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**Datasheet for the decision
of 15 October 2025**

Case Number: T 1002/22 - 3.3.03

Application Number: 15719698.1

Publication Number: 3140329

IPC: C08F110/06, C08F210/06,
C08F4/657

Language of the proceedings: EN

Title of invention:
RANDOM PROPYLENE-ETHYLENE COPOLYMERS

Patent Proprietor:
Basell Poliolefine Italia S.r.l.

Opponent:
W.R. Grace & Co.-Conn.

Relevant legal provisions:
EPC Art. 54, 56, 87(1)
RPBA 2020 Art. 12(4), 12(6)

Keyword:
Late-filed evidence - admitted (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

G 0002/98, G 0001/23



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Case Number: T 1002/22 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 15 October 2025

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
22 March 2022 concerning maintenance of the
European Patent No. 3140329 in amended form.**

Composition of the Board:

Chairman D. Marquis
Members: O. Dury
L. Basterreix

Summary of Facts and Submissions

I. The appeal of the opponent lies from the interlocutory decision of the opposition division concerning maintenance of European patent N° 3 140 329 in amended form according to the claims of the first auxiliary request dealt with at the oral proceedings before the opposition division, which was filed as sixth auxiliary request with letter of 2 December 2021, and an adapted description.

II. The following documents were *inter alia* cited in the decision under appeal:

D1: EP 14167178.4

D3: WO 2015/169831 A1

D4: WO 2004/033509 A1

D5: WO 2015/065990 A1

D6: US 6 057 413

D7: WO 2013/016647 A1

D12: Experimental Report, J. Reeds, 12 January 2021

D13: Polypropylene Handbook, 2nd Edition, Hanser Verlag, 2005, pages 18, 312 and 313

III. The decision under appeal was based on the patent in suit as main request and on the first auxiliary request dealt with at the oral proceedings before the opposition division. As far as relevant to the present appeal, the following conclusions were reached by the opposition division in this decision:

- Independently of the outcome of the novelty objections raised in view of D3 and D5, the subject-matter of claim 1 of the main request was

not novel over example 10 of D4.

- The subject-matter of claim 1 of the first auxiliary request was novel over each of documents D3, D4 and D5. It further involved an inventive step when document D6 was taken as the closest prior art.

Therefore, the patent as amended on the basis of the claims of the first auxiliary request was held to meet the requirements of the EPC.

IV. The patent proprietor lodged an appeal against this decision, which was however subsequently withdrawn (see point XII. below). The patent proprietor is therefore hereinafter referred to as "the respondent", in accordance with their final status in the present proceedings. In their letter of 27 July 2022 (i.e. their initial statement of grounds of appeal), the respondent requested that the decision of the opposition division be set aside and the opposition be rejected (main request) or, in the alternative, that the patent be maintained in amended form on the basis of any of the first to third auxiliary requests filed therewith.

V. The opponent (appellant) filed an appeal against the above decision and, together with their statement of grounds of appeal, filed the following documents:

D15: V.K. Gupta and M. Ravindranathan, Polymer, 1996, 37(8), pages 1399-1403

D16: US 2011/0031645 A1

D17: Polypropylene Handbook, 2nd edition, Nello Pasquini (Ed.), Carl Hanser Verlag, 2005,

pages 40-44

D18: Introduction to Industrial Polypropylene,
D.B. Malpass and E.I. Band, Scrivener
Publishing LLC, 2012, page 34

D19: Optimized Ziegler-Natta Catalysts for Bulk PP
Processes, LyondellBasell, available at
[https://www.lyondellbasell.com/globalassets
/productstechnology/technology/
bulk-pp-processes.pdf](https://www.lyondellbasell.com/globalassets/productstechnology/technology/bulk-pp-processes.pdf)

D20: EP 1 270 651 A1

VI. Together with their rejoinder to the initial statement of grounds of appeal of the patent proprietor, the appellant further filed the following document:

D21: Propylene Polymerization Performance with Aminosilane Compounds as External Donors in Ziegler-Natta Catalyst, presentation by Toho Titanium Co., Ltd., Japan, 5th Blue Sky Conference on Catalytic Olefin Polymerization, 26 June 2019, Sorrento, Italy

VII. The parties were summoned to oral proceedings to be held on 7 February 2024 and a communication pursuant to Article 15(1) RPBA was then issued by the Board.

VIII. With letter of 22 December 2023, the respondent withdrew the second auxiliary request filed with letter of 27 July 2022 and filed a new set of claims as fourth auxiliary request.

IX. During the oral proceedings that were held on 7 February 2024 in the presence of both parties, it was decided that the subject-matter of claim 1 of the main request was novel over the disclosure of D3 and D5. In addition, it was concluded that, in respect of novelty

over example 10 of D4, the outcome of the present proceedings entirely depended on the conclusion to be reached in referral G 1/23. Therefore, the appeal proceedings were stayed until the Enlarged Board of Appeal issued a decision in this regard.

- X. With letter of 9 December 2024, the parties were summoned to oral proceedings to take place on 15 October 2025 (and if necessary 16 October 2025), whereby the parties were informed that appeal case T 1111/23 would also be dealt with on that occasion. The parties were further informed that the present case would only be dealt with if the decision related to referral G 1/23 were to be published in good time in advance of the oral proceedings.
- XI. With a further communication dated 21 July 2025, the parties were among others informed that, considering that decision G 1/23 had been recently published, the appeal proceedings were resumed. In addition, preliminary considerations of the Board regarding the present case were simultaneously communicated to the parties.
- XII. With letter of 19 August 2025, the patent proprietor withdrew their appeal.
- XIII. **The final requests of the parties were as follows:**
- (a) The appellant requested that the decision of the opposition division be set aside and the patent be revoked. The appellant further requested that, should novelty of any of the respondent's requests be acknowledged, the case not be remitted to the opposition division for discussion of inventive

step.

