

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 11 July 2023**

Case Number: T 1709/20 - 3.3.03

Application Number: 13004878.8

Publication Number: 2860202

IPC: C08F2/00, C08L23/06, F16L9/12,
F16L9/127

Language of the proceedings: EN

Title of invention:

High temperature resistant polyethylene and process for the
production thereof

Patent Proprietor:

Borealis AG

Opponents:

Chevron Phillips Chemical Company LP
INEOS Europe AG

Relevant legal provisions:

EPC Art. 100(c), 111(1)
RPBA 2020 Art. 12(4), 13(2)

Keyword:

Grounds for opposition - subject-matter extends beyond content of earlier application (yes)

Admittance of documents and auxiliary requests

Amendment after summons - exceptional circumstances (yes)

Appeal decision - remittal to the department of first instance (yes)

Decisions cited:

G 0002/10, T 2920/18, T 2295/19, T 0732/21



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1709/20 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 11 July 2023

Appellant I: Chevron Phillips Chemical Company LP
(Opponent 1) 10001 Six Pines Drive
The Woodlands, Texas 77380 (US)

Representative: Potter Clarkson
Chapel Quarter
Mount Street
Nottingham NG1 6HQ (GB)

Appellant II: INEOS Europe AG
(Opponent 2) Avenue des Uttins 3
Rolle
CH-1180 Vaud (CH)

Representative: Smith, Julian Philip Howard
Mathisen & Macara LLP
Charta House
30-38 Church Street
Staines-upon-Thames, Middlesex TW18 4EP (GB)

Respondent: Borealis AG
(Patent Proprietor) Trabrennstrasse 6-8
1020 Vienna (AT)

Representative: Kador & Partner Part mbB
Corneliusstraße 15
80469 München (DE)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 30 June 2020 rejecting the opposition filed against European patent No. 2860202 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman D. Semino
Members: D. Marquis
 R. Cramer

Summary of Facts and Submissions

I. The appeal lies against the decision of the opposition division rejecting the oppositions against European patent No. 2 860 202.

II. Claims 1 and 9-12 as granted read as follows:

"1. A polyethylene composition comprising a base resin having a density of more than 952.0 kg/m^3 and equal to or less than 957.0 kg/m^3 , determined according to ISO 1183-1:2004, and a content of units derived from 1-hexene of 0.45 to 0.95 wt.-%, wherein the composition has a melt flow rate MFR_5 (190°C , 5 kg) of 0.12 to 0.21 g/10min, determined according to ISO 1133 and the composition and/or base resin has a polydispersity index PI within the range of equal to or higher than 3.5 Pa^{-1} and equal to or less than 4.9 Pa^{-1} ".

"9. A polyethylene composition obtainable by a multistage process, the multistage process comprising

a) polymerizing ethylene in the presence of

(i) a silica supported Ziegler Natta catalyst having a molar composition of the catalyst including

Al 1.30 to 1.65 mol/kg silica,

Mg 1.25 to 1.61 mol/kg silica,

Ti 0.70 to 0.90 mol/kg silica,

and having a mean particle size (D50) of 7 to 15 μm ,

(ii) in a loop reactor in the presence of

- an alkyl aluminium compound and a chain transfer agent for obtaining an intermediate material, the intermediate material having a melt flow rate MFR_2 (190°C, 2.16 kg) of 380 to 600 g/10min; and
- b) transferring the intermediate material to a gas phase reactor
- (i) feeding ethylene and 1-hexene to the gas phase reactor
 - (ii) further polymerizing the intermediate material to obtain a base resin having a density of more than 951 kg/m³ and equal to or less than 957 kg/m³, determined according to ISO 1183-1:2004, and having a content of units derived from 1-hexene of 0.45 to 0.95 wt.-%
- c) extruding the base resin into a polyethylene composition having a melt flow rate MFR_5 (190°C, 5 kg) of 0.12 to 0.21 g/10 min, determined according to ISO 1133 and a base resin having a polydispersity index PI within the range of equal to or higher than 3.5 Pa⁻¹ and equal to or less than 4.9 Pa⁻¹ in the presence of stabilizers and carbon black".

"10. An article comprising the polyethylene composition according to any of claims 1 to 9".

