of 810 whose molecular weight has been increased by condensation processes (see also paragraph [0007]). It

was not disputed that a standard viscosity of 810 corresponds to an intrinsic viscosity of 0,658, which is within the claimed range (see paragraph [0028] of document D3 and 6th full paragraph on page 9 of the statement setting out the grounds of appeal).

9. Document D3 does not disclose that spent liner stock is used as a starting material for the process, the document discloses the use of "*inherent recycled material*" instead (see paragraphs [0003] and [0004]).

According to the description of the contested patent, "*spent liner stock*" refers to release liner film that was formed and combined with a laminate material, more particularly to the resulting release liner film after the laminate material has been removed. According to the contested patent, this material has to be differentiated from "*reclaimed*" liner stock, which is a liner stock that represents scraps accumulated during manufacture of the film such as start up waste, bead and slitter trim, and reject film (see paragraph [0007]). In contrast to such "*reclaimed*" liner stock, "*spent liner stock*" has gone through additional steps, before being reused (see paragraph [0004]). These steps are not under the manufacturer's control.

Document D3 discloses the use of "*inherent recycled material*", which is, according to the document itself, generally produced from cut film inherently produced by the process for producing biaxially oriented films (see paragraph [0003]).

The "*spent liner stock*" as used in the process according to claim 1 of the main request is thus different from the "*inherent recycled material*" in the

process disclosed in document D3.

10. Document D3 also does not disclose that the produced product is or is suitable as a release liner. Document D3 is concerned with the production of a biaxially oriented film (see paragraph [0002]). The biaxially oriented film disclosed in example 2 of document D3 is not a release liner, which is a specific embodiment of a PET film by the appellant's own argument (see the statement setting out the grounds of appeal, page 5, last paragraph and page 10, first paragraph).
11. The process according to claim 1 of the main request therefore differs from the process disclosed in example 2 of document D3 at least in that the starting material is spent liner stock and in that the product is a release liner. This was not disputed (see the last paragraph on page 9 of the statement setting out the grounds of appeal and the second paragraph from the bottom of page 3 of the respondent's reply to the statement setting out the grounds of appeal).

The objective technical problem underlying the invention

12. The appellant submitted that none of the distinguishing features led to a surprising technical effect. Since recycling of PET as such was known, the problem was to apply the known processes to a process for producing a specific PET product, *i.e.* a release liner.
13. According to the respondent, the patent exhibits the unexpected effect that spent liners can effectively and economically be re-used without suffering from an unacceptable loss in properties.

14. The board notes that the contested patent discloses an example for the preparation of multilayered composite films, prepared by using spent liner stock for the middle layer (see sample no. 1 in example number 1). According to the table disclosed in paragraph [0065] of the patent, and the evaluation according to paragraph [0066], the measured properties of such a film compare to those of a film prepared by using virgin PET in all layers (sample no. 2), and to those of a film comprising a middle layer prepared using reclaimed liner stock. This is summarised in paragraph [0066] of the patent.
15. Therefore, the objective technical problem can be seen as the provision of a further environmentally friendly process for producing a product in the form of a film using an alternative source of polyethylene terephthalate (PET).

Solution to the technical problem

16. In order to solve the objective technical problem, a process according to claim 1 of the main request is suggested. This process is directed to the production of a particular type of film, *i.e.* a release liner, and it makes use of spent liner stock which comprises a PET polymer.

The board is satisfied that the claimed process solves the technical problem.

Inventiveness of the claimed solution

17. Document D3 itself does not provide any hint at the claimed solution. It does not mention release liners as products, or the use of spent release liner as

feedstock.

18. The appellant submitted that the skilled person would be guided to the claimed solution by documents D1, D2, D4 and D5.
19. The board is not convinced, as none of these documents relates to the production of release liners or to the recycling of spent release liners:
 - 19.1 Document D1 relates to recycling PET (see the title). Apart from dealing in particular with the ISBM process for the preparation of PET bottles in chapter 6, it also discloses PET films as a specific application (see chapter 1.3). D1 also discloses the use of post-consumer PET flakes. Table 4 on page 1458 of D1 discloses that the re-processing of these flakes requires an intrinsic viscosity $[\eta] > 0.7$ dl/g. This value is above the range according to claim 1 of the main request. D1 also does not suggest using spent liner in the production of a release liner.
 - 19.2 Document D2 relates to solid state polymerisation of post-consumer and non-post consumer PET (see page 2, lines 3 to 4). The primary source of post-consumer PET is, according to page 2, lines 5 to 9 of D2, plastic soft drink bottles. The document does not suggest the use of spent release liners. Neither does D2 disclose the production of release liner. According to page 3, lines 28 to 29, the intrinsic viscosity of the PET material is increased to at least 0.90 dl/g, which is above the range according to claim 1 of the main request.
 - 19.3 Document D4 relates to increasing the intrinsic viscosity of PET, and mentions in particular the

manufacturing of PET bottles (see column 1, lines 4 to 6 and line 29). The final intrinsic viscosity according to the table in column 4 is between 0.746 and 1.474 and thus above the range according to claim 1 of the main request. D4 does not disclose the use of spent liner stock, nor the preparation of release liner.

- 19.4 Document D5 relates to a process for preparing high molecular weight PET from recycled PET, originating from a sorted collection of liquid containers (see column 1, lines 8 to 10 and lines 32 to 37). The intrinsic viscosity of the obtained PET is between 0.65 and 3 dl/g. D5 does not disclose the use of spent liner stock, nor the preparation of release liner.
20. Neither D1, D2, D4 nor D5 thus suggests a process for producing release liner, let alone from spent liner stock.
21. The provision of a process for producing a release liner according to claim 1 of the main request consequently involves an inventive step. The request fulfills the requirements of Article 56 EPC.

Further requests

Admissibility of documents D9A, D9B, D10

22. The respondent requests not to admit any of documents D9A, D9B and D10 into the proceedings. D9A and D9B were submitted during the first instance proceedings with the appellant's letter of 25 September 2019, D10 was submitted by the appellant with the statement setting out the grounds of appeal.

23. The appellant referred to documents D9A and D9B for support of its objection of lack of inventive step. The appellant submitted that these documents disclosed that an intrinsic viscosity of the liner stock chips of from 0.58 to 0.7 according to claim 1 of the main request was an obvious feature in the field (see point 5.6 of the statement setting out the grounds of appeal). For the present decision, however, this is of no importance since the intrinsic viscosity is not a distinguishing feature of the claimed invention. Documents D9A and D9B are thus not relevant for this decision. A decision on their admissibility is therefore unnecessary.
24. The question whether document D10 can be admitted into the proceedings is irrelevant since it does not support the appellant's case. Although D10 discloses that PET release liners can be recycled to produce regenerated rPET granules, it refers to their use in the manufacture of fleece clothing, fashion handbags, street furniture, disposable cups, and coat hangers. Document D10 does not disclose nor suggest the use of rPET granules for the production of a new release liner. The respondent argued that the manufacture of the products mentioned in document D10 requires lower standards with respect to the quality of the raw material. This was not disputed by the appellant. Therefore D10 does not suggest either the use of spent liner stock in a process for producing a release liner either.
25. Since the arguments of the appellant are not convincing, the appeal does not succeed. The impugned decision is thus maintained.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



C. Rodríguez Rodríguez

R. Pérez Carlón

Decision electronically authenticated