- (b) The respondent requested that the appeal be dismissed (main request), i.e. that the patent be maintained on the basis of the first auxiliary request filed with letter of 27 July 2022, which corresponded to the first auxiliary request that had been dealt with in the decision under appeal and allowed by the opposition division, which had been filed as sixth auxiliary request with letter of 2 December 2021. In the alternative, the respondent requested that the patent be maintained in amended form on the basis of the first auxiliary request, which had been filed as the third auxiliary request with letter of 27 July 2022 or on the basis of the second auxiliary request, which had been filed as the fourth auxiliary request with letter of 22 December 2023.

XIV. Claim 1 of the **main request**, which is the sole claim relevant to the present decision, read as follows (additions as compared to claim 1 as granted in **bold**):

"1. A propylene ethylene copolymer characterized by the following features:

- ethylene content of between 1.8 and 10.0% by weight **determined via NMR according to the method reported in the specification;**

difference between the melting point measured via DSC with the method reported in the specification and SIT, measured according to the method reported in the specification, higher than 17°C;

- molecular weight distribution (MWD), expressed in

terms of Mw/Mn, greater than 4.0;

-the content of xylene soluble fraction (XS) and ethylene content (C2) fulfill the following relation

$$XS < (C2 \times 2.1) - 2.4$$

where:

XS = % by weight of the fraction soluble in xylene at 25°C;

C2 = % by weight of ethylene units in the copolymer determined via NMR

Wherein

the Xylene Soluble fraction at 25°C was measured according to ISO 16152, 2005, but with the following deviations

i- the solution volume is 250 ml;

ii- during the precipitation stage at 25°C for 30 min, the solution, for the final 10 minutes, is kept under agitation by a magnetic stirrer;

iii- the final drying step is done under vacuum at 70°C."

XV. The parties' arguments, in so far as they are pertinent, may be derived from the reasons for the decision below. The points of dispute were essentially the following ones:

- (a) The admittance into the proceedings of documents D15 to D21.
- (b) The issue of novelty of the subject-matter of claim 1 of the main request in view of the disclosure of D3.
- (c) The question if the subject-matter of claim 1 of the main request involved an inventive step when D6 was taken as the document constituting the closest prior art.

Reasons for the Decision

- 1. Admittance of documents
 - 1.1 Documents D15 to D20
 - 1.1.1 Together with their statement of grounds of appeal and with their rejoinder to the initial statement of grounds of appeal of the patent proprietor (i.e. the respondent's letter of 27 July 2022), the appellant filed documents D15 to D20 and D21, respectively.
 - 1.1.2 The respondent requested that D15 to D20 be not admitted into the proceedings (rejoinder of 14 December 2022: section 1).
 - 1.1.3 Considering that these documents were submitted with the appellant's statement of grounds of appeal, their filing and of the submissions based thereon constitute an amendment to the opponent's case (Article 12(2) and (4) RPBA), the admittance of which undergoes the stipulations of Article 12(4) to (6) RPBA.

Documents D15 to D19

1.1.4 It can be inferred from points 3.3 and 9.28 to 9.30 of the appellant's statement of grounds of appeal that documents D15 to D19 were filed in support of their objection of lack of inventive step starting from D6 as the closest prior art, in order to show that the subject-matter of claim 1 of the first auxiliary request dealt with in the decision under appeal (and allowed by the opposition division) was obvious. In particular, D15 to D19 were filed to show that the skilled person would have known how to reduce the XS content at a given ethylene content so as to achieve a difference in melting point and seal initiation temperature ($T_m - SIT$) of more than 17°C , in particular for polymers according to claim 1 of the first auxiliary request dealt with in the decision under appeal.

a) Considering that the issue of inventive step in view of D6 as the closest prior art was at stake from the outset of the opposition proceedings and since the XS content was already a feature of claim 1 of the patent as granted, it is correct that D15 to D19 could have been filed earlier in the proceedings if the appellant contemplated to rely on these documents.

b) However, as pointed out by the appellant (letter of 3 January 2024: page 2), it has to be taken into account that the appellant's line of argument in respect of D15 to D19 is related to the feature " $T_m - SIT$ " of the first auxiliary request defended before the opposition division, which was added to claim 1 as granted (see point XIV. above) and which was taken from the description (it was undisputed that this

feature was not present in any of the granted claims). In addition, said first auxiliary request was filed (as sixth auxiliary request) only shortly before the oral proceedings before the opposition division (2 December 2021 vs. 2 February 2022), namely at the end of the deadline set to the parties to file further submissions ahead of the oral proceedings, i.e. at a late stage of the opposition proceedings. Furthermore, in view of the file history, the Board is satisfied that these documents address a point which was discussed for the first time during the oral proceedings before the opposition division and which was central to the assessment of inventive step of the first auxiliary request eventually allowed by the opposition division.

c) Under these circumstances, the Board considers that the filing of D15 to D19 at the outset of the appeal proceedings was justified as a normal development of the specific circumstances of the opposition proceedings. In particular, the Board cannot recognise that the filing of these documents amounts to an abuse of the procedure.

d) In view of the above, the Board made use of its discretion to admit documents D15 to D19 into the proceedings (Article 12(4) and (6) RPBA).

Document D20

- 1.1.5 It can be inferred from points 3.4 and 9.31 of the appellant's statement of grounds of appeal that D20 was filed in support of their objection that the subject-matter of claim 1 of the first auxiliary request dealt with in the decision under appeal was obvious when D6 was taken as the closest prior art. In particular, the

appellant argued that D20 showed that it was known at the priority/filing date of the opposed patent that superior heat-sealing properties were obtained when a propylene ethylene copolymer film had a low sealing initiation temperature (SIT) in relation to the melting temperature (T_m).

