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Datasheet for the decision of 21 November 2025

Case Number: T 1902/23 - 3.3.03

Application Number: 14824456.9

Publication Number: 3083822

IPC: C08L23/14

Language of the proceedings: EN

Title of invention:
HETEROPHASIC PROPYLENE COPOLYMER

Patent Proprietor:
Saudi Basic Industries Corporation
SABIC Global Technologies B.V.

Opponent:
TotalEnergies OneTech

Relevant legal provisions:
EPC Art. 56
RPBA 2020 Art. 12(4), 13(2)

Keyword:
Amendment after summons - exceptional circumstances (yes)
Inventive step - obvious alternative
Amendment to case - request - suitability of amendment to address issues and convergency (no)

Decisions cited:
T 0565/07, T 0320/15, T 1719/21, T 1888/21, T 1701/22, T 2140/22

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Case Number: T 1902/23 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 21 November 2025

Appellant: (Opponent)	TotalEnergies OneTech La Défense 6 2 Place Jean Millier 92400 Courbevoie (FR)
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Respondent: (Patent Proprietor 2)	SABIC Global Technologies B.V. Plasticslaan 1 4612 PX Bergen op Zoom (NL)
Representative:	Sabic Intellectual Property Group Sabic Intellectual Property Department P.O. Box 3008 6160 GA Geleen (NL)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 9 November 2023 rejecting the opposition filed against European patent No. 3083822 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	F. Rousseau
Members:	M. Barrère
	A. Bacchin

Summary of Facts and Submissions

I. The appeal of the opponent lies against the decision of the opposition division rejecting the opposition against European Patent number 3 083 822.

II. The following documents were *inter alia* cited in the decision of the opposition division:

D2: JPH06-299040 A
D2a: English translation of D2
D3: US 2014/0011937 A1
D4: US 2002/0058741 A1
D5: EP 2 031 018 A1
D6: US 2002/0040105 A1
D7: US 2008/0221256 A1
D8: EP 1 837 351 A1
D9: EP 0 739 943 A1
D10: WO 2009/153213 A1
D11: EP 2 275 485 A1
D12: WO 2014/083130 A1
D16: JP2000-344978 A
D16a: English translation of D16

III. The contested decision, as far as it is relevant to the present appeal, can be summarised as follows:

- the subject-matter of claim 1 as granted involved an inventive step over documents D2 to D12 and D16/ D16a each alternatively taken as the closest prior art.

IV. The opponent (appellant) filed an appeal against said decision.

V. With the rejoinder to the statement of grounds of appeal, the patent proprietors (respondents) filed forty-two sets of claims as auxiliary requests 1-42.

VI. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA dated 21 July 2025 indicating specific issues to be discussed at the oral proceedings was then sent to the parties.

VII. With letter dated 19 September 2025, the respondents filed an additional set of claims as auxiliary request 43 as well as the following documents:

D17b: International standard ISO 16152:2005(E)
D18: International standard ISO 1628-1:1998(E)
D19: International standard ISO 1628-3:2010(E)

VIII. With letter dated 19 November 2025, the respondents filed the following documents:

D20 and D21: Declarations by Dr. Rieky Steenbakkers dated 18 November 2025

IX. During the oral proceedings held before the Board on 21 November 2025, the respondents changed the order of their requests. The parties' final requests were as follows:

The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondents requested that the appeal be dismissed and the patent be maintained as granted (main request). In the alternative, the respondents requested maintenance of the patent in amended form

on the basis of the claims of one of auxiliary requests 1, 2, 16, 23, 3 to 15, 17 to 22, or 24 to 42, all filed with the reply to the statement of grounds of appeal or of the claims of auxiliary request 43 filed with letter dated 19 September 2025.

X. Claim 1 of the main request (patent as granted) reads as follows:

"1. A heterophasic propylene copolymer comprising a matrix phase comprising a propylene polymer and a dispersed phase comprising an ethylene-α-olefin elastomer comprising ethylene and at least one C_3 to C_{10} α-olefin,

wherein the propylene polymer has an intrinsic viscosity IV_{PP} and the ethylene-α-olefin elastomer has an intrinsic viscosity IV_{EPR} where the ratio of IV_{EPR}/IV_{PP} is 3-7,

wherein the copolymer comprises 8-30 wt% of the ethylene-α-olefin elastomer, wherein the ethylene-α-olefin elastomer of the dispersed phase comprises 10-55 wt% of ethylene,

wherein the propylene polymer of the matrix phase is made only from a single type of propylene polymer having a melt flow index (MFI) of at least 180 dg/min as determined by ISO1133:2005 at 230 °C and 2.16 kg,

wherein the IV_{EPR} is 4.5-6.5 dl/g."

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the method to measure IV_{PP} and IV_{EPR} is specified as follows:

> "wherein IV_{PP} and IV_{EPR} are determined according to ISO-1628-1 and -3 based on the amount of the xylene soluble matter (CXS) and xylene insoluble matter (CXI) measured according to ISO16152:2005".

Auxiliary requests 2 and 3 differ from the main request and auxiliary request 1, respectively, in that, in claim 1:

> the melt flow index (MFI) of the propylene polymer of the matrix phase is at least ~~180~~210 dg/min (deletions are indicated by the Board here and below with ~~strikethrough~~, and additions with underline).

Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 1 in that the following feature is added at the end of the claim:

> "wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 27 wt.% measured according to ISO 16152:2005".

Claim 1 of auxiliary request 5 differs from claim 1 of auxiliary request 1 in that the following feature is added at the end of the claim:

> "wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 16 wt.% measured according to ISO 16152:2005".

Claim 1 of auxiliary request 6 differs from claim 1 of auxiliary request 1 in that the following feature is added:

> "wherein the propylene polymer of the matrix phase has a unimodal molecular weight distribution".

Claim 1 of auxiliary request 7 differs from claim 1 of auxiliary request 1 in that:

the ratio of IV_{EPR}/IV_{PP} is 3-~~7~~5.

Claim 1 of auxiliary request 8 differs from claim 1 of auxiliary request 1 in that the following feature is added at the end of the claim:

"wherein the IV_{PP} is 1.0-2.0 dl/g".

Claim 1 of auxiliary request 9 differs from claim 1 of auxiliary request 1 in that the ethylene-α-olefin elastomer of the dispersed phase comprises ~~10-55~~40-50 wt% of ethylene.

Auxiliary requests 10 and 11 differ from auxiliary requests 1 and 9, respectively, in that the following amendment is made to claim 1:

the copolymer comprises ~~8-30~~10-18 wt% of the ethylene-α-olefin elastomer.

Auxiliary requests 12, 13, 14, 15, 16, 17, 18 and 19 differ from auxiliary requests 4, 5, 6, 7, 8, 9, 10 and 11, respectively, in that the following amendments are made to claim 1:

the melt flow index (MFI) of the propylene polymer of the matrix phase is at least ~~180~~210 dg/min and

the method to measure IV_{PP} and IV_{EPR} was deleted.

Auxiliary requests 20, 21, 22, 23, 24, 25, 26 and 27 differ from auxiliary requests 4, 5, 6, 7, 8, 9, 10 and 11, respectively, in that the following amendment is made to claim 1:

the melt flow index (MFI) of the propylene polymer of the matrix phase is at least ~~180~~210 dg/min.

Claim 1 of auxiliary request 28 differs from claim 1 of auxiliary request 27 in that the following feature is added at the end of the claim:

"wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 16 wt.% measured according to ISO 16152:2005".

The wording of auxiliary requests 29-42 is not pertinent to this decision. Relevant explanations about these requests can be found in section 15.18 of the reasons.

Claim 1 of auxiliary request 43 differs from claim 1 of auxiliary request 23 in that the copolymer comprises ~~8-30~~10-18 wt% of the ethylene-α-olefin elastomer.

XI. The parties' submissions, in so far as they are relevant to the present decision, can be derived from the reasons for the decision set out below. They essentially concerned the following issues:

- the admittance of documents D17b, D18 and D19 into the proceedings (point 1. of the reasons);

- whether the subject-matter of claim 1 of the main request and of auxiliary requests 1, 2, 16 and 23 involved an inventive step starting from document D2 as the closest prior art (points 2., 4., 7., 10. and 13. of the reasons) and

- the admittance of the auxiliary requests into the proceedings (points 3., 6., 9., 12., 15. and 17. of the reasons).

