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Datasheet for the decision of 12 June 2024

Case Number: T 0933/22 - 3.3.03

Application Number: 10797203.6

Publication Number: 2452980

IPC: C08L71/10

Language of the proceedings: EN

Title of invention:
THERMOPLASTIC RESIN COMPOSITION AND MOLDED ARTICLE OF SAME

Patent Proprietor:
Daicel-Evonik Ltd.

Opponents:
Victrex Manufacturing Limited
Solvay Specialty Polymers USA, LLC

Relevant legal provisions:
EPC Art. 54, 56, 83, 123(2), 123(3)

Keyword:
Late-filed evidence - admitted in first-instance proceedings (yes) - error in use of discretion at first instance (no)
Priority - identity of invention - partial priority (yes)
Novelty - state of the art
Novelty - main request (yes)
Inventive step - main request - obvious alternative
Inventive step - auxiliary requests - reformulation of the technical problem - non-obvious modification
Amendments - added subject-matter - auxiliary requests 17 and 20 (yes) - auxiliary request 27 (no)
Amendments - broadening of claim (no)
Sufficiency of disclosure - (yes)

Decisions cited:
G 0002/98, G 0001/15, T 1852/11, T 1201/14, T 0110/18

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Case Number: T 0933/22 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 12 June 2024

Appellant 1: (Opponent 1)	Victrex Manufacturing Limited Intellectual Property Department Hillhouse International Thornton Cleveleys Lancashire FY5 4QD (GB)
Representative:	Appleyard Lees IP LLP 15 Clare Road Halifax HX1 2HY (GB)
Appellant 2: (Opponent 2)	Solvay Specialty Polymers USA, LLC 4500 McGinnis Ferry Road Alpharetta GA 30005-3914 (US)
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Respondent: (Patent Proprietor)	Daicel-Evonik Ltd. 2-3-1 Nishi-shinjuku Shinjuku-ku, Tokyo 163-0912 (JP)
Representative:	Grünecker Patent- und Rechtsanwälte PartG mbB Leopoldstraße 4 80802 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 28 March 2022 concerning maintenance of the European Patent No. 2452980 in amended form.**

Composition of the Board:

Chairman	O. Dury
Members:	M. Barrère
	A. Bacchin

Summary of Facts and Submissions

I. The appeals of opponents 1 and 2 lie from the interlocutory decision of the opposition division concerning maintenance of European Patent No. 2 452 980 in amended form on the basis of the claims of the main request filed with letter of 10 September 2020 and an adapted description.

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

D12: WO 2005/030836 A1
D25: JP 2010-95615 A
D25a: Machine translation of D25 provided by the European Patent Office
D25b: Machine translation of D25 provided by the Japan Patent Office
D29: US 4,609,714
D37: JP 2009-162660
D37a: Machine translation of D37

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

- Document D25b was admitted into the proceedings.

- Claim 1 of the main request complied with the requirements of Article 123(2) and (3) EPC.

- The claimed invention was sufficiently disclosed for it to be carried out by a person skilled in the art.

- The subject-matter of claim 1 of the main request was novel in view of document D25 and involved an inventive step over that document taken as the closest prior art.

IV. Opponents 1 and 2 (appellants 1 and 2) filed an appeal against said decision.

V. With the rejoinder to the statement of grounds of appeal, the patent proprietor (respondent) filed twenty-nine sets of claims as the main request and the 1st to 28th auxiliary requests.

VI. Oral proceedings were held before the Board on 12 June 2024.

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

The respondent requested that the appeal be dismissed (main request), in the alternative that the patent be maintained on the basis of the set of claims of the 17th auxiliary request, or the 20th auxiliary request, or the 27th auxiliary request, or any of the remaining 1st to 28th auxiliary requests, all filed with the rejoinder to the statement of grounds of appeal.