However, for the same reasons as the ones indicated in point 1.1.4.b, the Board considers that D20 was filed in reaction to the decision of the opposition division regarding inventive step of the then pending first auxiliary request. In particular, D20 is directed to the feature "difference between the melting point and SIT" which was taken up from the description of the patent in suit and inserted at a late stage of the opposition proceedings in claim 1 of the first auxiliary request allowed by the opposition division.

For this reason, D20 was also admitted into the proceedings (Article 12(4) and (6) RPBA).

1.2 Document D21

1.2.1 The appellant filed document D21 with their letter of 14 December 2022 (i.e. with their rejoinder to the initial statement of grounds of appeal of the patent proprietor).

1.2.2 Although D21 is eventually not relevant to the present decision, it was admitted by the Board during the oral proceedings held on 15 October 2025, primarily considering that its admittance had not been contested by the respondent and in view of the preliminary considerations in point 5.4.2 of the Board's communication dated 8 November 2023 (that were also not

contested).

2. Novelty over D3

2.1 Claim 1 of the main request is directed to a propylene-ethylene copolymer characterised by a specific combination of features, which are hereinafter referred to as follows:

(a) an ethylene content between 1.8 and 10.0 wt.% determined by NMR;

(b) a molecular weight distribution (MWD) expressed in terms of Mw/Mn greater than 4.0;

(c) a content of xylene soluble fraction (XS) and ethylene content (C2) fulfilling the relationship $XS < (C2 \times 2.1) - 2.4$, whereby XS and C2 are determined using specific methods;

(d) a difference between melting point and seal initiation temperature ($T_m - SIT$) higher than 17°C.

2.2 The sole novelty objection put forward against claim 1 of the operative main request was in view of the disclosure of document D3.

2.3 It was common ground that, as was held by the opposition division in their decision (point 3.3.3 of the reasons), D3 is a prior art document pursuant to Article 54(3) EPC, which claims the priority from D1. Further considering that the patent in suit claims priority from the same document D1 (as oldest priority), it is agreed with the appellant (statement of grounds of appeal: point 7.22; letter of 14 December 2022: point 3.5) that the novelty objection

in view of D3 may only succeed if the subject-matter of D3 which is considered to anticipate claim 1 of the main request is entitled to the priority of D1 and if the claims of the main request are not entitled to the priority from D1.

2.4 The appellant's novelty objection in view of D3 may be summarised as follows:

- Claim 1 of the main request was not entitled to the priority of D1 (statement of grounds of appeal: points 7.2 to 7.19; see also appellant's letter of 14 December 2022: points 6.4 to 6.18);
- The combination of paragraphs 12, 14, 15 and 18, if needed in combination with the examples of D3, explicitly disclosed propylene ethylene copolymers that met above features (a) to (c) (statement of grounds of appeal: points 8.1 to 8.23; see also appellant's letter of 14 December 2022: points 7.3 to 7.25);
- It was derivable from paragraph 21 of D3 that above feature (d) was implicitly met by the above indicated subject-matter of D3 that anticipated the combination of above features (a) to (c) (statement of grounds of appeal: points 8.24 to 8.26);
- The subject-matter of D3 that anticipated either the combination of above features (a) to (c), or the combination of above features (a) to (d) was entitled to the priority of D1 (statement of grounds of appeal: points 7.20 to 7.25 and 8.27; see also appellant's letter of 14 December 2022: points 6.20 to 6.24).

2.5 In view of the final conclusion reached by the Board, the analysis below first focuses on the appellant's arguments directed to propylene ethylene copolymers satisfying the combination of above features (a) to (c). In this regard, it is first determined which disclosure of D3 was considered by the appellant to anticipate this combination of features. Then it is assessed if this disclosure of D3 may enjoy the priority of D1.

Disclosure of D3 considered by the appellant to anticipate the combination of above features (a) to (c)

2.6 The disclosure of D3 that was held by the appellant to anticipate the combination of features (a) to (c) as defined in above section 2.1 was in the first line derived from paragraph 12, read in combination with additional preferred embodiments thereof according to paragraphs 14, 15 and 18 of D3 (appellant's letter of 14 December 2022: points 6.20 to 6.25 and 7.3), whereby said paragraph 12 of D3 reads as follows:

"[0012] The said propylene copolymers are characterized by the following features:

- ethylene content of between 0.1 and 10% by weight;
- molecular weight distribution (MWD), expressed in terms of M_w/M_n , greater than 3;
- Melt Flow Rate (MFR 230°C 2,16kg) referred to the copolymers as a reactor grade ranges from 0.2 to 45 g/10';
- absence of 2,1 propylene insertions;

-content of xylene soluble fraction (XS) and ethylene content (C2) such that the point defined by said values falls below the line given by the equation:

$$XS = 1.0296 \cdot e^{0.435C2}$$

where:

XS = % by weight of the fraction soluble in xylene at 25°C determined according to the method given in the characterization section;

C2 = % by weight of ethylene units in the copolymer determined via NMR according to the method given in the characterization section."

2.6.1 Hereinafter, the features of paragraph 12 of D3 are referred to using the following numbering (in analogy to the corresponding features of claim 1 of the main request indicated in above point 2.1):

(a') ethylene content of between 0.1 and 10 wt.%;

(b') molecular weight distribution (MWD) expressed in terms of Mw/Mn greater than 3;

(c') content of xylene soluble fraction (XS) and ethylene content (C2) such that the point defined by said values falls below the line given by the equation $XS = 1.0296 \cdot e^{0.435C2}$ where XS and C2 are determined according to specific methods;

(e') Melt Flow Rate (MFR) ranging from 0.2 to 45 g/10';

(f') absence of 2,1 propylene insertions.

