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Datasheet for the decision of 3 June 2008

Case Number: T 0537/06 - 3.2.05

Application Number: 95120326.4

Publication Number: 0719631

IPC: B29C 55/14

Language of the proceedings: EN

Title of invention:
Biaxially oriented polyamide resin film

Patentee:
Toyo Boseki Kabushiki Kaisha

Opponent:
BASF Aktiengesellschaft

Headword:
-

Relevant legal provisions:
EPC Art. 83, 54, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Sufficiency of disclosure (yes)"
"Novelty and inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0537/06 **-** 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 3 June 2008

Appellant: (Opponent)
BASF Aktiengesellschaft
D-67056 Ludwigshafen (DE)

Representative:
-

Respondent: (Patent Proprietor)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 16 February 2006 concerning maintenance of European patent No. 0719631 in amended form.

Composition of the Board:

Chairman: W. Zellhuber
Members: W. Widmeier
C. Rennie-Smith

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division maintaining European patent No. 0 719 631 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 did not prejudice the maintenance of the patent in amended form.

II. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

III. The respondent (patent proprietor) requested that the appeal be dismissed.

IV. Claim 1 of the patent in suit as maintained by the Opposition Division (hereinafter called claim 1) reads as follows:

"1. A transparent biaxially oriented polyamide resin film which comprises a polyamide resin containing surface-forming fine particles characterized in that the film forming particles have an average particle size of 0.5 to 5 μm and are contained in said polyamide resin in a proportion of 0.03 to 0.80% by weight of the film, the film surface having protrusions having a height of 0.27 - 2 μm formed by the fine particles in a proportion of 200-1,000 protrusion/mm^2, and the area proportion of voids formed on the film surface being not more than 0.1%."

V. The following documents were referred to in the appeal procedure:

D1: DE-A-38 11 544

D2: English Abstract of JP-A-52 029 347

D3: English Abstract of JP-A-03 114 744

D11: Experimental Report "Oberflächenerhebungen an biaxial orientierter Polyamid-Folie (BOPA)"

VI. The appellant's arguments can be summarized as follows:

The patent in suit does not disclose in a complete and clear manner how the number of 200 to 1000 protrusions/mm^2 specified in claim 1 can be realised.

The features of the preamble of claim 1, the average particle size of 0,5 to 5 μm of the film forming particles and the proportion of 0,03 to 0,8 % by weight of the film of the particles are explicitly disclosed in document D1. The feature of claim 1 that the film surface has protrusions of a height of 0,27 to 2 μm formed by fine particles in a proportion of 200 to 1000 protrusions/mm^2, and the feature that the area proportion of voids formed on the film surface is not more than 0,1 % are implicitly disclosed in document D1. This follows from comparative example 5 of document D1 which refers to the same materials with the same size and the same production process as the patent in suit. Document D11 is based on a reproduction of this example and confirms this implicit disclosure of document D1. Thus, the subject-matter of claim 1 is not novel.

Document D2 discloses a polyamide film to which silica was added as an anti-block material and which is biaxially oriented. Document D3 discloses a multilayer film having a polyamide layer with a particle size of 2 μm. Documents D2 and D3 are based on the same problem as the patent in suit and explain the effect achieved by the addition of silica to polyamide films. Thus, starting from document D1, documents D2 and D3 lead to the subject-matter of claim 1 which lacks inventive step for this reason.

VII. The respondent's arguments can be summarized as follows:

Paragraph [0029] and the description of the examples of the invention provide sufficient information for a skilled person to carry out the subject-matter of claim 1. The requirements of Article 83 EPC are therefore met.

Document D1 does not contain an implicit disclosure of the features that the film surface has protrusions of a height of 0,27 to 2 μm formed by fine particles in a proportion of 200 to 1000 protrusions/mm^2 and that the area proportion of voids formed on the film surface is not more than 0,1 %. Comparative example 5 of document D1 does not relate to the same process as used for producing the film of claim 1. This process comprises a two-step longitudinal stretching within a specific temperature range followed by a transverse stretching. The process on which comparative example 5 of document D1 is based is therefore different from the process on which the subject-matter of claim 1 is based. Document D11 also is not based on a two-step longitudinal

stretching and further differs from comparative example 5 of document D1 by the kind of silica, the amount of silica and the average particle diameter. The appellant has therefore failed to demonstrate the respective implicit disclosures of document D1 so that the subject-matter of claim 1 is novel.