VIII. Claim 1 of the main request read as follows:

"1. A thermoplastic resin composition, which comprises a plurality of crystalline thermoplastic resins having a melt viscosity different from each other and each containing a unit which comprises an arylene group and an ether group and/or a carbonyl group, wherein the plurality of crystalline thermoplastic resins comprises a combination of a

first thermoplastic resin and a second thermoplastic resin, and the first thermoplastic resin has a melt viscosity of 150 to 1500 Pa·s at a temperature of 400°C and a shear rate of 1216 s^{-1}, and
the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin at a temperature of 400°C and a shear rate of 1216 s^{-1} is 1.5/1 to 10/1 as a ratio of the former/the latter,
wherein the combination of the first thermoplastic resin and the second thermoplastic resin is a combination of a first polyetheretherketone and a second polyetheretherketone."

Claim 1 of the 17th auxiliary request differed from claim 1 of the main request in that:

the first thermoplastic resin had a melt viscosity of ~~150 to 1500~~ **250 to 700** Pa·s at a temperature of 400°C and a shear rate of 1216 s^{-1}, and

the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin was ~~1.5/1 to 10/1~~ **2/1 to 8/1** at a temperature of 400°C and a shear rate of 1216 s^{-1} (deletions in ~~strikethrough~~ and additions in **bold**).

Claim 1 of the 20th auxiliary request differed from claim 1 of the main request in that:

the first thermoplastic resin had a melt viscosity of ~~150 to 1500~~ **250 to 700** Pa·s at a temperature of 400°C and a shear rate of 1216 s^{-1}, and

the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin was ~~1.5/1 to 10/1~~ **2.5/1 to 6/1** at a temperature of 400°C and a shear rate of 1216 s^{-1}.

Claim 1 of the 27th auxiliary request differed from claim 1 of the main request in that:

the first thermoplastic resin had a melt viscosity of ~~150 to 1500~~ **400-500** Pa·s at a temperature of 400°C and a shear rate of 1216 s^{-1}, and

the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin was ~~1.5/1 to 10/1~~ **3/1 to 5/1** at a temperature of 400°C and a shear rate of 1216 s^{-1}.

The remaining claims of these requests as well as the claims of the remaining auxiliary requests are not relevant to the present decision.

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

(a) Document D25b

D25b should be admitted into the proceedings.

(b) Main request

(i) Priority of the opposed patent

The priority claim of the opposed patent was not valid for the subject-matter of claim 1 of the main request.

Consequently, D25 was part of the state of the art when considering novelty and inventive step.

(ii) Novelty

The subject-matter of claim 1 of the main request was not novel in view of the disclosure of document D25.

(iii) Inventive step

The subject-matter of claim 1 of the main request lacked an inventive step over document D25 taken as the closest prior art.

(c) 17th auxiliary request

(i) Inventive step

The subject-matter of claim 1 of the 17th auxiliary request lacked an inventive step over document D25 taken as the closest prior art.

(ii) Article 123(2) EPC

The subject-matter of claim 1 of the 17th auxiliary request extended beyond the content of the application as filed.

(d) 20th auxiliary request

(i) Article 123(2) EPC

The subject-matter of claim 1 of the 20th auxiliary request extended beyond the content of the application as filed.

(e) 27th auxiliary request

(i) Article 123(2) EPC

The subject-matter of claim 1 of the 27th auxiliary request extended beyond the content of the application as filed.

(ii) Inventive step

The subject-matter of claim 1 of the 27th auxiliary request lacked an inventive step over document D25 taken as the closest prior art.

(iii) Article 123(3)EPC

Claim 1 of the 27th auxiliary request extended to subject-matter not covered by the claims as granted.

(iv) Sufficiency of disclosure

The invention was insufficiently disclosed to be carried out over the whole scope of the claims.

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

(a) Document D25b

D25b should not be admitted into the proceedings.

(b) Main request

(i) Priority of the opposed patent

The priority claim of the opposed patent was at least partially valid for the subject-matter of claim 1 of the main request. Consequently, D25 was not part of the state of the art when considering novelty and inventive step.

(ii) Novelty

The subject-matter of claim 1 of the main request was novel in view of the disclosure of document D25.

(iii) Inventive step

The subject-matter of claim 1 of the main request involved an inventive step over document D25 taken as the closest prior art.

(c) 17th auxiliary request

(i) Inventive step

The subject-matter of claim 1 of the 17th auxiliary request involved an inventive step over document D25 taken as the closest prior art.