Reasons for the Decision

1. Admittance of late-filed evidence

Documents D17b, D18 and D19

1.1 Documents D17b, D18 and D19 were submitted by the respondents by letter dated 19 September 2025, i.e. after the Board's communication pursuant to Article 15(1) RPBA. The admittance of these documents, which is contested by the appellant, is therefore subject to the Board's discretion under Article 13(2) RPBA. This article provides that amendments to a party's case after notification of a communication under Article 15(1) shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

1.2 According to the respondents, documents D17b, D18 and D19 were submitted to prove that the method used in the contested patent to measure the intrinsic viscosities IV_{EPR} and IV_{PP} had an influence on the results obtained. These documents did not constitute an amendment of their case, as that argument had already been presented in their rejoinder to the statement of grounds of appeal. They were merely a response to a criticism by the Board concerning the lack of suitable evidence in respect of this allegation (letter dated 19 September 2025, paragraph bridging pages 1 and 2).

1.3 The appellant argued that the absence of evidence regarding the measurement method had been raised in

their statement of grounds of appeal. D17b, D18 and D19 should therefore have been submitted with the rejoinder to the statement of grounds of appeal.

1.4 First, the Board notes that D17b, D18 and D19 concern the ISO standards referred to in paragraph [0017] of the opposed patent in relation to the IV. Given that the respondents argued in their response to the statement of grounds of appeal that the IV values referred to in claim 1 as granted were measured using these ISO standards (see response, pages 5 and 6, points 25 and 26), filing the description of these standards in the form of D17b, D18 and D19 remains within the framework of that argument.

1.5 Second, the Board agrees with the appellant that the effect of the measurement method on the IV values was disputed by the parties before the Board issued its communication under Article 15(1) RPBA. While the respondents held that the method described in paragraph [0017] of the opposed patent and the measured IV differed from those disclosed in the cited prior art, the appellant objected that no evidence had been provided for the alleged differences (letter dated 8 October 2024, page 5, point 5.19). However, in its preliminary opinion, the Board emphasised that it was "*not sufficient to make credible that there might be some variability of the results obtained depending on the method used, but it should also be shown that the differences observed are such that the IV of the relevant example of D2 would be outside the range defined in claim 1*" (see page 13, first full paragraph). Thus, the definition by the Board of the type of evidence which would be required to convince them could be reasonably understood by the respondents

as an invitation to file new evidence, if their position was to be maintained.

1.6 This new procedural situation (whereby the filing of D17b, D18 and D19 can be seen as a *bona fide* reply to the Board's comments), and the fact that the new submissions remain within the framework of the respondents' initial line of argument, are considered exceptional circumstances within the meaning of Article 13(2) RPBA which justify the admittance of documents D17b, D18 and D19 into the proceedings.

Documents D20 and D21

1.7 Late-filed documents D20 and D21 were not relevant to the subsequent discussion about inventive steps starting from D2 as the closest prior art, since they only concerned D5 as the closest prior art (see letter dated 19 November 2025, page 1, last paragraph to page 3, last paragraph). Therefore, the Board did not have to decide whether to admit them into the proceedings.

Main request (patent as granted)

2. Inventive step

2.1 In the decision under appeal, the opposition division found that the subject-matter of granted claim 1 involved an inventive step starting from documents D2 to D12 and D16/D16a each alternatively taken as the closest prior art.

In the following, any reference to passages of D2 actually refers to those of its translation D2a, which was used by the parties and the Board as a working document.

2.2 Closest prior art

2.2.1 The opposed patent is directed to a heterophasic propylene copolymer and, as set out in paragraph [0001], relates not only to the copolymer itself but also to heterophasic propylene compositions comprising such a copolymer, as well as to their use and methods for their preparation. The object of the invention, defined in paragraph [0007], is to provide a heterophasic propylene copolymer exhibiting excellent tiger-marking performance, i.e. reduced tiger stripe visibility, while being suitable for impact-resistant applications. As is evident from the examples, in particular Table 5, this objective is not limited to the copolymer *per se* but clearly extends to compositions comprising the copolymer. This shows that achieving improved tiger-marking behaviour is a common and explicit goal for both the heterophasic propylene copolymer and the compositions comprising it.

2.2.2 The respondents argued that D11 should be considered as the closest prior art for assessing inventive step, contrary to the appellant's position that all documents D2-D12 and D16 were suitable alternatives to be taken as the closest prior art (rejoinder to the statement of grounds of appeal, page 8, paragraph 38 to page 10, paragraph 48). Using twelve documents as closest prior art constituted an impermissible "shotgun" approach. Reference was made to the Guidelines for Examination (G. VII. 5.1) and decision T 320/15 (point 1.1.2 of the reasons), which established that multiple starting points were only permitted when documents were equally valid springboards, and that opposition proceedings should not become a forum for unlimited inventive step attacks.

The respondents emphasised that granted claim 1 related to a heterophasic propylene copolymer with the objective of reducing tiger stripes, where the copolymer functioned as a stand-alone product rather than merely as a component in a composition. This distinction was crucial because while documents D2-D10, D12 and D16 related to compositions, articles, or tiger stripe modifiers where heterophasic propylene copolymers served as components to improve overall composition properties, only D11 disclosed a heterophasic propylene copolymer that could function as a stand-alone product with improved tiger stripe performance. In particular, Table 7 of D11 demonstrated that base polymers A, B, and C exhibited improved tiger stripe performance in comparison to comparative examples D and E, with the notation "Base polymer" (indicating that these examples concerned stand-alone polymers rather than compounded resins). Consequently, D11 represented the sole document disclosing a heterophasic propylene copolymer usable as a stand-alone product with improved tiger stripe characteristics, with Base resin B identified as the most promising starting point due to its superior tiger stripe performance according to Table 7 of D11.

2.2.3 In agreement with the contested decision, the appellant held that D2 was a suitable closest prior art for assessing inventive step (letter dated 8 October 2024, page 2, point 2.4 to page 4, point 2.10). The appellant rejected the respondents' contention that only D11 can serve as closest prior art and that such prior art must disclose exactly the same purpose or effect as the invention. This approach was artificial and inconsistent with both the content of D11 — whose examples clearly assess tiger stripe performance on

compositions, not only stand-alone heterophasic copolymers — and with the opposed patent itself, which likewise claimed and exemplified compositions comprising heterophasic copolymers rather than limiting itself to stand-alone copolymers. In line with established case law of the Boards of Appeal, multiple documents, including D2, could represent equally valid starting points for the inventive-step analysis, even if they pursue a somewhat different purpose, provided they belonged to the same technical field, addressed similar uses, and shared technical features with the claimed subject-matter. Since D2 met these criteria, inventive step should be assessed starting from D2 as well.

2.2.4 With regard to the choice of the starting point, the Board concurs with the appellant for the following reasons:

(a) Firstly, on the question of whether only one piece of prior art should be selected for the purpose of assessing inventive step, it is settled case law that there are often several reasonable starting points, each offering a different route that might lead to the invention without the need of hindsight (see Case Law of the Boards of Appeal, 11th edition 2025, in the following "Case Law", I.D.3.3). In that case, the rationale of the problem-solution approach requires that the invention be assessed relative to all these possible routes, before an inventive step can be acknowledged, even if in some cases the number of routes might be substantial. Ultimately, for an inventive step to be acknowledged, the claimed subject matter must be considered inventive when starting from any reasonable prior art (see T 2140/22, points 1.9.1

and 1.9.2 of the Reasons, T 1701/22, point 5 of the Reasons and T 1888/21, point 1.4 of the Reasons). In other words, while as rightly pointed out by the respondents, the opposition proceedings should not become as a principle a forum for unlimited inventive step attacks, numerous objections in that respect may be justified depending on the particular case.

In practice, the number of suitable prior art documents may also depend on the breadth of a claim, so that a broad claim may lead to a situation where several documents are equally valid starting points. The same is true in a highly competitive technical field where many closely related prior art documents have been published. However, as mentioned above, the fact that several documents are proposed as the closest prior art is *per se* not incompatible with the problem-solution approach.

In any event, although the appellant started from 12 different documents for their objections of lack of inventive step, it is clear from their arguments that these objections actually boil down to two main lines of attack:

(i) a first group comprising D2, D3, D4, D10, D11 or D12 as the closest prior art from which the sole distinguishing feature would be the intrinsic viscosity ratio IV_{EPR}/IV_{PP} of 3-7 (statement of grounds of appeal, points 2 and 3 on pages 11 to 16) and

(ii) a second group comprising D5, D6, D7, D8, D9, and D16/D16a as the closest prior art

from which the sole distinguishing feature would be the Melt Flow Index of the polypropylene (MFI_{PP}) of at least 180 dg/min (statement of grounds of appeal, point 4 on pages 14 to 18).

