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**Datasheet for the decision  
of 20 August 2018**

**Case Number:** T 0021/14 - 3.2.05

**Application Number:** 07024555.0

**Publication Number:** 2072203

**IPC:** B29B9/16, B29C71/00, C08F6/00

**Language of the proceedings:** EN

**Title of invention:**  
Removing volatile compounds from polymer pellets

**Patent Proprietor:**  
Borealis Technology Oy

**Opponent:**  
Ineos Europe AG

**Headword:**

**Relevant legal provisions:**  
RPBA Art. 13(1)  
EPC Art. 84, 123(2)

**Keyword:**

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 0021/14 - 3.2.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 20 August 2018**

**Appellant:** Borealis Technology Oy  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 28 October 2013  
revoking European patent No. 2072203 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** M. Poock  
**Members:** P. Lanz  
J. Geschwind

## **Summary of Facts and Submissions**

- I. The appeal by the patent proprietor is against the decision of the opposition division to revoke European patent EP-B-2 072 203.
- II. During the opposition proceedings, the opponent had raised the grounds for opposition specified in Article 100(a) EPC (lack of novelty, lack of inventive step).
- III. The appellant (patent proprietor) requests that the decision under appeal be set aside and that the patent be maintained on the basis of the claims according to New Main Request B, or in the alternative, on the basis of any of the New Main Request, New Main Request A, New Auxiliary requests 1, 1A and 1B, all filed under the cover of a letter dated 21 June 2018. As an auxiliary measure, oral proceedings are requested.
- IV. The respondent (opponent) requests that the appeal be dismissed. Oral proceedings are requested on an auxiliary basis.
- V. In its letter dated 6 June 2018 the respondent announced that it intended not to attend the oral proceedings.
- VI. The independent claims of New Main Request B have the following wording:  
  
"1. Process for the treatment of plastic material comprising  
(a) providing a liquid and further obtaining pellets in an underwater cutter, wherein the underwater cutter comprises a pelletizer adjacent to an extruder;

(b) contacting the plastic material in the form of pellets with the liquid, thereby providing a slurry;

(c) providing a treatment tank comprising an overhead compartment;

(d) keeping the plastic material for 15 minutes to 6 hours in the liquid at  $T_b - 25\text{ }^\circ\text{C}$  to  $T_b$  of the liquid, wherein  $T_b$  is the boiling point of the liquid at the applied pressure;

(e) injecting a gas stream into the overhead compartment of the treatment tank or directly into the slurry, whereby the gas stream is an air stream or an inert gas stream;

(f) removing the plastic material from the liquid; and

(g) finally drying the plastic material;

wherein the liquid is selected from water, ethanol, propanol, isopropanol, butanol and mixtures thereof and wherein the plastic material is a polyolefin, and wherein the pellets obtained in the underwater cutter remain in the same liquid from the extruder to the final drying step."

"5. Plant for removing volatile components from plastic material comprising

(a) an extruder (101) for extruding olefin polymers;

(b) an underwater cutter comprising a pelletiser (102) adjacent to extruder (101);

(c) a treatment tank (103) or a group of treatment tanks comprising an overhead compartment for degassing of the polymer and means for injection of an air or inert gas stream into the overhead compartment or directly into the slurry;

(d) a liquid tank (105) or a group of liquid tanks;

(e) a conduit (106) or a group of conduits for transporting the pellet slurry, obtained from pelletiser (102) to treatment tank (103) or to the group of treatment tanks;

(f) a conduit (107) or a group of conduits for connecting the liquid tank (105) or the group of liquid tanks with pelletiser (102)

(g) pumping means (108) for establishing a liquid flow along conduit (107) or the group of conduits mentioned under (f) above;

(h) a conduit (109) or a group of conduits for connecting the liquid tank (105) or the group of liquid tanks with the treatment tank (103) or the group of treatment tanks;

(i) pumping means (110) for establishing a liquid flow along the conduit (109) or the group of conduits mentioned under (h) above,

(j) a conduit (111) or a group of conduits for the withdrawal of the pellet slurry from the treatment tank (103) or from each of the group of treatment tanks and

(k) a conduit (112) or a group of conduits for feeding liquid from a liquid source into the liquid tank (105) or the group of liquid tanks."

VII. The arguments presented by the appellant are essentially as follows:

*Added subject-matter*

Steps (c), (e) and (g), which were added to granted claim 1, were based on the application as filed, in particular on page 2, lines 11 to 15, page 3, lines 17 to 25, page 5, lines 4 to 5, page 7, lines 20 to 25, and page 8, lines 11 to 21. The disclosure on page 8, lines 11 to 13, literally related to the process as such. From the wording of said passage, it became apparent that the claimed process required the presence of at least one treatment tank. Moreover, the feature of the treatment tank was not inextricably linked with the other equipment features of the plant and was

defined as any vessel suitable for the treatment of plastic material with a liquid. Hence, the inclusion of step (c) into claim 1 of New Main Request B was in line with the requirements of Article 123(2) EPC. The same was true for step (g). The disclosure on page 9, lines 15 to 16, of the original description stated that the plastic material was dried and/or treated by inert gas at temperatures above room temperature after removal of the liquid. Hence, the specification as originally filed provided a clear and unambiguous support for a process encompassing a final drying step after the removal of the plastic material from the liquid in preceding step (f).

*Clarity*

A skilled person would understand from step (f) that plastic material in the form of pellets was taken out of the pellet slurry by the means of sieves, elevators and the like resulting in wet plastic material. Thus, some residual liquid would still be present on the surface of the pellets; a drying step was not excluded. The step of removing the plastic material from the liquid would not be understood as a 100% separation of the liquid and the pellets. Steps (f) and (g) of claim 1 did therefore not cause a lack of clarity.

