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**Datasheet for the decision
of 23 June 2021**

Case Number: T 0810/16 - 3.3.09

Application Number: 06753931.2

Publication Number: 1883659

IPC: C08J5/18

Language of the proceedings: EN

Title of invention:

FILM COMPRISING PROPYLENE POLYMER WITH HIGH CRYSTALLINITY

Patent Proprietor:

Borealis Technology Oy

Opponent:

Treofan Germany GmbH & Co. KG

Headword:

Propylene polymer film/BOREALIS

Relevant legal provisions:

EPC Art. 123(2), 56, 100(a)

Keyword:

Amendments - added subject-matter (no)
Inventive step - main request (yes)

Decisions cited:

T 0524/17

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0810/16 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 23 June 2021

Appellant: Borealis Technology Oy
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 29 January 2016
revoking European patent No. 1883659 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman A. Haderlein
Members: M. Ansorge
N. Obrovski

Summary of Facts and Submissions

I. The appeal was filed by the patent proprietor (appellant) against the opposition division's decision revoking patent No. 1 883 659.

II. With its notice of opposition, the opponent had requested revocation of the patent on the grounds for opposition under Article 100(a) EPC (lack of novelty and lack of inventive step), Article 100(b) EPC and Article 100(c) EPC.

III. In the present decision, reference is made to the following documents:

D2a: Certificate of analysis for HB300BF, batch number B1-3109

D2b: Delivery slips for HB300BF, batch number B1-3109

D2c: Invoice for HB300BF, batch number B1-3109

D3a: Certificate of analysis for HB300BF, batch number B1-3273

D3b: Delivery slips for HB300BF, batch number B1-3273

D3c: Invoice for HB300BF, batch number B1-3273

D6: US 2004/0166337 A1

IV. Claim 1 of the main request before the opposition division (also the main request on appeal) reads as follows:

"A film comprising a high crystalline propylene polymer having decaline solubles not more than 1.3 wt% at 25°C, xylene solubles not more than 1.4 wt% at 25°C, a MFR₂ of 2 to 6 g/10min, measured according to ISO 1133 (230°C, 2.16 kg load), a polydispersity index (PI) of

at least 5.0, and an isotactic sequence length of at least 150, measured as meso run length values by means of ^{13}C -NMR."

- V. The opposition division decided that the requirement of sufficiency of disclosure was met and that the subject-matter of claim 1 according to the main request was novel but infringed Article 123(2) EPC and did not involve an inventive step in view of D6 as the closest prior art.
- VI. The opponent withdrew the opposition and ceased to be party to the proceedings.
- VII. With its letter dated 21 May 2021, the appellant filed a description adapted to the main request.
- VIII. The appellant's arguments, as far as relevant for the decision, are reflected in the reasoning below.
- IX. The only claim request relevant in the present case is the main request. The wording of claim 1 of the main request is set out above in point IV.

Claims 2 to 18 of the main request are dependent product claims.

- X. Requests

The appellant requests that the decision be set aside and that the patent be maintained on the basis of the main request or one of the 1st to 3rd auxiliary requests, all filed with the statement of grounds of appeal, including an adapted description filed with the appellant's letter dated 21 May 2021.

Reasons for the Decision

1. Article 123(2) EPC
 - 1.1 The opposition division decided that the film according to claim 1 of the main request did not meet the requirement of Article 123(2) EPC, essentially because, although all features of claim 1 were disclosed in the application as filed, there was no pointer in the application as filed to the combination of these features.
 - 1.2 For the following reasons, the board does not agree.
 - 1.2.1 The combination of claim 26 of the application as filed, directed to a film comprising a propylene polymer according to any one of the preceding claims 1 to 19, with claims 2, 3, 5 and 8 of the application as filed is a direct and unambiguous disclosure for a film (see claim 26) comprising a high crystalline propylene polymer having the polydispersity index (PI) (see claim 2), isotactic sequence length (see claim 5) and MFR₂ range (see claim 8) as required in claim 1 of the main request. The above combination of claims of the application as filed already encompasses all the parameters of the propylene polymer mentioned in claim 1 of the main request and it also provides the framework for a certain amount of decaline solubles ("not more than 1.6 wt%") and xylene solubles ("not more than 2 wt%").
 - 1.2.2 For the following reasons, the limiting of the decaline solubles to "not more than **1.3 wt%**" and the xylene

solubles to "not more than **1.4 wt%**" is also supported by the application as filed.