(b) Secondly, with regard to the choice of D11 as the closest prior art, the respondents argued that it was the sole document disclosing a heterophasic propylene copolymer that could function as a stand-alone product with improved tiger stripe performance.

Although the Board does not contest that D11 reports the properties of the copolymer alone (see table 2 of D11), it is clear from its claim 1 that this document is primarily directed to compositions including heterophasic propylene copolymer and additives such as fillers and not to stand-alone heterophasic copolymers. Similarly, the scope of the opposed patent is not limited to heterophasic propylene copolymers as stand-alone products but is also directed to compositions including different additives as shown in granted claim 10 and in the examples (see paragraph [0282]). Therefore, document D2 which is likewise directed to compositions including a heterophasic propylene copolymer and having reduced flow marks after injection moulding (as a central problem that the opposed patent intends to solve) is considered to be a reasonable starting point for assessing inventive step (see D2, paragraph [0001] and paragraph [0051], Table 3).

(c) The respondents further argued that the skilled person would not start from copolymer BPP-2 of D2

since this polymer was not a stand-alone product contrary to the purpose of the claimed invention (rejoinder to the statement of grounds of appeal, points 25 to 27, 54 and 57).

(d) The question that arises concerns the choice of an embodiment of D2 as a starting point.

In accordance with the established case law a disclosure which aims at the same purpose and is structurally the closest to the claimed subject-matter can be taken as the starting point for assessing inventive step, i.e. the closest prior art. The underlying idea of this approach is that the skilled person would consider that an object which is structurally sufficiently close to a product of the prior art, i.e. after an appropriate modification thereof, could be expected in view of the uses, effects and properties reported for that product to achieve the goals set out in the patent (T 1719/21, point 14.3.5, second paragraph).

(e) The Board previously noted that the invention claimed in the contested patent aimed not only to provide a copolymer as a stand-alone product but also compositions containing that copolymer, with improved surface appearance in injection-moulded articles (see opposed patent, paragraphs [0001] and [0002]). As Table 2 of D2 shows, the BPP-2 copolymer is used as the main component of a composition exhibiting enhanced surface properties, specifically through the absence of flow marks. This copolymer is therefore a realistic and appropriate starting point for a skilled person, as it serves a purpose comparable to that of the contested patent.

This is also, because compositions including a heterophasic propylene copolymer which present reduced flow marks are unlikely to do so, if the heterophasic propylene copolymer itself is problematic in this respect.

2.2.5 Accordingly, the board concludes that document D2, and in particular the BPP-2 copolymer in table 1, is a valid starting point for assessing inventive step.

2.3 Distinguishing feature(s)

2.3.1 In agreement with the opposition division, the appellant argued that the subject-matter of granted claim 1 differed from copolymer BPP-2 of D2 (see Table 1) only in that the heterophasic propylene copolymer was characterised by

(i) an intrinsic viscosity ratio IV_{EPR}/IV_{PP} of 3-7 (statement of grounds of appeal, page 12, second paragraph).

2.3.2 While the respondents agreed with that distinguishing feature, they contended that copolymer BPP-2 of D2 was not characterized by an IV_{EPR} with a value within the range of 4.5-6.5 dl/g, but an IV of the propylene-ethylene elastomeric copolymer portion, denoted $[\eta]_{CXS}$ of 6 dl/g (see D2, Table 1), which however was not measured by the method described in paragraph [0017] of the opposed patent.

In their submissions of 8 October 2024 (page 5, point 2.13), the appellant criticised that the respondents had not shown that the obtained IV value in D2 depended on the analytical method used for its determination.

Conversely, the respondents criticised the appellant for failing to demonstrate that the IV value reported in D2 (which was not defined by any method) would be a direct and unambiguous disclosure of a value within the IV_{EPR} range defined in claim 1 (letter dated 19 September 2025, points 18 and 19). They argued that D2 did not disclose an IV_{EPR} value as required by claim 1 because the intrinsic viscosity (denoted $[\eta]_{CXS}$) reported for the CXS (Cold Xylene Soluble) fraction in D2 could not be meaningfully compared with the IV_{EPR} parameter. They emphasised that D2 did not describe how the CXS fraction was obtained or how its intrinsic viscosity was measured. Since the CXS fraction and its IV depended heavily on specific methodological steps — such as cooling rates, temperatures, solvent use and dissolution conditions, all strictly defined in the relevant ISO standards (as shown in D17b, D18 and D19) — the value reported in D2 could vary substantially depending on the method used. Without any disclosure of these critical conditions, the intrinsic viscosity in D2 was not directly and unambiguously comparable to the IV_{EPR} defined in the opposed patent (letter of the respondents dated 19 September 2025, page 3, point 9 to page 5, point 18).

2.3.3 To the benefit of the respondents, the Board will assume that the IV as defined in granted claim 1 is measured by the method of paragraphs [0017] and [0269] of the specification even if this method is not explicitly mentioned in claim 1. This means that the IV_{pp} and IV_{EPR} are determined according to ISO-1628-1 and -3, based on the amount of the xylene-insoluble matter (CXI) and xylene-soluble matter (CXS) measured according to ISO 16152:2005.

2.3.4 According to established case law, in *inter partes* proceedings each party bears the burden of proof for the facts it alleges (Case law, III.G.5.1.1). This implies that, on account of the principle of free evaluation of evidence, the arguments and evidence brought by each party should be such as to convince the Board of the truth of a factual allegation.

2.3.5 In the present case the relevant factual allegation is whether the skilled person implementing the teaching given for copolymer BPP-2 of D2 (with a reported $[\eta]_{CXS}$) fraction of 6 dl/g) would obtain or not a IV_{EPR} measured by the method of paragraphs [0017] and [0269] which is within the scope of claim 1 (i.e. 4.5-6.5 dl/g).

2.3.6 First, D2 explicitly refers to the intrinsic viscosity of the cold-xylene-soluble fraction ($[\eta]_{CXS}$)), which presupposes that this fraction is physically separated and then measured, not calculated. Paragraph [0022] of D2 describes the dissolution of the heterophasic copolymer in boiling xylene followed by cooling to separate the soluble and insoluble fractions. This corresponds to the principle of the standard procedure reflected in ISO 16152:2005 (D17b), which is to be read in operative claim 1. It follows from paragraph [0022] describing the separation of the copolymer in a soluble and an insoluble portion that the propylene-ethylene random copolymer portion corresponds to the portion soluble in cold xylene. In this respect, there is no reason to assume that, when putting the teaching of D2 into practice, the skilled person would perform such a routine and conventional separation method in an unreasonable manner, which is the essence of the precautions addressed in D17b.

2.3.7 Second, with respect to the measurement of IV, D2 provides no indication of a measurement technique. In the absence of such information, the skilled person would understand that IV is determined using standard, generally accepted methods in the field. These are reflected in ISO 1628-1 and ISO 1628-3 (D18 and D19), which outline the measurement conditions to ensure reliable results.

This is corroborated by the consistent practice in the prior art. Several documents cited in the proceedings measure intrinsic viscosity at 135 °C using decalin (decahydronaphthalene) or a closely related solvent such as tetralin (see D3, paragraph [0043]; D4, paragraphs [0013] and [0020]; D5, paragraph [0072]; D6, paragraph [0047]; D7, paragraph [0088]; D8, paragraph [0009]; D9, claim 1; D10, page 17, line 30; D11, page 10, lines 22-23; D16a, page 11, line 33). This uniformity across the technical field confirms what the skilled person would regard as the conventional method for IV determination of polyolefin fractions. Accordingly, when D2 reports IV values without further detail, it should be read as implicitly referring to this same conventional practice.

2.3.8 Finally, while the respondents provided the details of the ISO standards relied upon in paragraph [0017] of the opposed patent (see D17b, D18 and D19), this does not allow one to conclude that following the procedure set out in these standards would result in an IV_{EPR} that differs from that reported in D2, let alone an IV_{EPR} that falls outside of the scope of operative claim 1.

Although parameters such as the cooling rate might influence the amount of xylene-soluble material, as

submitted by the respondents - a factor which appears relevant when determining the exact amount of the xylene-soluble fraction for comparative purposes between different samples - there is no evidence that applying reasonable conditions to extract that component would significantly affect the intrinsic viscosity of the isolated fraction once obtained.

