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**Datasheet for the decision
of 29 October 2009**

Case Number: T 0360/08 - 3.2.05

Application Number: 95929237.6

Publication Number: 0724947

IPC: B29C 55/02

Language of the proceedings: EN

Title of invention:

Biaxially oriented polyester film and process for production thereof

Patentee:

TORAY INDUSTRIES, INC.

Opponent:

Teijin DuPont Films Japan Limited

Headword:

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Relevant legal provisions:

EPC Art. 83, 104(1)

Relevant legal provisions (EPC 1973):

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Keyword:

"Sufficiency of disclosure (all requests, no)"
"Different apportionment of costs (no)"

Decisions cited:

T 0143/02

Catchword:

-



Case Number: T 0360/08 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 29 October 2009

Appellant: TORAY INDUSTRIES, INC.
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Respondent: Teijin DuPont Films Japan Limited
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 14 December 2007
revoking European patent No. 0724947 pursuant
to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: W. Zellhuber
Members: P. Michel
M. J. Vogel

Summary of Facts and Submissions

I. The appellant (patentee) lodged an appeal against the decision of the Opposition Division revoking European Patent No. 0 724 947 on the ground of a lack of sufficiency of disclosure in respect of each of the requests of the appellant.

II. Oral proceedings were held before the Board of Appeal on 29 October 2009.

The appellant requested that the decision under appeal be set aside and that the patent in suit be maintained on the basis of the main request or one of the first to third auxiliary requests filed on 23 April 2008, alternatively, on the basis of one of the sets of claims filed as main request', auxiliary requests 1', 2' and 3', filed during the oral proceedings.

The respondent (opponent) requested that the appeal be dismissed. He further requested that the requests of the appellant filed during the oral proceedings are not admitted and that, if they are, a different apportionment of costs is requested.

III. The following documents are referred to in the present decision:

E29: Test Report from the ICI Measurement Science Group

E30: Raman spectra of PET and PEN

E33: Declaration of Dr Muraki

E36: Preliminary response of Dr Everall

E39: Letter from Dr Everall dated 3 February 2009

E40: Letter from Dr Everall dated 4 February 2009

E42: Letter from Dr Everall dated 21 August 2009

IV. Claim 1 of the main request of the appellant reads as follows:

"1. A biaxially oriented polyester film characterized in that a ratio $R(=I_{MD}/I_{ND})$ of a peak intensity (I_{MD}) in the longitudinal direction of the film to a peak intensity (I_{ND}) in the thickness direction of the film determined at 1615 cm^{-1} by laser Raman scattering method is not less than 7."

Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request with the inclusion of the following additional features at the end of the claim:

"an amorphous orientation coefficient f_{MD} of a high molecular chain in the longitudinal direction of said film is not less than 0.5 and an F-5 value of said film in the longitudinal direction of said film is not less than 15 kg/mm^2 ".

Claim 1 of auxiliary request 2 corresponds to claim 1 of the main request and includes the following additional feature at the end of the claim:

"and obtainable by a process of claim 16".

Claim 1 of auxiliary request 3 corresponds to claim 1 of the main request and includes the following additional features at the end of the claim:

"an amorphous orientation coefficient f_{MD} of a high molecular chain in the longitudinal direction of said

film is not less than 0.5 and an F-5 value of said film in the longitudinal direction of said film is not less than 15 kg/mm², obtainable by a process of claim 14".

Claim 1 of main request' and auxiliary requests 1', 2' and 3' corresponds to claim 1 of the main request and auxiliary requests 1 to 3 respectively and includes in each case the following additional feature after the words "polyester film":

"wherein a polyester of said film is at least one selected from the group consisting of polyethylene terephthalate, polypropylene terephthalate, polyethylene isophthalate, and a copolymer thereof,"

In addition, claim 1 of auxiliary request 2' refers to claim 15 rather than claim 16 and claim 1 of auxiliary request 3' refers to claim 13 rather than claim 14.

V. The appellant argued substantially as follows in the written and oral procedure:

Whilst claim 1 specifies that the ratio R of a peak intensity in the longitudinal direction of the film to a peak intensity in the thickness direction of the film is determined at 1615 cm⁻¹, in the case of polyethylene naphthalate, this should be understood as referring to a corresponding peak at 1636 cm⁻¹.