"11. The article according to claim 10 being a pipe or pipe fitting".

"12. The pipe according to claim 11 having a slow crack growth resistance in the Notched Pipe Test of at least 2300 h, determined according to ISO 13479 at a pressure of 9.2 bar and 80°C".

III. The decision under appeal was based, *inter alia*, on the following documents:

D1: EP 2 599 828 A1

D6: EP 1 460 105 A1

IV. In their decision, the opposition division decided that claim 9 as granted found a basis in the application as filed. The subject-matter of granted claims 1 and 12 was also sufficiently disclosed. The subject-matter of granted claims 1-14 was novel over D1 and D6 and involved an inventive step starting from either D1 or D6 as the document representing the closest prior art.

V. Opponent 1 (appellant I) and opponent 2 (appellant II) lodged an appeal against the decision of the opposition division.

VI. Appellant I filed document D15 with their statement of grounds of appeal as follows:

D15: John Scheirs, Ludwig L. Böhm, Jesse C. Boot, Pat S. Leever, PE100 Resins for Pipe Applications: - Continuing the Development into the 21st Century, Trends in Polymer Science, 1996, vol. 4, 12, pages 408-415

VII. Appellant II filed document D16 (EP 0 688 794 A1) with their statement of grounds of appeal.

VIII. The respondent filed with their rejoinder eight sets of claims as 1st to 8th auxiliary requests together with the following documents:

D17: Handbook of Polyethylene Structures, Properties, and Applications, Edited By Andrew Peacock, Marcel

Dekker, Inc., 2000, page 60

D18: WO 00/34341

- IX. The parties were summoned to oral proceedings with notification of 13 December 2022.
- X. Appellant II filed document D19 with their letter of 18 January 2023.

D19: Notice of opposition dated 26 October 2022 in case EP 3 794 071 B, pages 1, 2 and 17-20

- XI. The respondent submitted auxiliary requests A, 1A, 2A, 3A and 4A with their letter of 30 May 2023.
- XII. Appellant I filed D20 (Affidavit of Mr. Albrecht signed 25 October 2022) with their letter of 3 July 2023.
- XIII. Oral proceedings took place on 11 July 2023 in the presence of all the parties by videoconference.
- XIV. The final requests of the parties were as follows:

- The appellants requested that the decision under appeal be set aside and that the patent be revoked.
- The respondent requested that the appeals be dismissed, or that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims of any of the following auxiliary requests: auxiliary request A, the 1st auxiliary request, auxiliary request 1A, the 2nd auxiliary request, auxiliary request 2A, the 3rd auxiliary request, auxiliary request 3A, the 4th auxiliary request, auxiliary request 4A or the 5th to the 8th auxiliary requests, whereby the 1st to

8th auxiliary requests were filed with the rejoinder to the statements of grounds of appeal, and auxiliary requests A, 1A, 2A, 3A and 4A were filed with letter of 30 May 2023, or that the case be remitted to the opposition division for further prosecution.

XV. The claims of auxiliary request A corresponded to the claims as granted with the deletion of product-by-process claim 9 and the renumbering of the subsequent claims. The claims of auxiliary requests 1A to 4A corresponded to the claims of the 1st to 4th auxiliary requests with the deletion of the corresponding product-by-process claim and the renumbering of the subsequent claims.

XVI. The appellants' arguments, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. They are essentially as follows:

Added-matter

- Claim 9 was defined by a combination of ranges that were not disclosed in combination in the application as filed.

Admittance of auxiliary requests A and 1A-4A

- Auxiliary requests A and 1A-4A were filed late in appeal and should not be admitted into the proceedings.

Admittance of D15-D20 and of the objection of lack of novelty based on example 1 of D6

- D15 and D16 were filed in reply to the decision of the opposition division and should be admitted into the proceedings. The admittance of D17 and D18 was not opposed to. D19 and D20 should also be admitted into the proceedings as D19 was only made available to the public at a late stage of the appeal proceedings. Furthermore, the objection of lack of novelty of operative claim 1 in view of example 1 of D6 should be admitted into the proceedings.

Remittal

- The case should not be remitted to the opposition division.