2.3.9 Moreover, as indicated in point 2.3.7 above, when putting into practice copolymer BPP-2 of D2, the skilled person would measure the IV of that fraction using the same or equivalent, generally accepted methods, as those described in the patent in suit, for which the same details concerning the procedure to be followed would also have to be selected. In this respect, the patent in suit does not provide any detail going beyond what is described in D18 and D19. There is therefore no reason to read into claim 1 additional test conditions for measuring the IV_{EPR} which would cast doubt on whether the xylene-soluble fraction described for copolymer BPP-2 of D2 necessarily falls within the range defined in operative claim 1.

2.3.10 On that basis, on account of the evidence available, the Board concludes that the sole distinguishing feature between the subject-matter of granted claim 1 and copolymer BPP-2 of D2 representing the starting point for assessing inventive step is an intrinsic viscosity ratio IV_{EPR}/IV_{PP} of 3-7.

2.4 Problem successfully solved

2.4.1 The opposition division considered that the examples of the patent provided sufficient evidence that the intrinsic viscosity ratio IV_{EPR}/IV_{PP} of 3-7 contributed

to an improvement in tiger stripe performance (contested decision, point 54 of the reasons).

2.4.2 The appellant contests this finding (see statement of grounds of appeal, pages 10 and 11, point 1). Their argument can be summarised as follows:

> The opposed patent contained only two comparative examples with nearly identical IV_{EPR}/IV_{PP} values (1.69 and 1.62) which was not sufficient to demonstrate a technical effect across, but not outside of, the whole 3-7 range (see Table 2, CEx 1 and CEx 2). The working examples (Ex 1-8) only tested three narrowly spaced values (3.85, 4.08, and 4.62), which collectively covered merely 19% of the 3-7 range, making them inadequate evidence for any effect across the full range.
>
> Furthermore all working examples used the same IV_{PP} value (1.3 dl/g) - identical to the comparative examples. This made it impossible to determine whether any observed technical effect (improved tiger stripe performance) stemmed from the claimed ratio itself or merely from the numerator (IV_{EPR}) alone. To validly claim an effect linked to a ratio range, the patent proprietor should however demonstrate that the technical effect related to the ratio rather than just its numerator alone.
>
> Since the patent failed to establish that the IV_{EPR}/IV_{PP} ratio of 3-7 produced a technical effect, the objective technical problem was merely to provide an alternative heterophasic propylene copolymer.

2.4.3 The respondents argued that the technical effect associated with an IV_{EPR}/IV_{PP} ratio of 3–7 was

demonstrated by the experimental data of the opposed patent: Ex 1-8 showed better tiger-stripe performance than CEx 1-2. The appellant's objections that the examples covered only a narrow part of the range or used only one IV_{PP} value were mere unsubstantiated allegations. Furthermore the burden of proof lay with the opponent, who had provided no evidence casting doubt on the demonstrated effect. Since the examples showed a clear correlation between the IV_{EPR}/IV_{PP} ratio and improved surface appearance, and nothing suggested the effect would not hold across the full claimed range, the respondents concluded that the distinguishing feature indeed provided improved tiger-stripe performance.

2.4.4 In that regard, the Board concurs with the appellant for the following reasons.

2.4.5 According to the Boards' established case law, if comparative tests are chosen to demonstrate an inventive step on the basis of an improved effect, the nature of the comparison with the closest state of the art must be such that the alleged advantage or effect is convincingly shown to have its origin in the distinguishing feature (Case Law, I.D.4.3.2).

2.4.6 In the present case, the opposed patent presents several examples in which the IV_{EPR}/IV_{PP} ratio varies (see Table 2). However, as the appellant observed, this variation arises solely from changes in the numerator (IV_{EPR} values between 2.1 and 6 dl/g), while the denominator remains constant (IV_{PP} = 1.3 dl/g). As a result, it cannot be determined whether any technical effect reported in the patent is attributable to the ratio itself (as the distinguishing feature) or merely to the varying IV_{EPR} values. This distinction is

particularly important here, since, as previously explained, the IV_{EPR} as such is not a distinguishing feature between copolymer BPP-2 and claim 1 as granted.

2.4.7 Accordingly, the Board concludes that it has not been shown that the alleged effect has its origin in the IV ratio as distinguishing feature. For that reason, the objective technical problem solved over the closest prior art is to be formulated as the provision of an alternative heterophasic propylene copolymer.

2.5 Obviousness

2.5.1 It remains to be evaluated whether it was obvious for a skilled person wishing to provide an alternative heterophasic propylene copolymer to copolymer BPP-2 of D2 to adjust the IV_{EPR}/IV_{PP} ratio between 3 and 7.

2.5.2 According to the appellant, it would be obvious, given the teaching of D2 (see paragraph [0013]), to select an IV_{PP} of between 0.8 and 1.5 dl/g which would lead (starting from example BPP-2 of D2) to a IV_{EPR}/IV_{PP} ratio between 4 and 7.5 nearly overlapping with the range of 3 to 7 according to granted claim 1 (statement of grounds of appeal, page 12, fourth paragraph to page 13, second paragraph).

2.5.3 The respondents argued that the IV of the propylene homopolymer portion disclosed in paragraph [0013] of D2 (denoted $[\eta]_H$) did not correspond to the IV_{PP} as measured by the method disclosed in paragraph [0017] of the opposed patent. In particular, paragraph [0022] of D2 stated that only the crystalline portion of the propylene homopolymer was separated and evaluated. In contrast, the whole of the xylene-insoluble matter (CXI) was analysed in the opposed patent (rejoinder to

the statement of grounds of appeal, page 11, point 56). Also for this reason, the IV_{EPR}/IV_{PP} ratio calculated by the appellant based on D2 did not correspond to the IV_{EPR}/IV_{PP} ratio defined in the opposed patent. Therefore, the solution proposed in operative claim 1 was not obvious in view of the disclosure of D2.

2.5.4 This argument is not persuasive. As explained above, the choice of a IV_{EPR}/IV_{PP} ratio of 3 to 7 is not linked to any technical effect and therefore arbitrary. D2 explicitly teaches that the IV of the propylene homopolymer portion ($[\eta]_H$) and the intrinsic viscosity of the elastomeric fraction ($[\eta]_{CXS}$) are key parameters. Paragraphs [0013] and [0015] of D2 disclose suitable ranges for the intrinsic viscosity of the polypropylene homopolymer portion ($[\eta]_H$) and for the IV of cold-xylene-soluble fraction ($[\eta]_{CXS}$), whereby the latter parameter corresponds in substance to IV_{EPR}, as follows from the considerations in points 2.3.6 to 2.3.9 above.

2.5.5 The Board acknowledges that paragraph [0013] of D2 discloses the intrinsic viscosity $[\eta]_H$ of the propylene homopolymer while, in the opposed patent, the intrinsic viscosity IV_{PP} is that of the xylene-insoluble fraction (CXI) (see paragraph [0017]), whereby according to D2 the latter may include a crystalline ethylene homopolymer component. However, paragraph [0016] of D2 teaches that the crystalline ethylene homopolymer is an optional component which may only be present in a small amount. This implies that the intrinsic viscosity of the insoluble fraction is, for all practical purposes, governed by the propylene homopolymer portion $[\eta]_H$, so that adjusting the IV of that portion effectively adjusts IV_{PP} in the sense of the opposed patent.

2.5.6 Consequently, starting from the heterophasic propylene copolymer copolymer BPP-2 of D2 and faced with the problem of providing an alternative heterophasic propylene copolymer, the skilled person would naturally consider adjusting the $[\eta]_{CXS}$ and $[\eta]_{H}$ values within the ranges taught in D2, whereby having regard to the considerations in points 2.3.6 to 2.3.9 and 2.5.5 above, these parameters essentially correspond to the IV_{EPR} and IV_{PP} within the meaning of the patent in suit, respectively. It is also undisputed that the skilled person based on the teaching of D2 would be able to adjust by routine experimental work the $[\eta]_{CXS}$ and $[\eta]_{H}$ values described in paragraphs [0015] and [0013] of that document, so as to arrive at an arbitrary ratio of $[\eta]_{CXS}/[\eta]_{H}$ falling within the range of 3 to 7, which essentially corresponds to the IV_{EPR}/IV_{PP} ratio defined in operative claim 1.