2.6.2 On that basis, the propylene copolymers according to paragraph 12 of D3 are characterised among others by two features that are also present in the same terms but with different ranges in claim 1 of the main request, namely ethylene content (C2) and molecular weight distribution Mw/Mn (above features (a)/(a') and (b)/(b')) as well as by a further specific relationship between XS and C2, which is however different from the one mentioned in claim 1 of the main request (features (c)/(c')).

It remained undisputed that the ranges of ethylene content and MWD defined in paragraph 12 of D3 were broader than the ones of claim 1 of the main request and that the definition of XS according to paragraph 12 of D3 overlapped with the one according to claim 1 of the main request (see figures on pages 8 and 13 of the appellant's statement of grounds of appeal). Therefore, in order to arrive at the subject-matter of claim 1 of the main request, a series of choices has to be made regarding the values of each of the features C2, MWD and XS defined in paragraph 12 of D3. According to established case law, such a series of choices may only be seen as a direct and unambiguous disclosure if it emerges from the content of the prior art, i.e. if D3 contains a pointer to such a combination.

2.6.3 In that regard, the appellant argued that it was derivable from paragraph 14 and 15 of D3 that the most preferred range of C2 was between 1 and 5.0 wt.% and the most preferred range of MWD was from 3.5 to 5.5. Therefore these most preferred ranges overlapped to a large extent with the definition of the corresponding features in claim 1 of the main request (C2 between 1.8 and 10.0 wt.%; MWD > 4.0). In addition, a similar conclusion was valid for the XS feature, in particular

when considering the most preferred range of C2 according to D3 (in view of the figure on page 13 of their statement of grounds of appeal). Under these circumstances and in particular in view of the very large overlap between the most preferred ranges defined in D3 for each of the features C2, MWD and XS, the skilled person would have seriously contemplated working within the ranges defined in claim 1 of the main request for these features, so the appellant. The appellant further considered that, although an additional pointer was not necessary, their view was confirmed by the fact that each of examples 1 to 6 of D3 disclosed copolymers falling under the definition of claim 1 of the main request (which however could not be considered as novelty destroying because they were identical to examples 1 to 6 of D1, for which the patent in suit also claimed priority).

i) The arguments of the appellant are primarily based on paragraph 12 in combination with paragraphs 14 and 15 of D3, whereby it is further held that the skilled person would have seriously contemplated working in the specific, more limited, ranges of C2, MWD and XS defined in claim 1 of the main request. In other words, the disclosure of D3 that is relevant for the appellant's novelty objection is paragraph 12 of D3, which is characterised by the combination of the five features (a') to (f') whereby each of features (a'), (b') and (c') is limited to the area of overlap with above features (a), (b) and (c), respectively. **This disclosure is hereinafter referred to as "the relevant subject-matter of D3".**

ii) Although the respondent argued that the relevant subject-matter of D3 did not amount to a direct and unambiguous disclosure (see e.g. letter of

22 December 2023: page 3, end of section "Novelty over D3"; oral proceedings held on 7 February 2024), the Board arrived at the conclusion that this disclosure in any case does not find a valid support in the priority document D1. Therefore, the question whether or not the disclosure of D3 relied upon by the appellant is effectively directly and unambiguously derivable from D3 may remain unanswered. For the same reason, there is no need for the Board to address the conclusion reached by the opposition division in the decision under appeal that the examples of D3 could not be considered as a valid pointer to this subject-matter (decision: page 10, fourth paragraph, albeit in respect of the then pending first auxiliary request).

Priority entitlement of the relevant subject-matter of D3

- 2.7 According to decision G 2/98, priority pursuant to Article 87(1) EPC may be acknowledged to a subsequent application for the same subject-matter as in a previous application only if the skilled person can derive that subject-matter directly and unambiguously, using common general knowledge, from the previous application as a whole (see headnote and sections 2, 3, 6.8, 8.2 and 9 of the reasons). In that respect, it is in particular explained in G 2/98 that the concept of "the same invention" is to be interpreted narrowly and to be equated with the concept of "the same subject-matter" (see also Case Law of the Boards of Appeal of the EPO, 11th edition, 2025, II.D.4.1 and 4.2.1).
- 2.7.1 According to the appellant, a valid support for the relevant subject-matter of D3 was primarily derivable from paragraph 12 of D1 further read in combination with paragraphs 15, 18, 19 as well as the examples of

D1 (statement of grounds of appeal: points 7.23 and 7.24).

2.7.2 Paragraph 12 of D1 reads as follows:

"[0012] The said propylene copolymers are characterized by the following features:

- ethylene content of between 0.1 and 10% by weight;
- molecular weight distribution (MWD), expressed in terms of M_w/M_n , greater than 2.5;
- content of xylene soluble fraction (XS) and ethylene content (C2) such that the point defined by said values falls below the line given by the equation:

$$XS = 1.0296 \cdot e^{0.435C2}$$

where:

XS = % by weight of the fraction soluble in xylene at 25°C determined according to the method given in the characterization section;

C2 = % by weight of ethylene units in the copolymer determined via NMR according to the method given in the characterization section."

2.7.3 Hereinafter, the features of paragraph 12 of D1 are referred to using the following numbering (in analogy to the corresponding features of claim 1 of the main request and of paragraph 12 of D3):

(a") ethylene content of between 0.1 and 10 wt.%;

(b'') molecular weight distribution (MWD) expressed in terms of Mw/Mn greater than 2.5;

(c'') content of xylene soluble fraction (XS) and ethylene content (C2) such that the point defined by said values falls below the line given by the equation $XS = 1.0296 \cdot e^{0.435C2}$ where XS and C2 are determined according to specific methods.