The main request and the first to third auxiliary requests thus satisfy the requirements of Article 83 EPC.

In document E33, Dr Muraki states at point (9)(a) that the skilled operator would use the objective giving the best resolution, that is, the 100x magnification objective. This is the correct approach to the selection of the objective.

In document E36 under point (9), Dr Everall makes four observations concerning this statement of Dr Muraki. None of these observations of Dr Everall are valid. As regards the first point, what is important is what the skilled person understands, not what happened at Toray. As regards the second point, the patent in suit discloses the instrument to be used. Thus, the instrument design is established and remarks concerning the Renishaw machine are not relevant. As regards the third point, there is no suggestion that inhomogeneity is relevant to the conditions of the patent in suit. As regards the fourth point, the depolarisation effect was well known at the date of the patent in suit. The skilled operator would thus make the necessary corrections to compensate for this.

Under point 2 of document E42, Dr Everall analyses the situation on the assumption that samples of the film are not available. This is not the correct approach. One should produce samples according to the Examples of the patent in suit and then make the measurements of peak intensity, which will confirm that the selection of the 100x objective is correct. This approach was followed in the decision of T 143/02.

The remaining requests thus also satisfy the requirements of Article 83 EPC.

VI. The respondent argued substantially as follows in the written and oral procedure:

Claim 1 specifies that the peak intensity is measured at 1615 cm^{-1} . Thus, in the case of polyethylene naphthalate, which does not have a peak at this value, the ratio R would be around 1. It is thus not possible to carry out the invention in the case of polyethylene naphthalate.

The main request and the first to third auxiliary requests thus do not satisfy the requirement of Article 83 EPC.

The requests filed during the oral proceedings should not be admitted, since they are filed too late.

These requests are also insufficient under Article 83 EPC in view of the fact that the ratio R in claim 1 is not sufficiently defined. In particular, the power of the objective to be used in the spectrometer is not disclosed. More particularly, there is no basis for the assertion of the appellant that the most powerful available objective (100X) should be used or would be an automatic choice. This is confirmed by the submissions of Dr Everall, an independent expert, as set out in documents E29, E36, E39, E40 and E42. In particular, the most powerful objective will not necessarily give the best signal to noise ratio.

It is further not possible to deduce the power of the objective by reworking the examples of the patent in suit, since the information provided as to the manufacture of the film is not sufficient to

consistently produce a film having a predictable value for the ratio R.

The remaining requests thus also do not satisfy the requirement of Article 83 EPC.

Reasons for the Decision

1. *Sufficiency of disclosure of the main request and first to third auxiliary requests*

The polyester film as defined in claim 1 of each of these requests is characterised by the value of a ratio $R(=I_{MD}/I_{ND})$ of a peak intensity (I_{MD}) in the longitudinal direction of the film to a peak intensity (I_{ND}) in the thickness direction of the film determined at 1615 cm^{-1} by laser Raman scattering method being less than 7. Claim 1 does not, however, specify which polyester is used to form the film. Claim 4 specifies that the polyester is "at least one selected from the group consisting of polyethylene terephthalate, polypropylene terephthalate, polyethylene isophthalate, polyethylene naphthalate and a copolymer thereof." The polyester of claim 1 may thus be polyethylene naphthalate.

Whilst polyethylene terephthalate has a peak intensity at 1615 cm^{-1} , attributable to the presence of a benzene ring, polyethylene naphthalate does not produce a peak at this wavelength (see document E30). In the absence of such a peak, it is not possible to obtain a significant value of the ratio R at 1615 cm^{-1} .

It was suggested on behalf of the appellant that the skilled reader of the patent in suit would, in the case of polyethylene naphthalate, understand the reference in claim 1 to a peak intensity determined at 1615 cm^{-1} as referring to a corresponding peak at 1636 cm^{-1} . It is not, however, accepted that there is a "corresponding peak" for polyethylene naphthalate, the presence of a naphthalene ring giving rise to more than one peak (see document E30).