2.6 Accordingly, the subject-matter of granted claim 1 encompasses obvious embodiments in view of the teaching of D2 alone, prejudicing maintenance of the patent in the form defined in the present main request.

Auxiliary request 1

3. Admittance

3.1 Auxiliary request 1 was filed by the respondents with their rejoinder to the statement of grounds of appeal.

3.2 The appellant objected to the admission of all auxiliary requests for the following reasons (see letter dated 8 October 2024, page 5, point 3.1 to page 7, point 3.7):

- the total number of auxiliary requests (43) was excessive. The requests were also divergent with higher-ranked requests containing narrower limitations than lower-ranked ones.

- the respondents failed to provide detailed reasons for the admittance of the auxiliary requests, offering only vague statements.

3.3 According to Article 12(4) RPBA, any amendment of a party's case may be admitted at the discretion of the Board.

3.4 With regard to auxiliary request 1, the first question to be answered is whether this request can be seen as an amendment of the respondents' case.

3.5 As noted by the appellant (letter dated 8 October 2024, page 5, point 3.2), present auxiliary request 1 corresponds to auxiliary request 2 which was initially submitted with the response to the notice of opposition. The aim of that amendment is to ensure that IV_{EPR} is acknowledged as an additional distinguishing feature over BPP-2 described in D2. It was admissibly raised and maintained by the respondents before the opposition division (minutes of the oral proceedings, page 4, lines 9-11). Therefore, this request is not an amendment to the respondents' case within the meaning of Article 12(4) and (6) RPBA.

3.6 Under these circumstances, auxiliary request 1 is part of the proceedings.

4. Inventive step

4.1 As noted above (see point X.), claim 1 of auxiliary request 1 differs from claim 1 as granted in that the method to measure IV_{PP} and IV_{EPR} was specified as follows:

> "wherein IV_{PP} and IV_{EPR} are determined according to ISO-1628-1 and -3 based on the amount of the xylene soluble matter (CXS) and xylene insoluble matter (CXI) measured according to ISO1652:2005" (corresponding to the method described in paragraph [0017] of the opposed patent).

4.2 This amendment was introduced to address concerns that granted claim 1 would not be limited to a specific method (letter from the respondents dated 19 September 2025, page 29, point 127). However, when assessing the inventive step of granted claim 1, the Board considered that the IV, as defined in that claim, were measured using the method described in paragraph [0017], even though this method was not explicitly mentioned in claim 1 (see point 2.3.3 of the reasons).

4.3 Therefore, the specification of the IV measurement method in claim 1 of auxiliary request 1 has no effect on the previous finding regarding inventive step, meaning that the subject-matter of that claim also lacks an inventive step when starting from copolymer BPP-2 of D2 as the closest prior art.

Auxiliary request 2

5. As noted above (see point X.), claim 1 of auxiliary request 2 differs from claim 1 as granted in that the

melt flow index (MFI) of the propylene polymer of the matrix phase is at least 210 dg/min (instead of at least 180 dg/min).

6. Admittance

6.1 Auxiliary request 2 was filed by the respondents with their rejoinder to the statement of grounds of appeal.

6.2 As noted by the appellant (letter dated 8 October 2024, page 5, point 3.2), this request corresponds to auxiliary request 3 which was initially submitted with the response to the notice of opposition, maintained and therefore admissibly raised by the patent proprietor during the opposition proceedings.

6.3 Thus, auxiliary request 2 is part of the proceedings.

7. Inventive step

7.1 The parties did not submit that the amendment introduced in present claim 1 would justify the selection of a different starting point for assessing inventive step. On that basis the starting point (copolymer BPP-2 of D2) remains the same (see point 2.2). Also for auxiliary request 2, it is considered to the benefit of the respondents (as is the case for the main request), that the IV defined in claim 1 is measured by the method of paragraphs [0017] and [0269], i.e. the IV_{PP} and IV_{EPR} are determined according to ISO-1628-1 and -3, based on the amount of the xylene-insoluble matter (CXI) and xylene-soluble matter (CXS) measured according to ISO 16152:2005.

7.2 There was agreement between the parties that the MFI of at least 210 dg/min was an additional distinguishing

feature between the subject-matter of operative claim 1 and copolymer BPP-2 of D2 (which is characterised by a MFI of 180 dg/min). The parties did not argue that this additional feature resulted in a different formulation of the objective problem, and the Board has no reason to have a different view. Therefore the objective problem solved with respect to the closest prior art remains the same: to provide an alternative heterophasic propylene copolymer (see point 2.4).

7.3 The central point of dispute between the parties concerned the question whether it was obvious for a skilled person starting from D2 to increase the MFI of the polypropylene polymer of the matrix phase of copolymer BPP-2 while maintaining the other properties within the ranges defined in claim 1 of auxiliary request 2.

7.4 According to the appellant, paragraph [0020] of D2 taught that the MFI of the polypropylene homopolymer was preferably between 20 and 220 dg/min. It was therefore obvious to select a value of at least 210 dg/min within that preferred range (letter of the appellant dated 8 October 2024, page 9, point 4.2).

7.5 During the oral proceedings, the respondents argued that the MFI values reported in D2 were those of the crystalline propylene homopolymer and ethylene homopolymer portions. These were different to the MFI values of the propylene polymer of the matrix phase, as defined in the opposed patent. Furthermore, increasing the MFI of the crystalline propylene portion in copolymer BPP-2 would result in a decrease of IV_{PP}, meaning that the IV_{EPR}/IV_{PP} would increase. Therefore, the skilled person would need to increase the MFI while

adjusting the IV ratio, for which there was no guidance in D2.

7.6 This is not persuasive. In the absence of any definition in this respect in operative claim 1 there is no reason to read into that claim that the propylene polymer of the matrix phase is a polypropylene homopolymer fraction, excluding any ethylene homopolymer fraction. On the contrary, in agreement with the meaning of IV_{PP} and IV_{EPR} adopted in point 2.3.3 above, it can be taken from paragraphs [0268] and [0269] of the specification that the fraction soluble in xylene at 25 °C (i.e. the CXS) represents the ethylene-α-olefin elastomer, while the propylene polymer corresponds to the fraction insoluble in xylene at 25 °C, i.e. the matrix phase or the remainder of the heterophasic propylene copolymer. In other words, the MFI values disclosed in paragraph [0020] of D2 are given like for the patent in suit for the matrix phase, and not its sole polypropylene homopolymer part. Paragraph [0020] of D2 therefore teaches a preferred MFI range of 20–220 dg/min for the matrix phase, rendering the arbitrary choice of an MFI of at least 210 dg/min for the latter, as defined in operative claim 1, obvious.

7.7 With respect to the need to adjust the IV_{EPR}/IV_{PP} ratio, while the new lower value defined for the MFI of the matrix phase represents a new implicit limitation of the upper value for the IV_{PP}, the Board considers that it has not been made credible that the skilled person based on the teaching of D2 would have any difficulty to obtain a copolymer having at the same time an IV_{EPR}/IV_{PP} ratio of 3-7 and whose matrix phase (or fraction insoluble in xylene at 25 °C) has a MFI of at least 210 dg/min. This is because increasing the MFI within the

meaning of D2 of the patent in suit corresponds to a decrease of the molecular weight of the overall matrix phase, and therefore a decrease of the IV of the latter (i.e. IV_{PP} within the meaning of the patent in suit), whereby this parameter can be essentially adjusted independently from the IV_{EPR}. Noting that the IV_{EPR} for copolymer BPP-2 is about 6 dl/g, it is credible that both IV_{EPR} and IV_{PP} can be reduced simultaneously while maintaining their ratio. This conclusion is further supported by the examples of the patent which show that obtaining a copolymer with an even higher MFI (230 dg/min), an IV_{EPR} and an IV_{EPR}/IV_{PP} ratio within the claimed range is possible (see opposed patent, table 2, examples 1 to 8). Accordingly, it would be obvious for the skilled person in the light of D2 alone to arrive at a heterophasic propylene copolymer having not only a IV_{EPR}/IV_{PP} ratio between 3 and 7, but also a MFI of the matrix phase of at least 210 dg/min.

7.8 Therefore, the subject-matter of claim 1 of auxiliary request 2 lacks an inventive step when starting from copolymer BPP-2 of D2 as the closest prior art.

Auxiliary request 16

8. Claim 1 of auxiliary request 16 differs from claim 1 of auxiliary request 2 in that the following feature was added at the end of the claim:

"wherein the IV_{PP} is 1.0-2.0 dl/g".