2.7.4 While above features (a')/(a'') and (c')/(c'') of paragraphs 12 of D1 and D3 are identical, features (b') and (b'') are related to the same parameter, whereby the range specified in D1 is broader than the one of D3. More importantly, considering that the copolymers of paragraph 12 of D3 are characterised by two additional features (e') and (f') as compared to the ones according to paragraph 12 of D1, the question arises if the combination of features (a') to (f') according to the relevant subject-matter of D3 is directly and unambiguously derivable from the priority document D1.

2.7.5 In this regard, it is correct that

- features (e') (melt flow rate) is disclosed in claim 10 (together with a range of from 0.2 to 45 g/10') and in paragraph 18 (together with the same range as in claim 10 or with a preferred range of 0.2 to 25 g/10') of D1; and
- feature (f') (absence of 2,1 propylene insertions) is disclosed in claim 6 or paragraph 19 of D1.

However, the specific combination of features (a') to (f') according to the relevant subject-matter of D3 may at most be arrived at by combining paragraph 12 of D1 with other passages of D1 directed to preferred

embodiments (paragraph 14 for the preferred range of MWD, while disregarding the more preferred ranges; paragraph 18 for the melt flow rate, whereby the broader range is considered; paragraph 19 for the absence of 2,1 insertions, whereby the other alternative disclosed therein - specific amount of isotactic triads should be disregarded) while disregarding other preferred embodiments (e.g. the ones according to paragraphs 13 (preferred embodiment of feature (a")), 16 (additional preferred embodiment related to the amount of catalytic residues) and 17 (additional preferred embodiment directed to the comonomer reactivity ratio). Therefore, in order to arrive at the specific combination of features (a') to (f') according to the relevant subject-matter of D3, paragraph 12 of D1 has to be combined with several preferred embodiments while disregarding other ones that are disclosed as various alternatives in paragraphs 13 to 19 of D1. In addition, different levels of preference disclosed in D1 for each of these features have also to be selected.

2.7.6 The appellant put forward that the melt flow rate feature was a mandatory feature of D1. Therefore, according to the appellant, no choice among the preferred embodiments of D1 would be needed in order to arrive at feature (e') according to the relevant subject-matter of D3.

a) However, the appellant's argument is not in line with the set of claims of D1, in which the melt flow rate is not mentioned in independent claim 1 but only in dependent claim 10. This structure is further reflected in the description of D1: while the subject-matter of paragraph 12 of D1 corresponds to the one of claim 1 of D1, paragraph 19 of D1 is directed to

dependent claim 10 of D1. This view is further confirmed by the fact that while paragraph 12 of D1 makes part of the section "Summary of the invention", paragraph 19 of D1 belongs to the section "Detailed description of the invention", which is directed to various preferred embodiments. For these reasons, the appellant's argument did not succeed.

2.7.7 During the oral proceedings held on 7 February 2024 before the Board, the appellant argued that the claims of D1 amounted to a pointer to the combination of features (a') to (f') that was required in order to arrive at the relevant subject-matter of D3.

However, each dependent claim of the set of claims of D1 only makes reference to independent claim 1 of D1 and there is no cross-reference between the dependent claims that would have established a link between their respective subject matter. In addition, this set of claims contains several additional claims that are dependent on claim 1 and that are directed to features that are different from features (e') and (f'). Therefore, this set of claims cannot provide a valid support for the specific combination of features (e') and (f') among all the possible alternatives (while other preferred embodiments are disregarded). Also, none of the dependent claims of D1 is directed to the narrower range of MWD required in order to arrive at feature (b'). For these reasons, the set of claims of D1 does not constitute a valid pointer to the specific combination of features (a') to (f') required.

2.7.8 During the oral proceedings held on 7 February 2024 before the Board, the appellant argued that, in view of the disclosure of D1 as a whole, the skilled person would have seriously contemplated a propylene ethylene

copolymer that met the combination of features (a') to (f') required to arrive at the relevant subject-matter of D3.

a) The Board does not share this view and rather considers, for the reasons outlined above, that in the present case it cannot be concluded from the disclosure of D1 that the required combination of features (a') to (f') is for any reasons prominent to such an extent that a propylene ethylene copolymer having this specific combination of properties may be held to be directly and unambiguously disclosed therein.

b) In that regard, whether preferred embodiments can be seen as pointers to amendments made depends on the specifics of the case, in particular on the level of complexity caused by the preferred embodiments. In particular it may have to be taken into account that a high number of preferred embodiments may have an impact on the assessment of compliance with Article 123(2) EPC, in that, when there are many possible preferred embodiments disclosed, a singled-out individual combination of some of these embodiments may not be directly and unambiguously derivable by the skilled person.

In the present case, as outlined above, the combination of features (a') to (f') present in the relevant disclosure of D3 can only be arrived at by working in the areas of overlap between each of features (a'')/(a')/(a), (b'')/(b')/(b), (c'')/(c')/(c) - for which three selections are necessary - while further considering some preferred embodiments but disregarding other ones disclosed in a similar manner in paragraphs 13 to 19 of D1, whereby the embodiments specified in above features (a') to (f') are further

not all disclosed at the same level of preference in these paragraphs of D1. In these circumstances, the Board considers that the specific combination of features (a') to (f') as indicated in above point 2.6.1 is not directly and unambiguously derivable from the passages of D1 relied upon by the appellant.

c) It is pointed out that the above conclusion is reached already in view of a lack of a pointer in D1 to the specific combination of above features (a') to (f') according to D3. In these circumstances, there is no need to address the question of the size of the overlap between the ranges disclosed in D1 and D3 for the above features (a')/(a"), (b')/(b"), (c')/(c"), that was relied upon by the appellant (statement of grounds of appeal: points 8.4-8.16, in relation to the fact that the skilled person would seriously contemplate working within the range of overlap).

2.7.9 The appellant further put forward that also the examples of D1 constituted a pointer to a propylene ethylene copolymer that met the combination of features (a') to (f') required to arrive at the relevant subject-matter of D3.