(ii) Article 123(2) EPC

The subject-matter of claim 1 of the 17th auxiliary request did not extend beyond the content of the application as filed.

(d) 20th auxiliary request

(i) Article 123(2) EPC

The subject-matter of claim 1 of the 20th auxiliary request did not extend beyond the content of the application as filed.

(e) 27th auxiliary request

(i) Article 123(2) EPC

The subject-matter of claim 1 of the 27th auxiliary request did not extend beyond the content of the application as filed.

(ii) Inventive step

The subject-matter of claim 1 of the 27th auxiliary request involved an inventive step over document D25 taken as the closest prior art.

(iii) Article 123(3) EPC

Claim 1 of the 27th auxiliary request did not extend to subject-matter not covered by the claims as granted.

(iv) Sufficiency of disclosure

The invention was sufficiently disclosed to be carried out over the whole scope of the claims.

Reasons for the Decision

1. Admittance of document D25b

1.1 D25b was submitted by appellant 1 (then opponent 1) with letter dated 10 November 2021, thus within the time limit under Rule 116(1) EPC for making written submissions in preparation of the oral proceedings, and was admitted into the proceedings by the opposition division.

1.2 The respondent contests the admittance of D25b into the proceedings because this document would not be *prima facie* relevant. Specifically, appellant 1 had already provided a machine-generated translation of D25 (see D25a) and it was not apparent that D25b was better than D25a (rejoinder to the statement of grounds of appeal, bridging paragraph between pages 2 and 3).

1.3 D25b is a further machine-generated English translation of D25 (from the Japan Patent Office (JPO) homepage). The opposition division considered that "the filing of an improved translation will only give a clearer picture of the actual disclosure of D25 and therefore not add anything new to the disclosure" (contested decision, page 15, third paragraph).

1.4 The Board first notes that the EPC does not provide any legal basis for retroactively excluding on appeal documents, requests or evidence correctly admitted by the department of first instance, particularly if the contested decision was based on them (see e.g. T 1852/11, Reasons 1.3; T 1201/14, Reasons 2; T 110/18,

Reasons 3). In view of the very aim of the appeal proceedings to review the decision under appeal in a judicial manner (Article 12(2) RPBA), such submissions are automatically part of the appeal proceedings.

1.5 In any event, the Board considers that the opposition division correctly exercised its discretion to the extent that it applied the *prima facie* relevance principle with respect to D25b in a reasonable manner (Case Law of the Boards of Appeal, 10th edition 2022, in the following "Case Law", IV.C.4.5.1).

1.6 Accordingly, the Board has no reason to overturn the opposition division's decision to admit D25b into the proceedings.

Main request (patent as maintained by the opposition division)

2. Priority of the opposed patent and status of document D25

2.1 Given that the parties read the content of D25, which is in Japanese, on the basis of its English translation D25b, the passages of D25 quoted below refer to the corresponding passages of D25b.

2.2 The appellants rely on document D25 for the assessment of novelty and inventive step. However, D25 is a Japanese patent application published on 30 April 2010 and therefore after the priority date of the opposed patent (D37, filed on 9 July 2009) but before its filing date (9 July 2010). Consequently, D25 is part of the state of the art relevant for novelty and inventive step only if the priority claim of the opposed patent is found to be at least partially invalid.

In the following, the Board uses the same terminology as in the opposed patent, referring to the 'first' and 'second' resins comparatively as the 'high viscosity' and 'low viscosity' resins.

2.3 Appellant 1 referred to the priority document of the opposed patent (D37) and its machine translation in English (D37a) and essentially argued that D37a did not disclose a composition comprising a first polyetheretherketone having a viscosity of 150 to 1500 Pa·s or a melt viscosity ratio of 1.5/1 to 10/1 as defined in claim 1 of the main request (emphases here and below added by the Board).

During the oral proceedings before the Board, the appellants contended that even if a partial priority could be conceded, it did not apply to the subject-matter of claim 1 of the main request, for which there was no direct and unambiguous basis in the priority document.

They further argued that an essential feature of the invention described in D37 was the presence of two polyetherketone resins of different molecular weights (see D37, claim 1). Since claim 1 of the main request did not mention this feature, the invention disclosed in present claim 1 and in the priority document were different within the meaning of Article 87 EPC, so that the priority claim was completely invalid.