While claim 2 of the application as filed contains the feature "decaline solubles not more than 1.6 wt%", the application as filed discloses on page 3, lines 12 to 14, the preferred range for decaline solubles as not more than 1.3 wt%, which is the first level of preference of the converging preferred ranges disclosed for the decaline solubles in the application as filed. Limiting the decaline solubles from the broadest range ("not more than 1.6 wt%") to the (first) preferred range of not more than 1.3 wt% is considered to be disclosed in the application as filed.

While claim 3 of the application as filed contains the feature "xylene solubles not more than 2 wt%" (broadest definition of xylene solubles), the relevant passage on page 3, lines 20 to 24, of the application as filed reads as follows:

"Moreover, it is preferred that the propylene polymer has xylene solubles not more than **2 wt%**, preferably not more than **1.5 wt%**. For other embodiments, the XS of the present propylene polymer may be even as low as **1.4 wt%** or lower, still more preferably not more than **1.3 wt%**, or even not more than **1 wt%**." (Underline and bold text added for emphasis.)

The ranges of xylene solubles given in the relevant passage above are defined from the broadest range "not more than 2 wt%", converging to preferred ranges and even more preferred ranges, all being within the broadest range.

While one could formally argue that "not more than 1.4 wt%" might be the second of four converging preferred ranges disclosed for xylene solubles (i.e. a different level of preference compared to the decaline solubles range introduced into claim 1), the board is of the opinion that it rather qualifies as the first level of preference compared to the broadest range disclosed in the application as filed. The board is of the opinion that a skilled person would derive from the disclosure "... preferably not more than 1.5 wt%. For other embodiments, the XS of the present propylene polymer may be even as low as 1.4 wt% or lower" of the relevant text passage that both ranges ("not more than 1.5 wt%" and "1.4 wt% or less") represent the same level of preference, i.e. represent alternatives of a first level of preference, without a particular preference of one over the other, considering also that the range of "not more than 1.3 wt%" is said to be "more preferable", i.e. relating to a second level of preference. In this context, it is also noted that "1.4 wt% or lower" (as explicitly mentioned in the description) has the identical meaning as "not more than 1.4 wt%" (as introduced into claim 1).

1.2.3 Despite the introductory phrase "For other embodiments...", the feature "the XS of the present propylene polymer may be even as low as 1.4 wt% or lower" does not refer to different working examples, i.e. different sets of distinct combinations of features. Instead, this feature relates to a general disclosure (see also T 524/17, reasons 1.1 and 1.2) with regard to a preferred range of xylene solubles of the propylene polymer.

1.2.4 In view of the above, the limiting of the decaline solubles and, at the same time, the xylene solubles to

the preferred ranges given in claim 1 of the main request is unambiguously disclosed in the application as filed. Inserting these features into claim 1 does not amount to selecting features from different lists of several non-converging alternatives. The board is thus of the opinion that the combination of features of claim 1 does not lead to an undisclosed, new combination of features.

- 1.2.5 In this context, the board is of the opinion that example 1 is a pointer to this limitation. It is true that example 1 of the application as filed cannot form the general basis for the subject-matter of claim 1, because it relates to a propylene polymer as such rather than to a film, and the specific values for each individual parameter defined in example 1 cannot be generalised to form a basis for the numerical ranges covered by claim 1. However, example 1 is still a pointer to a propylene polymer as required in claim 1 because, although it does not relate to a film, it fulfils all the features required in claim 1 of the main request.

In view of the above and contrary to the opposition division's finding, the board is of the opinion that there is a pointer in the application as filed to the combination of features required in claim 1 of the main request.

- 1.2.6 The temperature conditions for measuring the decaline solubles and xylene solubles "at 25°C", which are inserted twice into claim 1 of the main request, are disclosed on page 18, lines 10 to 15 (for xylene solubles), and on page 18, lines 21 to 26 (for decaline solubles), of the application as filed.