However, even if the examples of D1 were to be considered (which, according to the opposition division, was not allowable: see page 10, end of the fourth paragraph of the decision under appeal), it remains that these examples constitute very specific embodiments that cannot provide a valid basis for the combination of features (a') to (f') of D3 at the level of generality disclosed therein. In this respect, it is generally known in the field of polymers that the nature of the catalyst system is in particular crucial for the obtention of the specific properties of the

products being prepared. In the present case, it is derivable from paragraphs 6 and 36 of D1 that the specific combination of properties obtained in the examples are related to the specific catalysts being used. This is further reflected in table 1 of D1 in which the properties of the copolymers prepared in the examples directed to C2, XS, MWD, MFR, together with the implicit disclosure regarding the absence of insertion (it was common ground that this was a mandatory result of the use of a Ziegler Natta catalyst) is accompanied with various information regarding the catalyst system being used. While the latter information is disclosed in D1 as preferred embodiments (Bi/Mg content according to paragraphs 21-22; content of isotactic triads according to paragraph 19), it is not reflected by the passages of D1 indicated by the appellant to provide a valid support for the relevant disclosure of D3. On that basis, the Board considers that the examples of D1 do not provide a valid basis for the relevant subject-matter of D3 at its level of generality.

- 2.8 In view of the above, the Board considers that applying the principles laid down in G 2/98 to the present case leads to the conclusion that the relevant subject-matter of D3 considered by the appellant for their novelty objection is not entitled to the priority of D1.

Disclosure in D1 of the combination of features (a) to (d) according to above point 2.1

- 2.9 In view of the conclusion reached in point 2.8 above, the same conclusion is to be drawn also for the combination of features (a) to (c) together with the additional requirement in terms of the difference

between melting point and Seal Initiation Temperature (T_m - SIT) according to feature (d) specified in above point 2.1, that was argued by the appellant to be explicitly disclosed in D3 in view of the disclosure of the last sentence of paragraph 21 thereof and implicitly, but directly and unambiguously, disclosed in D1. In these circumstances, there is no need to address the argument of the appellant that the feature (T_m - SIT) benefited from the priority of D1.

2.10 As indicated in point 2.3 above, it was common ground that D3 is only citable as prior art pursuant to Article 54(3) EPC insofar as the relevant subject-matter of D3 is entitled to the priority from D1. Since the Board arrived at the conclusion that this is not the case, the novelty objection of the appellant raised in view of D3 cannot succeed and there is no need for the Board to address the question if claim 1 of the main request may benefit from the priority of D1.

2.11 For these reasons, the subject-matter of claim 1 of the main request is novel over D3.

3. Inventive step

3.1 Closest prior art

In agreement with the opposition division, it was common ground between the parties that examples 1 to 3 of D6 were a suitable starting point for the assessment of inventive step. The Board has no reason to deviate from that view.

3.2 Distinguishing feature(s)

3.2.1 D6 (claim 1) is directed to the preparation of films having specific properties in terms of haze, heat sealing temperature and Young's modulus obtained from a propylene-ethylene copolymer prepared using a specific catalyst system according to claim 1 thereof. Such copolymers were prepared in examples 1 to 3 of D6 (see columns 11 to 13), whereby some properties of these copolymers (including ethylene content, xylene soluble fraction, melt flow rate) and of the films prepared therewith (haze, heat sealing temperature) are reported in table 1 of D6.

3.2.2 In the decision under appeal (point 3.4.3 of the reasons), the opposition division held that the subject-matter of claim 1 of the present main request differed from the disclosure of examples 1 to 3 of D6 in the following features:

- The requirement that the molecular weight distribution (M_w/M_n) should be greater than 4.0 (feature (b) according to point 2.1 above);
- The requirement that the content of xylene soluble fraction (XS) and ethylene content (C2) should fulfil the relation $XS < (C2 \times 2.1) - 2.4$, whereby C2 and XS are determined as specified in claim 1 (feature (c) according to point 2.1 above);
- The difference between melting temperature and Seal Initiation Temperature ($T_m - SIT$) is higher than 17°C (feature (d) according to point 2.1

above).

3.2.3 It was undisputed during the appeal proceedings that the copolymers according to examples 1 to 3 of D6 met the requirements of claim 1 of the main request in terms of ethylene content C2 (feature (a) according to point 2.1 above). Although the Board has no reason to deviate from this view, the following points should nevertheless be noted.

a) During the whole proceedings, the respondent argued that it was known in the art that the values of ethylene content determined with NMR - as indicated in claim 1 of the main request - could be different from the values determined with IR - as was done in D6 (D6: column 9, lines 38-42; see respondent's letter of 14 December 2022: page 4, section 4, second paragraph, "While nothing has been provided..."; see also respondent's letter of 27 July 2022: page 6, point 3.4, fourth to seventh lines, in respect of novelty over D4).

b) Although it is agreed with the respondent that it is reasonable to consider that different methods of determination of ethylene content may lead to different results, the question to be answered is whether or not the values of ethylene content of 4.3 to 5.8 wt.% disclosed in D6 for examples 1 to 3 (table 1) implicitly, but directly and unambiguously, correspond to an ethylene content of between 1.8 and 10.0% by weight determined via NMR as defined in claim 1 of the main request. In this regard, in the absence of any evidence that the ethylene content of the copolymers prepared in examples 1 to 3 of D6 may correspond, when determined by NMR (in a technically sensible manner and using any suitable NMR technique, taking into account

that claim 1 of the main request contains no limitation in this regard) to an ethylene content outside the range specified in claim 1 of the main request, the Board shares the view of the appellant that the requirement of an ethylene content determined by NMR of between 1.8 and 10.0% by weight is met by the copolymers prepared in examples 1 to 3 of D6, especially since the values disclosed in D6 (4.3 to 5.8 wt.%) are in the middle of the range defined in operative claim 1 and reasonably remote from its end points. In addition, it is taken into account that the ethylene content is a usual feature in the art and commonly used in the present technical field to characterise polyolefins. Therefore, the ethylene content values determined with IR disclosed in D6 are considered to constitute a characterising feature of the polymers prepared therein, i.e. the skilled person would have no reason to expect that such values, when determined by NMR as specified in claim 1 of the main request, would be so different that they would be outside of the range defined in claim 1 of the main request.