9. Admittance

9.1 Auxiliary request 16 was filed by the respondents with their rejoinder to the statement of grounds of appeal.

9.2 The appellant objected to the admission of auxiliary request 16 for the following reasons:

- this request was an amendment of the respondents' appeal case subject to the discretion of the Board under Article 12(4) RPBA;

- the total number of auxiliary requests (43) was excessive. The requests were also divergent with higher-ranked requests containing narrower limitations than lower-ranked ones;

- the respondents failed to provide detailed reasons for the admittance of auxiliary request 16.

9.3 The respondents argued that the additional feature introduced in claim 1 of auxiliary request 16 (IV_{PP} of 1.0-2.0 dl/g) was already present in auxiliary request 6 as filed during opposition proceedings. Furthermore, it was explained in the rejoinder to the statement of grounds of appeal (page 26, points 125 and 126) why this additional feature was suitable to overcome the objections of lack of inventive step.

9.4 According to Article 12(4) RPBA, any amendment of a party's case may be admitted at the discretion of the Board. In particular, the Board shall exercise its discretion in view of, *inter alia*, the complexity of the amendment, the suitability of the amendment to address the issues which led to the decision under appeal, and the need for procedural economy.

9.5 The Board concurs with the appellant that auxiliary request 16 is an amendment of the respondents' case since the combination of features of operative claim 1

was not present in any of the requests filed during opposition proceedings.

9.6 The question to be answered is therefore whether auxiliary request 16 may be admitted taking into consideration the criteria referred to in Article 12(4) RPBA.

9.7 The Board notes that the respondents provided reasons as to why the additional feature of auxiliary request 16 was suitable for overcoming the lack of inventive step objections (rejoinder to the statement of grounds of appeal, page 26, points 125 and 126). This amendment does not raise complex issues and is not detrimental to procedural economy, also having regard to the fact that it introduces an additional limitation to auxiliary request 2, i.e. represents a convergent request.

9.8 Under these circumstances, the Board does not find it appropriate to exercise its power under Article 12(4) RPBA to hold auxiliary request 16 inadmissible.

10. Inventive step

10.1 As noted above, claim 1 of auxiliary request 16 differs from claim 1 of auxiliary request 2 in that the IV_{PP}, i.e. the IV of the matrix phase, is 1.0-2.0 dl/g. As for the main request and auxiliary request 2, it is considered, to the benefit of the respondents, that the IV defined in claim 1 is measured according to ISO-1628-1 and -3, based on the amount of the xylene-insoluble matter (CXI) and xylene-soluble matter (CXS) measured according to ISO 16152:2005.

10.2 The parties did not submit that the amendment introduced in present claim 1 would justify the

selection of a different starting point for assessing inventive step. On that basis the starting point (copolymer BPP-2 of D2) remains the same (see point 2.2).

10.3 There was agreement between the parties that the IV_{PP} range of 1.0-2.0 dl/g was an additional distinguishing feature between the subject-matter of operative claim 1 and copolymer BPP-2 of D2, in the sense that the IV_{PP} of that copolymer was not disclosed.

10.4 According to the respondents, this additional distinguishing feature justified the acknowledgment of an inventive step for the following reasons:

- the IV_{PP} range being narrow, the effect of the claimed invention would be clearer (rejoinder to the statement of grounds of appeal, page 26, point 126);
- the IV_{PP} values disclosed in D2 differed from those of the opposed patent because different measurement methods had been used. It would therefore not be obvious for a skilled person starting from D2 to obtain a copolymer having the combination of features of operative claim 1 (in particular with an IV_{PP} as defined in the opposed patent of 1.0-2.0 dl/g).

10.5 The first point raised by the respondents concerns the definition of the objective problem to be solved and whether the limitation of the IV_{PP} range can justify to acknowledge a technical effect. In the context of the main request, it was found that a technical effect could not be acknowledged since it was not clear whether the claimed improvement was related to the IV_{EPR}/IV_{PP} ratio or to the IV_{EPR} (see points 2.4.6 and

2.4.7 above). The limitation of IV_{PP} range in operative claim 1 has no impact on that conclusion such that the problem successfully solved over the closest prior art remains the provision of an alternative copolymer.

10.6 The second point concerns the obviousness of the IV_{PP} feature, i.e. the intrinsic viscosity of the matrix phase or fraction insoluble in xylene at 25 °C, in combination with the other features of operative claim 1. As pointed out in relation to the main request (see point 2.5 above), the skilled person knows from paragraph [0016] of D2 that the ethylene homopolymer part of the matrix phase is optional and, if used only in a small amount. On that basis, in view of the arbitrary character of the selection of an IV for the matrix phase (IV_{PP}), the skilled person, guided by the teaching in paragraph [0013] of D2 that the propylene homopolymer which constitutes the essential part of that matrix phase, preferably has an intrinsic viscosity of 0.8-1.5 dl/g, would find it obvious to use a matrix phase having a intrinsic viscosity IV_{PP} with values within the range of 1.0-1.5 dl/g. With respect to the need to adjust or maintain the other properties of the copolymer as defined in claim 1, it has not been made credible that the skilled person would have any difficulty to do so. It was concluded in above point 7.7 that preparing a polymer with both an MFI_{PP} of at least 210 dg/min and an IV_{EPR}/IV_{PP} ratio of 3-7 was obvious for the skilled person. The same applies to obtaining such a copolymer whose polypropylene matrix also has an IV of 1.0 to 1.5 dl/g. This conclusion is further supported by the examples of the patent which show that obtaining a copolymer with an even higher MFI_{PP} (230 dg/min) and an IV_{PP} of 1.3 is possible (see opposed patent, Table 2).

10.7 Therefore, the subject-matter of claim 1 of auxiliary request 16 lacks an inventive step when starting from copolymer BPP-2 of D2 as the closest prior art.

Auxiliary request 23

11. The wording of claim 1 of auxiliary request 23 differs from that of claim 1 of auxiliary request 2 in that:

the ratio of IV_{EPR}/IV_{PP} is 3-5 and

the method to measure IV_{PP} and IV_{EPR} is specified as follows

"wherein IV_{PP} and IV_{EPR} are determined according to ISO-1628-1 and -3 based on the amount of the xylene soluble matter (CXS) and xylene insoluble matter (CXI) measured according to ISO16152:2005".

12. Admittance

12.1 Auxiliary request 23 was filed by the respondents with their rejoinder to the statement of grounds of appeal.

12.2 During the oral proceedings, the parties submitted arguments essentially identical to those presented for the admissibility of auxiliary request 16 (see points 9.2 and 9.3). The Board therefore has no reason to reach any conclusion other than that stated above (see points 9.4 to 9.7). It is noted in particular that the respondents indicated in their rejoinder to the statement of grounds of appeal (see page 26, paragraphs 122 and 123) the reasons why limiting the IV_{EPR}/IV_{PP} ratio was suitable to overcome all objections of lack of inventive step.

12.3 With regard to the convergence criterion, the Board accepts that auxiliary request 23 does not converge with auxiliary request 16 since claim 1 of the former is not limited by an IV_{PP} of 1.0-2.0 dl/g. However, the Board holds that, this alternative line of defence proposed by the respondent based on a further limitation of the IV_{EPR}/IV_{PP} ratio does not raise complex issues and is not detrimental to procedural economy.

12.4 Under these circumstances, the Board does not find it appropriate to exercise its power under Article 12(4) RPBA to hold auxiliary request 23 inadmissible.

13. Inventive step

13.1 In the following, the Board bases its reasoning on the arguments developed in relation to claim 1 of auxiliary request 2 (see point 7).

13.2 The parties did not submit that the amendments introduced in present claim 1 would justify the selection of a different starting point for assessing inventive step. On that basis the starting point (copolymer BPP-2 of D2) remains the same (see point 2.2). Concerning the second amendment of operative claim 1 (the methods for measuring the IV), it was already considered, to the benefit of the respondents, to be part of the definition of the subject-matter of claim 1 of auxiliary request 2 (see point 7.1).

13.3 There was agreement between the parties that the ratio IV_{EPR}/IV_{PP} of 3-5 was a distinguishing feature between the subject-matter of operative claim 1 and copolymer

BPP-2 of D2 (the ratio of IV_{EPR}/IV_{PP} for that copolymer is not known).