Document D2 does not relate to the problem of providing a polyamide film having an improved slip property under high humidity. Document D3 relates to the opposite problem, i.e. to provide a non-slippery film. It is thus not obvious to combine documents D1, D2 and D3 in order to solve the problem on which the patent in suit is based. The subject-matter of claim 1 involves an inventive step for this reason.

Reasons for the Decision

1. *Article 83 EPC*

The patent in suit describes in paragraphs [0025] to [0044] in general how the film of claim 1 is to be produced. Furthermore, the patent in suit describes in paragraphs [0045] to [0048], [0051], [0052] and [0054] three specific examples. Although it is not mentioned explicitly which production parameters influence the protrusion density, it is clear from the patent specification that the density of 200 to 1000 protrusions/mm^2 must be the consequence of the given production parameters. The patent in suit contains all instructions a person skilled in the art needs in order to produce the film as specified in claim 1. When following these instructions the resulting film will

have the surface properties as specified in claim 1. This is in line with the production of a film according to document D11. The respondent did not have problems when attempting to reproduce comparative example 5 of document D1 to achieve a protrusion density of 750 protrusions/mm^2 (cf. document D11) although document D1 does not mention either how a specific protrusion density is to be achieved.

The Board is therefore convinced that the subject-matter of claim 1 is disclosed in the patent in suit in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art so that the requirements of Article 83 EPC are met.

2. *Novelty*

Document D1 discloses a transparent biaxially oriented polyamide resin film which comprises a polyamide resin containing surface-forming fine particles (cf. page 2, lines 56 to 65 and page 4, lines 65 to 67), the film forming particles having an average particle size of 1,1 to 3,5 μm and being contained in said polyamide resin in a proportion of 0,08 to 0,3 % by weight of the polyamide resin (cf. page 6, Table 1). Although the surface of the film disclosed in document D1 certainly has protrusions, this document is silent about their height and their density and about the proportion of voids on the film surface.

The appellant's conclusion, that the height and the density of the protrusions and the proportion of the voids of the film of document D1 have to be within the same ranges as specified in claim 1 because comparative

example 5 of this document refers to the same production process as the patent in suit, cannot be accepted by the Board. The production process described in paragraph [0029] of the patent in suit is not disclosed in document D1. This paragraph of the patent in suit explains that the film is longitudinally drawn, in at least two steps, three times or more in total within the temperature range of from 20°C above the glass transition temperature of the film material to 20°C above the crystallization temperature of the film material, and that the transverse drawing follows this longitudinal drawing. Document D1 describes that the film is drawn by an amount of 3,0 x 3,0 at a temperature of 80°C and then thermally fixed at 200°C (cf. page 4, lines 65 to 67). Since the stretching process described in document D1 differs from the stretching process described in the patent in suit, there cannot be an unambiguous implicit disclosure in document D1 of the same values for protrusions and voids as specified in claim 1.

Document D11 was introduced by the appellant to demonstrate that the stepwise stretching of the film has no effect on the surface properties. However, this document refers to materials and parameters which are different from those listed in Tables 1 and 2 of document D1. The kind of silica used according to document D11, i.e. Silobloc 200, was not used in any of the examples of document D1. The specific surface area of the silica is not mentioned in document D11 and the particle size of 3 μm and the used amount of 6% of this silica does not correspond to any of these examples. Thus, the test and the results of document D11 cannot prove that document D1 discloses implicitly that the

film achieved according to at least one of the examples of this document has protrusions with a height and density and the proportion of the voids as specified in claim 1.

The subject-matter of claim 1 differs therefore from document D1 by the specific values of the protrusion height and density and by the proportion of the voids of the film surface. This subject-matter is thus to be considered novel with respect to document D1.

3. *Inventive step*

The specific values of the protrusion height and density and of the proportion of the voids of the film surface as specified in claim 1 are also not suggested by document D1. This document is silent about any effect these parameters may have. Thus, document D1 cannot the render the subject-matter of claim 1 obvious.

Also documents D2 and D3 are silent about the height and the density of the protrusions of the films and the proportion of the voids on the surface of the films which are disclosed in these documents. Thus, neither when considered alone nor when considered in combination with each other and/or with document D1, do these documents suggest the values of these parameters as specified in claim 1.

The subject-matter of claim 1 has therefore to be considered as involving an inventive step.

4. *Procedural matter*

As no request for oral proceedings has been filed by the appellant, the Board decided this case in writing in accordance with Article 12(3) of the Rules of Procedure of the Boards of Appeal.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Meyfarth W. Zellhuber