2.4 It was not disputed by the respondent that D37a did not explicitly disclose a melt viscosity (MV) range between 150 and 1500 Pa·s for the first polyetheretherketone. However, it was argued that the MV of the first polyetheretherketone could be derived from the MV of the second polyetheretherketone (170 Pa·s or less) and

the MV ratio between the two polyetheretherketones (at least 1.5/1) leading to an MV of 255 Pa·s for the first polyetheretherketone (D37a, page 3, paragraph [0015]; rejoinder, page 6, first full paragraph). Moreover, the priority document disclosed that the MV ratio was preferably 4/1 or more, corresponding to an MV of at least 680 Pa·s. Therefore, the priority claim was at least valid for the range of 255 to 680 Pa·s.

The respondent further argued that the examples in D37a were identical to those in the opposed patent, which confirmed that the invention claimed in the patent was the same as the invention in the priority document.

2.5 The first point of dispute between the parties was whether the opposed patent and the priority document were at least partially concerned with the same invention within the meaning of Article 87(1) EPC. If the answer to this question is negative, the priority claim is completely invalid. If, however, the priority document relates at least in part to the invention as defined in claim 1 of the main request, the priority claim is at least partially valid.

2.5.1 In decision G 2/98 (OJ 2001, 413), the Enlarged Board ruled that the requirement for claiming priority of "the same invention", referred to in Article 87(1) EPC, meant that priority of a previous application in respect of a claim in a European patent application in accordance with Article 88 EPC was to be acknowledged only if the skilled person could derive the subject-matter of the claim directly and unambiguously, using common general knowledge, from the previous application as a whole. The subject-matter of the claim defining the invention in the European application had to be

understood as "the specific combination of features present in the claim" (Case Law, II.D.3.1.1).

2.5.2 In the present case, claim 1 of the main request is directed to a thermoplastic composition comprising a first crystalline polyetheretherketone and a second crystalline polyetheretherketone characterised in that:

> the first polyetheretherketone has an MV of 150 to 1500 Pa·s at a temperature of 400°C and a shear rate of 1216 s^{-1} and
>
> the MV ratio of the first polyetheretherketone relative to the second polyetheretherketone at a temperature of 400°C and a shear rate of 1216 s-1 is 1.5/1 to 10/1 as a ratio of the former/the latter.

2.5.3 It is undisputed by the parties that examples 1 to 8 of the opposed patent are identical to examples 1 to 8 of the priority document. In particular, examples 1 to 4 of D37a disclose thermoplastic compositions comprising two crystalline polyetheretherketones wherein the first thermoplastic polyetheretherketone is VESTAKEEP 4000G having an MV of 432 Pa·s and the second thermoplastic polyetheretherketone is VESTAKEEP 1000G having an MV of 104.8 Pa·s corresponding to an MV ratio of 4.12. Likewise, examples 5 to 8 disclose thermoplastic compositions comprising two crystalline polyetheretherketones wherein the first thermoplastic polyetheretherketone is VESTAKEEP 4000G having an MV of 164.3 Pa·s and the second thermoplastic polyetheretherketone is VESTAKEEP 1000G having an MV of 104.8 Pa·s corresponding to an MV ratio of 1.56. The Board considers that the examples in the priority document explicitly disclose the specific combination

of features in claim 1 of the main request, albeit in a narrower sense. It can therefore be concluded that these examples are embodiments of the same invention according to the interpretation given in G 2/98. The Board therefore concludes that the priority claim is at least partially valid, in particular for the subject-matter disclosed in examples 1 to 8 of the opposed patent.

2.6 The second point of dispute between the parties was whether the priority claim was only valid for the examples of the opposed patent or whether it covered other embodiments falling under claim 1 of the main request. In that respect, the respondent argued that the general description of D37a disclosed an MV range of 255 to 680 Pa·s for the first polyetheretherketone (point 2.4 above) and that the priority claim was valid at least for that range.