13.4 According to the respondents, this distinguishing feature justified the acknowledgment of an inventive step for the following reasons:

- the IV_{EPR}/IV_{PP} range being narrow, the effect of the claimed invention would be clearer (rejoinder to the statement of grounds of appeal, page 26, point 123);
- the IV_{PP} values disclosed in D2 differed from those of the opposed patent because different measurement methods had been used (rejoinder to the statement of grounds of appeal, page 26, point 122). It would therefore not be obvious for a skilled person starting from D2 to obtain a copolymer having the combinations of features of operative claim 1 (in particular with a IV_{EPR}/IV_{PP} ratio of 3-5).

13.5 The first point raised by the respondents concern the definition of the objective problem and whether the limitation of the IV_{EPR}/IV_{PP} range can justify to acknowledge a technical effect. In the context of the main request, it was found that a technical effect could not be acknowledged since it was not clear whether the claimed improvement was related to the IV_{EPR}/IV_{PP} ratio or to the IV_{EPR} (see points 2.4.6 and 2.4.7 above). The limitation of IV_{EPR}/IV_{PP} range has no impact on that reasoning so that the problem to be solved remains the provision of an alternative copolymer.

13.6 The second point concerns the obviousness of the IV_{EPR}/IV_{PP} feature. In the context of auxiliary request 2, it was found that it was obvious for the skilled person in

the light of D2 alone to arrive at a heterophasic propylene copolymer having a IV_{EPR}/IV_{PP} ratio between 3 and 7, but also a MFI of the matrix phase of at least 210 dg/min (see point 7.6 above). The Board therefore agrees with the appellant that the same reasoning and conclusion apply to the arbitrary selection of the narrower range of 3–5 defined in operative claim 1, as no effect is associated with this selection.

13.7 Therefore, the subject-matter of claim 1 of auxiliary request 23 lacks an inventive step when starting from copolymer BPP-2 of D2 as the closest prior art.

Auxiliary requests 3, 7, 8, 15 and 24

14. Inventive step

14.1 Claims 1 of auxiliary requests 3, 7 and 15 have a broader scope than claim 1 of auxiliary request 23 (see rejoinder to the statement of grounds of appeal, page 21, table). Consequently, the finding of a lack of inventive step for claim 1 of auxiliary request 23 necessarily applies to auxiliary requests 3, 7 and 15.

14.2 For auxiliary request 16, it was considered to the benefit of the respondents that the IV defined in claim 1 was measured according to ISO-1628-1 and -3, based on the amount of the xylene-insoluble matter (CXI) and xylene-soluble matter (CXS) measured according to ISO 16152:2005 (see point 10.1 above). Therefore, the reasoning given for claim 1 of auxiliary request 16 also applies to the subject matter of claim 1 of auxiliary request 24, as the only difference is the introduction of the IV measurement methods. Moreover, since the subject-matter of claim 1 of auxiliary request 24 is fully included in that of claim 1 of

auxiliary request 8, the finding that claim 1 of auxiliary request 24 lacks inventive step also applies to auxiliary request 8.

Auxiliary requests 4-6, 9-14, 17-22 and 25-42

15. Admittance

15.1 Auxiliary requests 4-6, 9-14, 17-22 and 25-42 were filed by the respondents with their rejoinder to the statement of grounds of appeal.

15.2 The respondents provided a basis for the amendments and explained why they would overcome certain objections raised by the appellant (see rejoinder, page 24, paragraph 113 to page 28, paragraph 138). It was in particular indicated that the features introduced in claim 1 of auxiliary requests 4-6, 9-14, 17-22 and 25-42 were already present in auxiliary requests filed during opposition proceedings.

15.3 The appellant objects to the admittance of auxiliary requests 4-6, 9-14, 17-22 and 25-42 for the following reasons (see letter dated 8 October 2024, page 5, point 3.1 to page 7, point 3.7):

- the number of auxiliary requests (43) was excessive. The requests were also divergent with higher-ranked requests containing narrower limitations than lower-ranked ones.

- the respondents' argument that individual features appeared in the requests filed in first instance proceedings was inadequate because:

- some features (such as the 10-18 wt% ethylene limitation) were never presented at first instance;
- the opposition division never examined these features since the opposition was rejected;
- the admittance of new claims should be assessed as complete combinations and not based on their individual features;

- the respondents failed to provide detailed reasons for the admittance of these requests, offering only vague statements.

15.4 In its communication under Article 15(1) RPBA (points 8.3 and 8.5.2), the Board indicated that the admittance of these requests would be assessed taking into account their suitability to address the pending issues and the criterion of convergence.

15.5 During the oral proceedings, the parties referred to their written submissions (see minutes of the oral proceedings, page 5, sixth and seventh paragraphs).

15.6 As explained previously, the Board concluded that claim 1 of the main request and of auxiliary requests 1, 2, 16 and 23 did not involve an inventive step starting from copolymer BPP-2 of D2. The main question for the admittance of auxiliary requests 4-6, 9-14, 17-22 and 25-42 is therefore whether these requests are suitable to overcome that objection.

15.7 In the present case the respondents provided some explanations as to why specific amendments of auxiliary requests 4-6, 9-14, 17-22 and 25-42 would allow to overcome an objection of lack of inventive step however they are insufficient for the following reasons:

15.8 Auxiliary request 4:

(a) Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 1 in that the following feature was added at the end of the claim:

"wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 27 wt.% measured according to ISO 16152:2005."

(b) The respondents stated that this additional feature would not be disclosed in copolymer BPP-2 of D2, and that there would be no incentive for a skilled person to select it (see rejoinder to the statement of grounds of appeal, page 24, paragraphs 114 and 115). However, this general and vague explanation is insufficient to enable the Board to understand why claim 1 of auxiliary request 4 would be inventive in view of D2. In particular, there is no explanation as to why this would represent a distinguishing feature over the copolymer BPP-2 of D2 which comprises 10 wt.% of propylene-ethylene random copolymer, what the CXS value of copolymer BPP-2 would be if it were considered as a distinguishing feature, nor why it would not be obvious to modify this copolymer in such a way as to achieve a CXS value in accordance with claim 1.

15.9 The same line of reasoning applies to auxiliary requests 5-6, 9-14, 17-22 and 25-42. For the sake of completeness, the Board will nevertheless address these requests in details below:

15.10 Auxiliary request 5:

(a) Claim 1 of auxiliary request 5 differs from claim 1 of auxiliary request 1 in that the following feature was added at the end of the claim:

"wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 16 wt.% measured according to ISO 16152:2005."

(b) The respondents stated that this additional feature would not be disclosed in copolymer BPP-2 of D2, and that there would be no incentive for a skilled person to select it (see rejoinder to the statement of grounds of appeal, pages 24 and 25, paragraphs 116 and 117). However, this general and vague explanation is insufficient to enable the Board to understand why claim 1 of auxiliary request 5 would be inventive in view of D2. In particular, there is no explanation as to why this would represent a distinguishing feature over the copolymer BPP-2 of D2 which comprises 10 wt.% of propylene-ethylene random copolymer, what the CXS value of copolymer BPP-2 would be, nor why it would not be obvious to modify this copolymer in such a way as to achieve a CXS value in accordance with claim 1.

15.11 Auxiliary request 6:

(a) Claim 1 of auxiliary request 6 differs from claim 1 of auxiliary request 1 in that the following feature was added:

"wherein the propylene polymer of the matrix phase has a unimodal molecular weight distribution"

(b) The respondents stated that this additional feature would not be disclosed in documents D6, D7 and D10 (see rejoinder to the statement of grounds of appeal, page 25, paragraphs 119 and 120). However, the Board fails to see how this request could be suitable to address the objection of lack of inventive step starting from D2 as the closest prior art from which it is not apparent that the added feature would represent an additional distinguishing feature.

15.12 Auxiliary request 9:

(a) Claim 1 of auxiliary request 9 differs from claim 1 of auxiliary request 1 in that the ethylene-α-olefin elastomer of the dispersed phase comprises 40-50 wt% of ethylene (instead of 10-55 wt%).

(b) The respondents stated that this limiting feature would not be disclosed in documents D7, D9, D10, D11, D12 and D16 (see rejoinder to the statement of grounds of appeal, page 27, paragraph 128). However, in the absence of submissions by the respondents in respect of D2, the Board fails to see how this request could be suitable to address the objection of lack of inventive step starting from copolymer BPP-2 of D2 as the closest prior art.

15.13 Auxiliary request 10:

(a) Claim 1 of auxiliary request 10 differs from claim 1 of auxiliary request 1 in that the copolymer comprises 10-18 wt% of the ethylene-α-olefin elastomer (instead of 8-30 wt%).