XVII. The respondent's arguments, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. They are essentially as follows:

Added-matter

- Claim 9 was defined by a combination of ranges that found a basis in the application as filed.

Admittance of auxiliary requests A and 1A-4A

- Auxiliary requests A and 1A-4A were filed in reaction to the preliminary opinion of the Board and should therefore be admitted into the proceedings.

Admittance of D15-D20 and of the objection of lack of novelty based on example 1 of D6

- D15 and D16 should not be admitted into the proceedings. D17 and D18 were filed in reaction to a new line of argumentation of the appellants in appeal and should therefore be admitted. D19 and D20 should not be admitted into the proceedings as D19 was only made available to the public at a late stage of the appeal proceedings. Furthermore, the objection of lack of novelty of operative claim 1 in view of example 1 of D6 should not be admitted into the proceedings.

Remittal

- If D19 and D20 together with the objection of lack of novelty based on Example 1 of D6 were admitted into the proceedings, the case should be remitted to the opposition division for further prosecution.

Reasons for the Decision

Main request (claims as granted)

1. Added-matter
 - 1.1 Granted claim 9 pertains to a polyethylene composition defined by its preparation process. That process involves the preparation of a base resin having, among other features, "a density of more than 951 kg/m^3 and equal to or less than 957 kg/m^3 , determined according to ISO 1183-1:2004," and "a content of units derived from 1-hexene of 0.45 to 0.95 wt.-%". The respondent argued that granted claim 9 found a basis in claim 10 as originally filed and the passage on page 8, lines 7-11 of the description.

- 1.2 Claim 10 as originally filed essentially corresponds to granted claim 9 without the limitation of the comonomer to units derived from 1-hexene in an amount of 0.45 to 0.95 wt.-%.
- 1.3 Page 8, item "g. C6 (content)" of the application as filed cited as a basis for the content in 1-hexene in the base resin discloses that "The base resin according to the present invention preferably has a content of units derived from 1-hexene of 0.45 to 0.95 wt.-%". That definition of the comonomer is part of a broader passage starting on page 6 which defines the parameters of the base resin and includes as the first parameter the information that "The base resin according to the present invention has a density of more than **952.0** kg/m³ and equal to or less than 957.0 kg/m³, preferably of more than 952.2 kg/m³ and equal to or less than 956.0 kg/m³, more preferably of more than 952.5 kg/m³ and equal to or less than 955.0 kg/m³ and most preferably of more than 953.0 kg/m³ and equal to or less than 954.0 kg/m³ determined according to ISO 1183-1 : 2004." (emphasis added, item "a. Density (base resin)"). The density range in claim 9 as granted (more than 951 kg/m³ and equal to or less than 957 kg/m³) is, however, not present in that general part of the description.
- 1.4 The Board does not find in the application as filed a basis for the combination of the range of 1-hexene content as defined on page 8 of the original description with the range of density disclosed in claim 10 as originally filed. This conclusion is reached by applying "gold standard" (G 2/10, OJ 2012, 376) for assessing compliance with Article 123(2) EPC which is the following: any amendment to the parts of a European patent application or of a European patent

relating to the disclosure (the description, claims and drawings) is subject to the mandatory prohibition on extension laid down in Article 123(2) EPC and can therefore, irrespective of the context of the amendment made, only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed (Case Law of the Boards of Appeal, 10th Edition 2022, II.E.1.1).

1.5 It is apparent that the ranges of density and 1-hexene content defined in items "a. Density (base resin)" and "g. C6 (content)" on pages 6 and 8 of the original description can be read in combination because they refer the base resin "of the present invention" that is disclosed in the same part of the application as filed. Thus the description as originally filed provides a basis for a combination of 1-hexene content of 0.45 to 0.95 wt.-% and a density of more than **952.0** kg/m³ and equal to or less than 957.0 kg/m³. There is, however, no direct and unambiguous disclosure of the broader density range of more than **951.0** kg/m³ and equal to or less than 957.0 kg/m³ in the description as filed. Even the passage bridging pages 3 and 4 of the description which discloses a polyethylene composition obtainable by a multistage process analogous to that of claim 10 only defines the density of the base resin in the range of more than **952.0** kg/m³ and equal to or less than 957.0 kg/m³.