In view of the above, the combination of features contained in claim 1 is directly and unambiguously derivable from the application as filed, and the subject-matter of claim 1 of the main request thus meets the requirement of Article 123(2) EPC.

2. Inventive step

2.1 The opposition division decided that the film according to claim 1 of the main request lacks an inventive step in view of D6 as the closest prior art in combination with D2a, D2b, D2c, D3a, D3b and D3c.

2.2 For the following reasons, the board does not agree.

2.2.1 The opposition division agreed with the parties that D6 is the closest prior-art document and found that the film according to claim 1 of the main request differed from D6 in the following features:

- (i) the decaline solubles,
- (ii) the xylene solubles,
- (iii) the MFR₂ range,
- (iv) the polydispersity index (PI), and
- (v) the isotactic sequence length.

2.2.2 The opposition division considered the technical effect resulting from these features to be a film having improved stiffness and, at the same time, better processability. As the board sees no reason to disagree, the objective technical problem to be solved is the provision of a propylene polymer film having improved stiffness and, at the same time, better processability.

2.2.3 With regard to the question of obviousness, the opposition division considered as follows:

"Although in D2, D3 there is no hint to films, the polymers in D2 and D3 were known in the art and available on the market. The skilled person, trying to achieve films with improved stiffness and at the same time better processability (two properties which are known to be related to isotacticity/crystallinity on one hand and MWD/MFR₂ on the other), would have found in D2 and D3 the most convenient PP in terms of isotacticity/crystallinity and MWD/MFR₂ to solve the problem. The skilled person would thus just need to buy Borclean™ HB300BF and to prepare films thereof in a conventional manner to arrive at the subject-matter of claim 1."

The board is not convinced by this reasoning.

2.2.4 Firstly, the board notes that none of the documents D2a, D2b, D2c, D3a, D3b or D3c mentions that the propylene polymer "HBF300BF" described in them is particularly suited for films. The combination of these documents demonstrates at best that a propylene polymer existed which had certain properties, such as melt flow rate, decaline solubles, polydispersity, etc.

2.2.5 Secondly and more importantly, none of the documents mentioned above in point 2.2.4 contains any information concerning how to achieve an improved stiffness, while at the same time obtaining better processability. The board is of the opinion that the opposition division's finding that the skilled person would have found in D2a, D2b, D2c, D3a, D3b and D3c the most convenient propylene polymer in terms of isotacticity, crystallinity, molecular weight distribution (MWD) and

melt flow rate (MFR₂) to solve the objective technical problem is not supported by any evidence. Indeed, no evidence is provided by reference to a further document or by explaining why this might represent the common general knowledge of the skilled person. As outlined above in point 2.2.4, documents D2a, D2b, D2c, D3a, D3b and D3c show at best that the propylene polymer "HBF300BF" existed at the relevant point in time. However, these documents do not contain any information concerning the intended use of "HBF300BF" or the desirable properties which might be achieved when using it for a particular purpose.

In view of the above, the board shares the appellant's view that the opposition division's reasoning with regard to inventive step is based on hindsight.

There is no hint in the closest prior-art document D6 or in any of the documents D2a, D2b, D2c, D3a, D3b or D3c that the objective technical problem might be solved when using a propylene polymer having the combination of features required in claim 1 of the main request.

The subject-matter of claim 1 of the main request thus involves an inventive step in view of D6 as the closest prior art. The same applies to dependent claims 2 to 18 of the main request.

2.3 Adapted description

The board has no objection to the adaptation of the description.

3. Since the main request is allowable, there is no need to deal with the 1st to 3rd auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent as amended in the following version:

Description:

Pages 2 to 12 filed with the letter of 21 May 2021

Claims:

No. 1 to 18 according to the main request filed with the statement of grounds of appeal

Drawings:

Sheets 1/3 to 3/3 of the patent specification

The Registrar:

The Chairman:



A. Nielsen-Hannerup

A. Haderlein

Decision electronically authenticated