VIII. The respondent's submissions can be summarised as follows:

*Added subject-matter*

The opposed patent as granted claimed a process and had two independent apparatus claims. These different independent claims included significantly different features, and it was impermissible to combine the

features of these without a clear basis. Page 2, line 15, of the application as filed was given as a basis for the inclusion of "a treatment tank" in process claim 1. However, this passage related to the plant claim and not to the process. Further, this feature was explicitly found in conjunction with a number of other apparatus features of said plant. It was thus impermissible to extract this feature from the description of one of the apparatus embodiments in the original application for use in a process claim. Further, extracting this element in the absence of the other features listed on original page 2 was clearly an unallowable intermediate generalisation.

Furthermore, the claim defined a combination of features, namely a removal step and a separate subsequent "final" drying step (cf. steps (f) and (g) of claim 1), which was not found in the application as filed. This created an intermediate generalisation because the requirement for the "same liquid" in the alleged basis on page 3, lines 19 to 21, was not present in claim 1 as amended.

#### *Clarity*

Step (g) "*finally drying the plastic material*" in claim 1 was defined as a separate and subsequent step to "*removing the plastic material from the liquid*". This gave rise to a lack of clarity as to the presence of the liquid in the last process step (g).



## **Reasons for the Decision**

### 1. *Decision by written procedure*

In accordance with the established case law (see Case Law of the Boards of Appeal of the European Patent Office, 8th edition 2016, III.C.2.3.1), the board considers the respondent's declaration not to attend the scheduled oral proceedings before the board of appeal as equivalent to a withdrawal of its auxiliary request for oral proceedings.

Consequently, the board is in a position to decide on the merits of the present case by written procedure.

### 2. *Admissibility of New Main Request B*

2.1 The admissibility of submissions filed at the appeal stage is governed by the Rules of Procedure of the Boards of Appeal (RPBA). These provisions distinguish between, on the one hand, submissions filed for the first time at the outset of the appeal proceedings in the statement of grounds of appeal and the respondent's reply to the appeal (cf. Article 12(1), (2) and (4) RPBA) and, on the other hand, amendments to a party's appeal case filed at a later stage (cf. Article 13(1) and (3) RPBA).

2.2 New Main Request B was filed after the respondent's reply and therefore constitutes an amendment to the appellant's case, the admissibility of which has to be judged on the basis of Article 13(1) RPBA. Following this provision, the admission of an amendment to a party's case is at the board's discretion.

In the case at hand, it is noted that New Main Request B was filed in reaction to the respondent's objection that the amendments in the former main request and auxiliary request 1 introduced a lack of clarity and added subject-matter. The filing of New Main Request B is therefore to be considered a legitimate reaction to arguments raised in the respondent's reply to the appeal. Based on these considerations, New Main Request B is admitted into the proceedings under Article 13(1) RPBA.

3. *Disputed issues*

The only issues disputed between the parties regarding New Main Request B are those of added-subject matter in, and clarity of, claim 1. In particular, novelty and inventive step are uncontested. Hence, the present decision on New Main Request B is confined to the issues of added-subject matter and clarity regarding the wording of claim 1.

4. *Added subject-matter*

4.1 The board first observes that the application underlying the opposed patent generally aims at a process that allows a simplified and effective removal of volatile components with low energy consumption, and at a plant for carrying out such a process (application as filed, page 1, last paragraph).

4.2 Concerning a detailed basis in the application as filed for the provision of a treatment tank in the process of claim 1 according to contested feature (c), reference is made to page 8, lines 11 or 13:

*"Preferably the process according to the present invention can be combined with the injection of an air stream or an inert gas stream into the overhead compartment of the treatment tank or directly into the slurry."*

In view of this statement explicitly combining the plant's treatment tank of original claim 10 with the process of claim 1, the board concludes that contested feature (c) is in line with the requirements of Article 123(2) EPC.

- 4.3 As to the further objection of added subject-matter allegedly caused by a combination of features (f) and (g), the board refers to page 9, lines 15 and 16:

*"Preferably the plastic material is dried and/or treated by inert gas at temperatures above room temperature after removal of the liquid."*

The cited passage of the application as filed provides an unambiguous basis for the combination of steps (f) and (g) in present claim 1, which is thus in accordance with the provisions of Article 123(2) EPC.

5. *Clarity*

- 5.1 Regarding the issue of clarity, the respondent argues that step (g) is unclear as to the presence of liquid in the material during this process step.
- 5.2 From a formal point of view, reference is made to decision G 3/14 (OJ EPO 2015, A102) according to which amended claims of a patent may be examined for compliance with the requirements of Article 84 EPC only

when, and then only to the extent that, the amendment introduces lack of clarity.

The board observes that this condition is met since drying step (g) was not present in claim 1 as granted but added to this claim during subsequent proceedings. The board is therefore in a position to examine whether the amendment introduces a lack of clarity, as alleged by the respondent.

- 5.3 As to the substance, the board refers to step (f), which defines that the plastic material, which is present in the liquid in the form of a pellet slurry, is removed from the liquid. The claim wording encompasses the possibility that the plastic pellets are still wet after having been removed for the liquid. When read in this context, subsequent step (g) of drying the plastic is not in contradiction with step (f) or unclear as to the presence of water.

Consequently, the post-grant addition of step (g) to process claim 1 does not introduce a lack of clarity (Article 84 EPC).

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent with the following claims and a description and drawings to be adapted thereto:

Claims 1 to 14 according to New Main Request B filed with the letter of 21 June 2018.

The Registrar:

The Chairman:



L. Malécot-Grob

M. Poock

Decision electronically authenticated