1.6 The Board therefore concludes that granted claim 9 does not find a basis in the application as filed. The ground for opposition under Article 100(c) EPC thus prejudices the maintenance of the patent in suit as

granted.

2. Admittance of auxiliary requests A and 1A-4A

2.1 Auxiliary requests A and 1A-4A were submitted by the respondent with their letter of 30 May 2023. Auxiliary request A corresponds to the main request from which independent claim 9 was deleted and the subsequent claims renumbered and their back references adapted accordingly. Auxiliary requests 1A-4A correspond to the first to fourth auxiliary requests that were filed with the statement of grounds of appeal for which the claim corresponding to granted claim 9 (claim 9 in the first auxiliary request and claim 8 in the second to fourth auxiliary requests) was deleted.

2.2 Auxiliary requests A and 1A-4A are amendments to the respondent's case that were submitted in appeal after issuance of a summons to oral proceedings and of the Board's communication containing a preliminary opinion on the present case. The admittance of these amendments into the proceedings is subject to the provisions of Article 13(2) RPBA 2020, which foresees that amendments made after notification of the summons shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

2.3 Auxiliary requests A and 1A-4A were provided in reaction to the ground for opposition under Article 100(c) EPC against granted claim 9 that was part of the appeal proceedings. There is no doubt that the amendment made in auxiliary requests A and 1A-4A (the deletion of the claim corresponding to granted claim 9) resolves the issue raised under Article 100(c) EPC without raising any new one. It is also not

disputed that these requests do not alter the factual or legal framework of the proceedings and that their analysis does not involve a need to re-weigh in any way the subject of the proceedings. They are, therefore, not detrimental to the procedural economy or the legitimate interests of the other parties. As the purpose of the rules of procedure is not, in itself, the refusal to consider late requests, but rather the defence of the parties' rights to a fair hearing within a reasonable time (T 0732/21, point 14 of the Reasons), the Board fully endorsing the approach in T 2920/18 (points 3.10 to 3.15 of the Reasons) and T 2295/19 (points 3.4.9 to 3.4.14 of the Reasons) acknowledges the presence of "exceptional circumstances" within the meaning of Article 13(2) RPBA 2020 which justify the admittance of auxiliary requests A and 1A-4A into the appeal proceedings.

- 2.4 The Board therefore finds it appropriate to exercise its discretion according to Article 13(2) RPBA 2020 by admitting auxiliary requests A and 1A-4A filed with letter of 30 May 2023 into the proceedings.
3. Admittance of D15-D20 and of the objection of lack of novelty based on example 1 of D6
 - 3.1 D15 is an academic publication concerning polyethylene resins for pipe applications cited in the discussion of inventive step starting from D6 as the closest prior art to provide evidence on the factors influencing slow crack propagation, in particular its comonomer content (section 5.4 of the statement of grounds of appeal of appellant I).
 - 3.2 D16 is a patent document mentioned in D6 and in the patent in suit. D16 is cited in the discussion on

inventive step to show that the same catalysts could be used in the production of polyethylene compositions cited in D6 and in the patent in suit (pages 6 and 7 of the statement of grounds of appeal of appellant II).

- 3.3 Both D15 and D16 were filed with the statements of grounds of appeal in reaction to points made in the decision of the opposition division (discussion of the slow crack propagation in the last paragraph of page 16 and the role of the catalyst in the second paragraph of page 17) and are cited to address specific arguments that had not been explicitly discussed in the written phase of the opposition procedure. They can therefore be considered as a legitimate reaction to the decision of the opposition division.
- 3.4 D17 and D18 are documents submitted by the respondent with the rejoinder to the statements of grounds of appeal of the appellants in direct reaction to the discussion of D15 and D16 by the appellants. They can therefore be considered as a legitimate reaction to the new submissions of the appellants.
- 3.5 In view of this, the Board finds it appropriate to exercise its discretion under Article 12(4) RPBA 2020 by admitting D15 to D18 into the proceedings.
- 3.6 D19 is a notice of opposition filed by the respondent on 26 October 2022 against European patent No. 3 794 071. D20 is an affidavit of Mr. Albrecht referred to as D13 in D19 and discussed in section 40 on page 18 of that document. Both D19 and D20 were cited in support of novelty objections based on examples 1 and 3 of D6 against granted claim 1.