2.6.1 In G 1/15 (OJ 2017, A82) the Enlarged Board of Appeal ruled that under the EPC, entitlement to partial priority may not be refused for a claim encompassing alternative subject-matter by virtue of one or more generic expressions or otherwise (generic "OR" claim) provided that said alternative subject-matter has been disclosed for the first time, directly, or at least implicitly, unambiguously and in an enabling manner in the priority document. No other substantive conditions or limitations applied in this respect. This principle of partial priority was accepted by the parties who only disputed the scope of validity of the priority claim.

2.6.2 In the present case, it was not contested by the parties that the priority document did not disclose an MV range of 150 to 1500 Pa·s for the first

thermoplastic resin. Specifically the end points cannot be derived from the MV of the second thermoplastic resin and the MV ratio disclosed in paragraph [0015] of D37a. For this reason, the priority claim cannot cover the entire scope of the present claim 1, and the question to be answered is therefore whether any of the subject-matter of claim 1 can enjoy the right of priority (i.e. whether there can be at least part of the scope of claim 1 for which priority is validly claimed).

2.6.3 The respondent derived the MV of the first thermoplastic resin from the fact that, according to paragraph [0015] of D37a, the MV of the second thermoplastic resin was 170 Pa·s or less while the MV ratio of the two resins was preferably 1.5 or more and even more preferably 4.0 or more. While it is not disputed that the combination of these values results in MV values of at least 255 Pa·s and preferably at least 680 Pa·s for the first resin, the Board cannot agree that these values may be used as end points of the same range. Indeed these values are the minimum MV of the first resin if the MV of the second resin is 170 Pa·s and therefore the lower limit of a range but not its upper limit. Already for that reason, the Board doubts that the priority document discloses an MV range of 255 Pa·s to 680 Pa·s for the first resin (as alleged by the respondent). However, even if that were the case, this range would only be disclosed in combination with an MV of 170 Pa·s for the second thermoplastic resin.

2.6.4 In fact, considering the whole disclosure of D37a, the MV of the second resin according to D37a is 170 Pa·s or less: therefore any MV value within this range is possible (D37a, paragraph [0015]). Similarly, the MV

ratio has a lower limit (1.5/1) but no upper limit. Given all possible values for the MV of the second resin and the MV ratio, it follows that the MV of the first polyetheretherketone resin is almost unlimited. For instance, an MV of the second resin close to zero and an MV ratio of 1.5 also leads to an MV of the first resin close to zero. Conversely, an MV of the second resin of 170 Pa·s and an MV ratio of 10 (which is not the upper limit of D37a) leads to an MV of the first resin of 1700 Pa·s. Therefore the general description of the priority document does not directly and unambiguously disclose an MV range of 150 to 1500 Pa·s for the first resin, let alone a sub-range thereof, as argued by the respondent.

2.6.5 Last but not least, it is pointed out that claim 1 of the main request is limited to a composition comprising two polyetheretherketones as first and second thermoplastic resins. Apart from the examples, it is however not apparent that the priority document discloses a resin composition comprising two polyetheretherketones in combination with an MV of 150 to 1500 Pa·s for the first polyetheretherketone (multiple selections).

2.7 In conclusion, the general description of the priority document (excluding the examples) does not directly and unambiguously disclose subject-matter corresponding to the combination of technical features as defined in claim 1 of the main request.

2.8 It follows from the above analysis that the only subject-matter for which the priority has been validly claimed are examples 1 to 8 of the opposed patent. D25 is therefore a valid state of the art pursuant to Article 54(2) EPC for the assessment of novelty and

inventive step only with respect to the claimed subject-matter excluding examples 1 to 8 (applying the principles of G 1/15).

2.9 However, this limitation of the claimed subject-matter for which D25 is valid prior art has no meaningful impact on the following evaluation of novelty and inventive step because examples 1 to 8 represent eight single points in a continuous domain covered by the claims. In particular, the appellants' objection of lack of novelty was not based on the argument that D25 disclosed the subject-matter according to any of examples 1 to 8 of the opposed patent (which benefit from the priority). Nor was their objection of lack of inventive step based on the argument that it would be obvious for a person skilled in the art to achieve the specific combination of features of those examples.

3. Novelty

3.1 The appellants considered that the subject-matter of present claim 1 was not novel in view of the overall disclosure of D25.