The person skilled in the art is thus not provided with sufficient information to enable a value of the ratio R to be calculated for a film of polyethylene naphthalate.

2. *Admissibility of main request' and auxiliary requests 1' to 3'*

As compared with the main request and first to third auxiliary requests, claim 1 of each of these requests is restricted by specifying that the polyester is at least one selected from the group consisting of polyethylene terephthalate, polypropylene terephthalate, polyethylene isophthalate, and a copolymer thereof. That is, the claim is restricted to the polyesters specified in dependent claim 4 as granted, with the exception of polyethylene naphthalate.

These requests were introduced at the oral proceedings. However, the requests correspond to a set of requests filed on 29 September 2009, apart from the deletion of polyethylene naphthalate from the list of specified polyesters. The respondent could thus be expected to deal with the requests at the oral proceedings without any further study or investigation.

The Board thus considers it appropriate to exercise their discretion to admit these requests.

3. *Sufficiency of disclosure of main request' and auxiliary requests 1' to 3'*

In order to determine the value of the ratio R as specified in claim 1 of each of these requests, it is necessary to subject a film to a Raman scattering method. However, the values obtained for this ratio are dependant on the measuring conditions.

A number of the measuring conditions used by the patent proprietor are specified in paragraph [0079] of the patent in suit. In particular, it is specified that a Ramanor U-1000 apparatus was used. As indicated in document E33 at 7(c), a range of objectives of differing power are available to the user of the Ramanor U-1000 apparatus. It is not, however, specified in the patent in suit which objective should be used.

Document E29, at section 2.3 in conjunction with Table 6, demonstrates that significantly different values of the ratio R are obtained according to whether a 100x or a 50x objective is used. The appellant submits that a high power 100x objective would be used, document E33 suggesting that this would give better resolution. On the other hand, document E36 sets out four reasons to prefer a 50x objective, including a suggestion that the use of a high power objective has a depolarising effect and may not provide the best signal to noise ratio. The Board thus comes to the conclusion

that the skilled person would not know which objective to select.

The patent in suit contains 30 examples and 9 comparative examples, for each of which a value of the peak intensity ratio R is given. It is suggested that, by repetition of the examples, a film can be produced for which a value of the ratio R can be measured with different objectives. Only the choice of the correct objective will result in the value of R disclosed in the Tables of the patent in suit.

This is not accepted. It would require more knowledge than is available from the patent in suit in combination with the general knowledge of the skilled person to prepare a film for which it can be assumed that the value of R is the same as that given in the patent in suit. Thus, whilst the examples give information as to the temperature and the stretching ratio to be used when preparing the film, the examples do not give any information as to the form of the cross-section of the cast film or the speed of stretching of the film. Variation in these parameters would influence the properties of the resulting film. It is thus not possible to deduce the power of the objective from a reworking of the examples.

The present case is distinguished from that decided in T 143/02 firstly in that there is no most likely candidate as to the objective to be used. Secondly, the information given in the examples is not sufficient to enable a sufficiently predictable value of the ratio R to be achieved.

- 3.1 The patent in suit thus does not provide sufficient teaching to enable the person skilled in the art to produce a biaxially oriented polyester film which satisfies the criteria specified in claim 1.
4. For the reasons set out under points 1 and 3 above, the requirements of Article 83 EPC are not satisfied for each of the requests of the appellant.
5. *Apportionment of costs*

The respondent requested a different apportionment of costs on the basis that, if the appellant had been prepared to abandon any claims including films of polyethylene naphthalate, the respondent would not have attended oral proceedings.

These circumstances cannot be seen as justifying any award of costs and the behaviour of the appellant is seen as being entirely reasonable. It certainly cannot be seen as representing any sort of abuse of procedure for a patent proprietor to wish to have his case heard at oral proceedings without a restriction of the claims suggested by an opponent.

Each party shall thus bear the costs it has occurred in accordance with Article 104(1) EPC.

Order

For these reasons it is decided that:

1. The appeal is dismissed.
2. The request for different apportionment of costs is refused.

The Registrar:

The Chairman:

D. Meyfarth

W. Zellhuber