(b) The respondents stated that this limiting feature would not be disclosed in documents D5-D10, D12 and D16 (see rejoinder to the statement of grounds of appeal, page 27, paragraph 131). In the absence of submissions in respect of D2, the Board fails to see how this request could be suitable to address the objection of lack of inventive step starting from the copolymer BPP-2 of D2 as the closest prior art. It is in particular not clear to the Board how this additional feature would further distinguishing the claimed heterophasic propylene copolymer from the copolymer BPP-2 of D2 which comprises 10 wt.% of propylene-ethylene random copolymer.

15.14 Auxiliary request 11 combines the features of auxiliary requests 9 and 10. No additional explanation was provided as to why auxiliary request 11 would be suitable to overcome the objection of lack of inventive step over D2 (see rejoinder to the statement of grounds of appeal, page 27, paragraph 133).

15.15 Auxiliary requests 12, 13, 14, 17, 18 and 19 differ from auxiliary requests 4, 5, 6, 9, 10 and 11, respectively, in that the following amendments were made to claim 1:

the melt flow index (MFI) was increased to at least 210 dg/min (instead of at least 180 dg/min)

the method to measure the IV was deleted.

The respondents argued that restricting the MFI could overcome the added-matter objection (rejoinder to the statement of grounds of appeal, page 27, paragraph

134). However, the Board fails to see how such a limitation could remedy the inventive step objection starting from D2 as the closest prior art — particularly because the Board has already found that claim 1 of auxiliary request 2 lacks an inventive step. In that context, increasing the MFI to at least 210 dg/min was deemed an obvious and arbitrary modification (see point7.6).

15.16 Auxiliary requests 20, 21, 22, 25, 26 and 27 differ from auxiliary requests 12, 13, 14, 17, 18 and 19, respectively, in that the method to measure IV_{PP} and IV_{EPR} was introduced in claim 1:

> "IV_{PP} and IV_{EPR} are determined according to ISO-1628-1 and -3 based on the amount of the xylene soluble matter (CXS) and xylene insoluble matter (CXI) measured according to ISO16152:2005".

The respondents argued that the introduction of the method may overcome inventive step objections (rejoinder to the statement of grounds of appeal, page 28, paragraph 135). However, the Board's inventive step analyses starting from copolymer BPP-2 of D2 as the closest prior art already took into account that feature, which was considered, to the benefit of the respondents, to be part of the definition of the claimed subject-matter. Accordingly, the conclusion on the suitability of auxiliary requests 12, 13, 14, 17, 18 and 19 to address the objection of lack of inventive step starting from the copolymer BPP-2 of D2 also applies to auxiliary requests 20, 21, 22, 25, 26 and 27.

15.17 Auxiliary request 28:

(a) Claim 1 of auxiliary request 28 differs from claim 1 of auxiliary request 27 in that the following feature was added at the end of the claim:

"wherein the heterophasic propylene copolymer has a fraction soluble in p-xylene (CXS) of 10 - 16 wt.% measured according to ISO 16152:2005".

(b) The respondents stated that this additional feature would not be disclosed in copolymer BPP-2 of D2, and that there would be no incentive for a skilled person to select it (see rejoinder to the statement of grounds of appeal, pages 24 and 25, paragraphs 116 and 117). However, this general and vague explanation is insufficient to enable the Board to understand why claim 1 of auxiliary request 28 would be inventive in view of D2. In particular, there is no explanation as to why a fraction soluble in p-xylene (CXS) of 10 - 16 wt.% would represent a distinguishing feature over the copolymer BPP-2 of D2 which comprises 10 wt.% of the propylene-ethylene random copolymer, what the CXS value of copolymer BPP-2 would be, nor why it would not be obvious to modify this copolymer in such a way as to achieve a CXS value in accordance with claim 1.

15.18 Regarding auxiliary requests 29 to 42, the respondents essentially argued that these requests were filed to address potential issues under Article 123(3) EPC (rejoinder, page 28, points 136 and 138). Therefore, the Board fails to see how these requests could be suitable to address the objection of lack of inventive

step starting from copolymer BPP-2 of D2 as the closest prior art.

15.19 In addition, the Board agrees with the appellant that auxiliary requests 4-6, 9-14, 17-22 and 25-42 do not follow a convergent line. For example, claim 1 of auxiliary request 4 includes a new feature (CXS of 10-27 wt.%), while other limiting features present in higher-ranking requests, such as the IV ratio of 3-5 in auxiliary request 23, are removed. Therefore, auxiliary request 4 is not convergent with higher-ranking requests, such as auxiliary request 23 and the same applies to auxiliary requests 5-6, 9-14, 17-22 and 25-42. The board accepts that under given circumstances it may be legitimate to file a number of auxiliary requests in order to address multiple objections. However, once a specific objection is identified for discussion (here the objection of lack of inventive step based on document D2 as the closest prior art), still relying on an excessive number of diverging auxiliary requests without giving appropriate explanation for the Board and the opposing party to understand how those auxiliary requests would be suitable for overcoming the specific objection is detrimental to procedural economy.

15.20 Conclusion on auxiliary requests 4-6, 9-14, 17-22 and 25-42

Under these circumstances, the Board deems it appropriate, for reasons of procedural economy, to exercise its discretion under Article 12(4) RPBA and not admit the auxiliary requests 4-6, 9-14, 17-22 and 25-42 into the proceedings.

Auxiliary request 43

16. Claim 1 of auxiliary request 43 differs from claim 1 of auxiliary request 23 in that the copolymer comprises 10-18 wt% of the ethylene-α-olefin elastomer (instead of 8-30 wt%).

17. Admittance

17.1 Auxiliary request 43 was submitted by the respondents by letter dated 19 September 2025, i.e. after the Board's communication pursuant to Article 15(1) RPBA. The admittance of this request, which is contested by the appellant, is therefore subject to the Board's discretion under Article 13(2) RPBA. However, according to established case law, the Board can, in the exercise of their discretion under Article 13(2) RPBA, also rely on criteria applicable under Article 13(1) RPBA (Case Law, V.A.4.5.4 e)).

17.2 The respondents argued that, although auxiliary request 23 already overcame all patentability objections, auxiliary request 43 should be admitted as an additional fallback position. Auxiliary request 43 combined auxiliary request 23 with a feature already present in auxiliary request 10 (copolymer comprising 10-18 wt% of the ethylene-α-olefin elastomer) and previously argued to support inventive step. The appellant had relied on a large number of different starting points for the inventive-step objections, each with different distinguishing features, which forced the respondents to defend the patent with multiple fallback positions. Since the additional feature of auxiliary request 43 was absent from all documents selected as the closest prior art, the skilled person would not, without inventive skill, modify any of these

disclosures to arrive at the combination of features of auxiliary request 43. The respondents therefore submit that there are exceptional circumstances in the sense of Article 13(2) RPBA to allow admittance of one further auxiliary request at this stage (letter dated 19 September 2025, page 33, paragraph 143 to page 35, paragraph 152).

17.3 Independently of the question whether exceptional circumstances within the meaning of Article 13(2) RPBA were present, the Board considers that the first question to be answered is whether auxiliary request 43 is suitable to overcome the issue of lack of inventive step in view of copolymer BPP-2 of D2. It was indeed concluded previously that the subject-matter of claim 1 of auxiliary request 23 did not involve an inventive step starting from that embodiment (see point 13.). It should therefore be evaluated whether the additional feature of auxiliary request 43 is *prima facie* suitable to overcome that relevant issue.

17.4 However, the Board observes that the respondents limited their submissions to explaining why the additional feature of auxiliary request 43 (a copolymer comprising 10–18 wt% of the ethylene-α-olefin elastomer) was not disclosed in documents D5, D6, D7, D9 and D16 (letter of 19 September 2025, page 35, paragraphs 148–152). They did not, however, explain how this amendment could overcome the objection of lack of inventive step starting from copolymer BPP-2 of D2 as the closest prior art. This is rather questionable considering that the latter comprises 10 wt.% of the propylene-ethylene random copolymer.

17.5 In the absence of any such explanation, the Board finds it appropriate to exercise its discretion under Article

13(2) RPBA by not admitting auxiliary request 43 into the proceedings.

18. As all of the respondents' requests are either inadmissible or unallowable, the patent is to be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

D. Hampe F. Rousseau

Decision electronically authenticated