3.2 The respondent contested the appellants' submissions for at least two main reasons:

(a) it was not possible to calculate the MV values of the polymers disclosed in D25 based on their inherent viscosity (IV);

(b) even if it were possible to do so, D25 did not disclose a composition with the combination of features of claim 1 (multiple selections).

3.2.2 For the purpose of assessing novelty, the Board does not have to address point (a), as the argument under point (b) are sufficient to acknowledge novelty over D25. The reasons are as follows:

3.2.3 In the statement of grounds of appeal (page 16), appellant 1 argued that document D25 (as a whole) disclosed a composition comprising:

> a first polyetheretherketone having an IV of 0.9 dL/g or more (corresponding to an MV of at least 212.3 Pa·s) and
>
> a second polyetheretherketone having an IV of 0.6 dL/g or less at 1216 s^{-1} (corresponding to an MV of 46.4 Pa·s or less)

leading to an MV ratio of at least 4.6 (see D25, claims 2 and 3 in combination with paragraphs [0017] and [0029]).

It was furthermore clear that the combination of the above IV (0.9 dL/g for the first resin and 0.6 dL/g for the second resin) corresponded to a preferred embodiment of D25. The same applied to the choice of a first resin which is a polyetheretherketone.

3.2.4 The appellants relied essentially on the claims of D25 (in particular claims 2 and 3) for their attacks of lack of novelty and inventive step.

Claim 2 of D25 is directed to:

> "*A resin composition comprising 100 parts by weight of a highly heat-resistant thermoplastic resin having an inherent viscosity of 0.7 dL / g or more,*

and 1 to 40 parts by weight of a polyether ether ketone according to claim 1."

Although this document uses different terminology than the opposed patent, the "*highly heat-resistant thermoplastic resin*" of D25, can be considered as the high viscosity resin (or first thermoplastic resin) and the polyetheretherketone of D25 as the low viscosity resin (or second thermoplastic resin) within the meaning of the opposed patent.

Claim 3 of D25 further specifies that:

"*The aforementioned high-heat-resistance thermoplastics is polyether ketone, a polyether ether ketone, polyether ketone ketone, polyether ketone ether ketone, polyether ether ketone ketone, polyether nitril, polyarylate, and a polyphenylene sulfide, The resin composition of claim 2, wherein the resin composition is selected from the group consisting of a liquid crystal polymer, polysulfone, polyethersulfone, polyetherimide, polyamideimide, polybenzimidazole, polyimide, and polytetrafluoroethylene.*"

Hence, as pointed out by appellant 1 (statement of grounds of appeal, page 14, penultimate paragraph), the choice of a polyetheretherketone for the first thermoplastic resin is a selection from a list of alternative resins.

3.2.5 Assuming that the MV values reported by appellant 1 are correct, the Board notes that the MV ratio of "at least 4.6" is based on multiple selections from two ranges within document D25: on one side the highest MV of the second thermoplastic resin from a range of 46.4 Pa·s or

less and on the other side the lowest MV of the first thermoplastic resin from a range of 212.3 Pa·s or more. It is however clear that considering other values within those ranges can lead to a melt viscosity ratio above 10 (which is no longer covered by the scope of claim 1 of the main request). In particular, as argued by the respondent (rejoinder to the statement of grounds of appeal, page 27, lines 5 to 10), the MV of the second thermoplastic resin according to D25 could be as low as 2.3 Pa·s which would lead to a viscosity ratio of at least 92 (with no upper limit). Moreover, on the basis of the disclosure of D25 as a whole, the Board has no reason to consider that the specific MV values 46.4 Pa·s and 212.3 Pa·s are preferred values of the ranges they delimit.

3.2.6 Hence, a melt viscosity ratio as defined in present claim 1 is only derivable from the general disclosure of D25 if two selections from two ranges are made. In addition, as noted above (point 3.2.4), D25 discloses different options for the "high-heat-resistance" thermoplastic resin corresponding to the first thermoplastic resin according to claim 1 of the main request (claim 3 of D25). Accordingly, the choice of a polyetheretherketone as the first thermoplastic resin is an additional selection in the disclosure of D25 as a whole. However, according to established case law, if a selection from two or more lists of a certain length (three in the present case) has to be made in order to arrive at a specific combination of features then the resulting combination of features, not specifically disclosed in the prior art, confers novelty (Case Law, I.C.6.2).