c) In view of the above, the values of ethylene content disclosed for examples 1 to 3 of D6 constitute, despite some possible inaccuracies related to the use of different methods to determine this feature (IR in D6 vs. NMR in operative claim 1), a direct and unambiguous disclosure of an ethylene content according to claim 1 of the main request, i.e. the ethylene content is not a feature that distinguishes the subject-matter of claim 1 of the main request from the disclosure of examples 1 to 3 of D6.

3.2.4 It was also common ground that D6 contained no information regarding either the molecular weight

distribution Mw/Mn feature or the (Tm - SIT) feature specified in claim 1 of the main request (features (c) and (d) according to point 2.1 above). The Board has no reason to be of a different opinion.

- 3.2.5 Regarding the requirement of claim 1 of the main request that (XS) and ethylene content (C2) should fulfil the relationship according to feature (c) of point 2.1 above, it was undisputed that this relationship was met when the ethylene contents (C2) and the XS contents disclosed in table 1 of D1 for each of examples 1 to 3 of D6 were considered. However, the point of dispute between the parties was that, as already pointed out by the opposition division, these values of C2 and XS were determined in D6 using methods that were different from the ones specified in operative claim 1. In agreement with the opposition division, the respondent considered that taking into account the combined uncertainties related to the differences of the determination methods of both XS and C2, it could not be assumed without reasonable doubts that the relationship $XS < (C2 \times 2.1) - 2.4$ would be met when XS and C2 were to be measured according to the methods specified in operative claim 1. To the contrary, the appellant argued that i) the different methods of determination of C2 used in D6 and in the patent in suit led to results that would not be significantly different (statement of grounds of appeal: points 9.15 and 9.17) and ii) that they had shown in D12 that the differences between the methods of D6 and in the patent in suit that had been mentioned by the opposition division (temperature and duration of the crystallisation step) effectively led to some difference in the values of XS obtained, but that this differences was at most of 1.8 wt.%. Therefore, according to the appellant, as was shown in table 2 of

D12 (columns 4 to 6), even if the XS data reported for examples 1 to 3 in table 1 of D6 were to be corrected for the differences in the methods of determination of XS and C2, the relationship $XS < (C2 \times 2.1) - 2.4$ would be met for each of examples 1 to 3 of D6 when XS and C2 were to be measured according to the methods specified in operative claim 1.

Regarding the relationship between XS and C2 according to above feature (c), the Board shares the respondent's view (which was not contested by the appellant) that the content of xylene soluble fraction of propylene ethylene copolymers such as the ones being claimed or prepared in examples 1 to 3 of D6 is closely related to the internal structure of the polymer (letter of 14 December 2022: paragraph bridging pages 4 and 5). In that respect, as pointed out by the respondent, it was not shown that the experiments of D12 relied upon by the appellant were carried out with the same catalyst system as the one used in examples 1 to 3 of D6. In addition, the preparation conditions were also different and polymers with at least significantly different melt index were prepared in D12 (as compared to examples 1 to 3 of D6). Therefore, in view of the evidence on file and of the parties' submissions, the Board considers that the arguments put forward in appeal by the appellant provide no cause for it to overturn the conclusion reached by the opposition division that it could not be assumed without reasonable doubt that examples 1 to 3 of D6 fulfilled the inequation according to operative claim 1 (when C2 and XS are determined with the methods indicated in said claim 1).

3.2.6 In view of the above, the Board agrees with the conclusion reached by the opposition division that the

subject-matter of claim 1 of the main request differs from the disclosure of examples 1 to 3 of D6 in the three features indicated in point 3.2.2 above.

3.3 Problem effectively solved over the closest prior art

Both during the written proceedings (statement of grounds of appeal: middle of page 5, "We also concur with ...") and during the oral proceedings before the Board held on 15 October 2025, the respondent agreed with the position of the opposition division (page 14: second full paragraph) and of the appellant (statement of grounds of appeal: point 9.3 with reference to point 9.2) that the objective technical problem solved by claim 1 of the first auxiliary request over examples 1 to 3 of D6 resided in the provision of an alternative propylene ethylene copolymer that was suitable for the production of cast films. The Board sees no reason to deviate from this view.

3.4 Obviousness

3.4.1 The question remains to be answered if the skilled person, desiring to solve the problem(s) identified as indicated above, would, in view of the closest prior art, possibly in combination with other prior art or with common general knowledge, have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject matter.

3.4.2 In that regard, the opposition division reached the conclusion that the subject-matter of claim 1 of the then pending first auxiliary request (which is the present main request) was not obvious in particular considering that there was no evidence on file that the combination of features specified in claim 1 of said

first auxiliary request could be achieved when using a catalyst system as taught in examples 1 to 3 of D6. In particular, according to the opposition division, even if the MWD feature and the XS/ethylene content according to said claim 1 were to be satisfied (features (b) and (c)), there was no evidence that the requirement specified in claim 1 regarding the difference between melting point and SIT higher than 17 °C according to above feature (d) would simultaneously be achieved, so the opposition division (reasons: page 14; last paragraph).