- 3.7 D19 and D20 were filed with letter of appellant II of 18 January 2023 and with letter of appellant I of 3 July 2023, respectively. On this basis, they constitute an amendment to the appellants' case filed after the summons to oral proceedings. The conditions of Article 13(2) RPBA 2020 therefore apply (see point 2.2, above).
- 3.8 D19 was filed by appellant II within a reasonably short time after it became available to the public on 26 October 2022. D20 was filed by appellant I at a later point in time only to confirm the information that was already made available with the filing of D19. In view of these circumstances, both D19 and D20 can be seen as having been filed in appeal shortly after they became available to the appellants.
- 3.9 D19 is meant to show the amount of 1-hexene in the base resin disclosed in example 1 of D6. That is also held to be relevant for the novelty objection over example 3 in D6. D20 is the source of the data reported and discussed in D19. D19 and D20 are prima facie particularly relevant to the question of novelty as they contain data released by the respondent about a base resin of D6 (D6 is a patent application of the respondent).
- 3.10 The novelty objection based on D6 was firstly raised by appellant II with their notice of opposition (D6 was referred to as D1 therein). The objection was discussed in the written phase of the opposition proceedings and was also addressed by the opposition division at the oral proceedings. The 1-hexene content of the base resin in the compositions of D6 was the reason why the opposition division concluded that granted claim 1 was novel over that document (section 4.2.2). Therefore,

the novelty objection over D6 is not new to the opposition proceedings and D19 and D20 are documents provided in support of a central point of the novelty objection already discussed in the decision under appeal.

- 3.11 The Board finds that the filing of D19 and D20 shortly after they were made available, the prima facie relevance of these documents to the central point of the question of novelty already raised in opposition, and the fact that they originate from the respondent, are exceptional circumstances that justify the admittance of D19 and D20 into the appeal proceedings. Documents D19 and D20 are therefore taken into account under Article 13(2) RPBA 2020.
- 3.12 The respondent also contested the admittance of the novelty objection over D6 based on its example 1. The objection of lack of novelty over D6 was indeed originally raised in view of example 3 (notice of opposition of opponent 2, pages 1-3 and impugned decision, page 10) and the objection based on example 1 was firstly raised in the letter of appellant I dated 3 July 2023.
- 3.13 The objection of lack of novelty raised in view of example 1 of D6 in appeal is, however, essentially the same as the objection raised from example 3, the critical question being whether the amount in 1-hexene in the base resin disclosed in example 1 or 3 of D6 is according to granted claim 1. Since D19 and D20 disclose the amount of 1-hexene of the base resin of example 1 of D6 only (0.6 wt.-% on page 19 of D19 or on line 9 of the second page of D20), an amount that can immediately be seen as being according to granted claim 1 (0.45-0.95 wt.-%), the Board finds that the objection

based on example 1, which would be central to the novelty of operative claim 1, can not be reasonably ignored while a novelty objection based on D6 was already in the proceedings and after documents D19 and D20 have been admitted. The Board therefore considers the present situation as an exceptional circumstance and admits the objection of lack of novelty in view of example 1 of D6 into the proceedings (Article 13(2) RPBA 2020).

4. Remittal

4.1 The respondent requested the remittal of the case to the opposition division in order to be able to adequately react to the new objection of lack of novelty of operative claim 1 in view of example 1 of D6, and consider any consequential and necessary amendments. The appellants objected to the remittal of the case to the opposition division.

4.2 The Board finds that the late introduction of D19 and D20 into the appeal proceedings and the consideration of example 1 of D6 for novelty puts the respondent in a new situation in which they have to consider an issue in appeal based on new evidence that necessitates a new assessment of the question of novelty and possibly inventive step of operative claim 1. Moreover, such a new assessment in the light of new evidence results in a fresh case on which a decision could not be previously taken by the opposition division. In view of this, the Board considers that special reasons under Article 11 RPBA 2020 are present and finds it appropriate to remit the case to the opposition division for further prosecution (Article 111(1) EPC).

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 for further prosecution.

The Registrar:

The Chairman:



A. Pinna

D. Semino

Decision electronically authenticated