3.2.7 For the sake of completeness, it is noted that the appellants did not argue that the examples of D25

anticipated the subject-matter of claim 1 and the Board has no reason to see it differently (see contested decision: bottom of page 16 and page 18, second full paragraph). In particular, while the examples of D25 concern thermoplastic compositions concerning two polyetheretherketones, it was not contested by the parties that the MV of the first polyetheretherketone did not fall within the scope defined in claim 1 of the main request (statement of grounds of appeal of opponent 1, page 17, third full paragraph).

3.2.8 The Board therefore concludes that the subject-matter of present claim 1 is novel over document D25.

3.2.9 Appellant 1 further contended that, in a situation where the patent proprietor argued that the claimed subject-matter was different from that in the prior art, but had used a different parameter from that employed in the prior art, the onus of proof should be on the proprietor to prove that a difference existed (statement of grounds of appeal, page 16, last paragraph). In that respect, the Board notes that in *inter partes* proceedings each party bears the burden of proof for the facts it alleges. Therefore, if appellant 1 disputes the existence of novelty, it bears the burden of proof in this respect (Case Law, III.G. 5.1.1). While there might be exceptions to that rule in case of an unusual parameter, the viscosity of a polymer (even if measured under particular conditions of temperature or shear rate) is not considered to be unusual. Therefore, the Board agrees with the respondent that the burden of proof remains with the appellants to show that the polyetheretherketone resins of the prior art are characterised by an MV as defined in claim 1.

4. Inventive step

According to the appellants, claim 1 of the main request lacked an inventive step over document D25 taken as the closest prior art.

4.1 Choice of the closest prior art

4.1.1 In the ongoing appeal case, there was a divergence of opinion between appellant 1 and the respondent regarding the selection of the closest prior art for assessing the inventive step of claim 1. Appellant 1 advocated for document D25 as the closest prior art, while the respondent argued that document D12 was the most promising starting point (rejoinder, page 29, second paragraph to page 30, first paragraph).

4.1.2 However, irrespective of whether D12 or D25 is closer to the subject matter of claim 1, the critical consideration for the Board is to determine if D25 represents a realistic starting point, in the sense that a skilled person would have a reasonable probability of arriving at the claimed invention from D25 (Case Law, I.D.3.4.1). According to Article 56 EPC, the invention must not be obvious over any prior art. In this regard, a key factor in selecting the closest prior art is that it must be directed towards the same purpose or effect as the invention (Case Law, I.D.3.2). A prior art disclosure can only be excluded as a starting point if it is clearly defective when attempting to reproduce its teachings or if it pertains to a remote technical field that a skilled person would typically not consider. Consequently, the degree of closeness between the prior art document and the claimed invention should not be the sole determinant for excluding it as the closest prior art.

4.1.3 The opposed patent relates to thermoplastic polyetheretherketone resin compositions with improved moulding efficiency due to reduced viscosity while maintaining sufficient mechanical properties (see paragraphs [0001] and [0011]). Given that D25 is directed towards the same objective (D25, paragraph [0007] and examples), the Board holds that this document constitutes a reasonable starting point for assessing the inventive step of the subject matter of claim 1.

4.2 Distinguishing features

During the oral proceedings before the Board, the respondent and appellant 1 considered that claim 1 differed from the disclosure of D25 as a whole (claim 2 of D25 being suggested as starting point) in that:

(i) the first thermoplastic resin was characterised by an MV of 150 to 1500 Pa·s;
(ii) the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin was between 1.5/1 and 10/1 and
(iii) the first thermoplastic resin was a polyetheretherketone (selected from a list of different options according to e.g. claim 3 of D25).

Appellant 2 disputed that features (ii) and (iii) could be considered as distinguishing features.