3.4.3 The Board arrived at the conclusion that the arguments put forward by the appellant in that respect (e.g. statement of grounds of appeal: see in particular points 9.27 to 9.31) do not justify that the conclusion of the opposition division be overturned. Indeed, even if - to the appellant's benefit - it were to be accepted that there may be a correlation between ethylene content and melting point, there is no evidence on file that it is at all possible, on the basis of the teaching of D6 and if needed common general knowledge, to prepare a propylene ethylene copolymer that also shows a difference between melting point and SIT higher than 17°C (while satisfying the other requirements of claim 1 of the first auxiliary request). In that regard, the appellant's arguments are, in the Board's view, speculative, for the following reasons.

3.4.4 The appellant argued that the data of examples 1 to 3 in table 1 of D6 showed that a lower XS content at a given ethylene content provided a reduction in heat sealing temperature. It was further known from D20 (paragraphs 7 and 9) that superior heat-sealing properties were obtained when a propylene ethylene

copolymer film had a low Seal Initiation Temperature (SIT) in relation to its melting temperature. Also, it was indicated in D7 (table 2; paragraph 122), that the polymer prepared in example 1 had a lower SIT than comparative example 7, which was achieved by using lower XS at the same ethylene content (statement of grounds of appeal: point 9.31). Therefore, according to the appellant, it would have been obvious for the skilled person starting from any of examples 1 to 3 of D6 to reduce the XS content at a given ethylene content until the difference between melting point and SIT would be more than 17 °C. In that respect, D15 to D19 further showed that it was well known in the art that the XS content could be reduced by increasing the amount of external donor of the catalyst system (statement of grounds of appeal: points 9.27 to 9.29 and 9.31).

a) It is agreed with the appellant that it can be derived from the statement made in paragraph 9 of D20 that the skilled person looking for an alternative propylene ethylene copolymer to the ones according to examples 1 to 3 of D6 could have had good reasons to aim at copolymers exhibiting a low SIT in relation to their melting point. Therefore, the question whether or not the same conclusion is derivable from the data of D6 or from the disclosure of D7 may remain unanswered.

b) However, as pointed out by the respondent (letter of 14 December 2022: page 5, last paragraph) the figure plotted by the appellant in point 9.27 of their statement of grounds of appeal is related to the sole SIT feature but not to the difference between melting point and SIT, which is the relevant feature at stake here. According to the Board, in the absence of any information in D6 regarding the melting point of the

copolymers prepared in the examples and comparative examples, no conclusion on the (T_m - SIT) feature can be derived from D6 for any of examples 1 to 3 thereof, or any of their modification as contemplated by the appellant (by increasing the amount of external donor to reduce SIT). This is all the more true since, as already indicated above, there is not only no information on file regarding the melting point of the copolymers prepared in examples 1 to 3 of D6 but there is also no evidence on file of the effect on SIT - in absolute terms - that would be achieved if the amount of external donor of the catalyst system used in examples 1 to 3 of D6 were to be increased, as argued by the appellant. In these circumstances, the Board considers that the appellant's conclusion reached in view of the data of table 1 of D6 is based on hindsight, which is not allowable.

3.4.5 The appellant further put forward that although D6 did not give any information regarding the melting point of the polymers prepared in examples 1 to 3, it was known from D13 (see in particular figure 5.6) and D4 (see figure contained in point 9.30 of their statement of grounds of appeal, which was derived by the appellant from the examples thereof) that there was a strong correlation between ethylene content and melting temperature (statement of grounds of appeal: point 9.30).

a) However, as pointed out by the respondent (letter of 14 December 2022: page 6, second paragraph), even if this alleged correlation were to be taken into account, it does not refer to the (T_m - SIT) feature here at stake. Therefore, already for that reason, the appellant's fails to convince.

b) It is further agreed with the respondent that the two correlations referred to by the appellant addressed in points 3.4.4 above and in present point 3.4.5 are related to either the T_m feature alone or the SIT feature alone, but not to the difference between these features ($T_m - SIT$). In addition, each of these correlations was further derived from different polymers, which were not shown to be the ones according to examples 1 to 3 of D6. In these circumstances, the Board considers that no conclusion regarding the value of ($T_m - SIT$) for a given copolymer, in particular for the ones according to the teaching of D6 or a modification thereof as contemplated by the appellant, can be derived from these correlations. In particular, these correlations do not allow to conclude that it would have been obvious to arrive at the subject-matter according to claim 1 of the main request by modifying any of examples 1 to 3 of D6 on the basis of the cited prior art documents, if needed complemented by common general knowledge. Here also, the Board considers that the appellant's conclusion is based on hindsight, which is not allowable.

3.4.6 For the reasons indicated above, also the statement of the appellant that it would have been obvious to modify the synthesis disclosed in D6 in such a way as to obtain a copolymer having a difference between melting point and SIT of greater than 17°C (letter of 3 January 2024: page 11, paragraph before the "Conclusion") is, in view of the evidence on file, speculative. Therefore, it is rejected.

3.4.7 Considering that the appellant's arguments based on the combination of D6 with either D4 or D20 did not succeed, there is no need for the Board to address the question of their admittance, which was objected to by

the respondent (letter of 14 December 2022: page 6, end of first and third paragraphs).

- 3.5 In view of the above, the arguments put forward by the appellant provide no cause for the Board to overturn the decision of the opposition division that the subject-matter of claim 1 of the main request involves an inventive step when examples 1 to 3 of D6 are taken as the closest prior art.
- 3.6 As an aside, it is noted that the same conclusion regarding inventive step would be reached independently whether or not it is considered that the relationship between XS and C2 specified in claim 1 of the main request (feature (c)) distinguishes the subject-matter of claim 1 of the main request from the disclosure of examples 1 to 3 of D6. In other words, the same conclusion would be valid even if, to the appellant's benefit, it would have been considered that the relationship between XS and C2 according to above feature (c) was met by the copolymers prepared in any of examples 1 to 3 of D6.
4. Since none of the objections put forward by the appellant against the operative main request is successful, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Hampe

D. Marquis

Decision electronically authenticated