However, based on the novelty assessment above (point 3.2.6), the Board takes the view that D25 discloses multiple options for the first thermoplastic resin

(i.e. the highly heat-resistant thermoplastic resin according to e.g. claims 3 or 4 of D25) and that the choice of a polyetheretherketone (feature (iii)) is a selection from a list of equivalent alternatives. Similarly, D25 discloses that the second resin (i.e. the polyetheretherketone as defined in claim 1 of D25) is characterised by an IV of 0.03 to 0.6 dL/g, whereas the IV of the first resin is 0.7 dL/g or more (see D25, claims 1 and 2). In view of the fact that the IV of the first resin disclosed in D25 has no explicit upper limit, the Board considers that the range of IV ratio (and therefore the MV ratio) covered by D25 is significantly larger than the range defined in present claim 1, so that an additional selection is required in the general disclosure of D25 to obtain an MV ratio between 1.5/1 and 10/1 (feature (ii)). Since multiple selections are needed to arrive at an embodiment combining features (ii) and (iii), these features are considered to distinguish present claim 1 from D25.

For these reasons, the Board agrees with the distinguishing features (i) to (iii) identified by the respondent and appellant 1.

4.3 Problem to be solved

According to the respondent the objective problem to be solved over D25 may be seen as the provision of a thermoplastic resin composition, which ensures a favourable balance of mechanical properties (in particular a high toughness) and a good moulding efficiency (rejoinder, page 36, first paragraph).

As regards the properties of the claimed compositions, the Board agrees with the opposition division that the examples of the patent cannot be directly compared to

the disclosure of D25. Indeed, the comparative examples of the opposed patent (concerning compositions with only one polyetheretherketone) are not representative of the compositions of D25 (comprising at least two thermoplastic resins). Furthermore, as pointed out by appellant 1, the alleged advantages mentioned in paragraph [0007] of D25 have similarities with those described in the opposed patent.

Consequently, in agreement with appellant 1 (statement of grounds of appeal, page 19, penultimate paragraph), the Board is of the opinion that the objective problem to be solved over D25 should be formulated as the provision of an alternative thermoplastic resin composition exhibiting good flow and high mechanical strength.

4.4 Obviousness of the solution

It remains to be evaluated whether the skilled person, desiring to solve the problem defined in above section 4.3, would have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject-matter.

4.4.1 Firstly, with regard to the nature of the first thermoplastic resin (distinguishing feature (iii)), D25 teaches that the high heat resistant thermoplastic resin can be a polyetheretherketone (D25, claim 4). In fact, the examples in D25 are considered to point to the choice of a combination of two polyetheretherketones as the first and second thermoplastic resins.

4.4.2 Secondly, regarding the MV of the first thermoplastic resin (distinguishing feature (i)), D25 teaches that

the mechanical properties can be enhanced by increasing the viscosity of the high heat resistant resin (D25, paragraph [0029]). As previously noted, claim 2 of D25 teaches that the IV of the said resin is at least 0.7 dL/g. Therefore, even if 0.7 dL/g corresponds to an MV of less than 150 Pa.s (which was not contested by the parties), it is an obvious choice for the skilled person to increase the viscosity of the high heat resistant resin, thereby inherently achieving an MV as defined in present claim 1. This approach is further reinforced by the fact that paragraph [0029] of D25 itself suggests increasing viscosity as a means to improve mechanical properties.

4.4.3 Thirdly, regarding the MV ratio (distinguishing feature (ii)), the respondent argued that D25 allowed for a wide range of inherent viscosity (IV) ratios (e.g., 0.7/0.6 dL/g = 1.1/1), which fell outside the claimed MV ratio range (rejoinder, page 37, first full paragraph). However, this argument is countered by the fact that D25, in paragraph [0029], suggests increasing the viscosity of the high heat-resistant resin to at least 0.9 dL/g, in particular to improve mechanical properties. Following this teaching and the calculation put forward be the respondent, the MV ratio would inherently increase to a value of at least 1.5. Therefore, it was an obvious choice for a skilled person to select an MV ratio within the range of 1.5 to 10, as this range falls within the broader disclosure of D25 when considered in its entirety.

Furthermore, it is important to note that D25 does not need to explicitly disclose an MV ratio as defined in claim 1 to render feature (ii) obvious. As previously noted, there is no evidence that the choice of an MV ratio between 1.5/1 and 10/1 can be associated with any

technical effect. Hence, the arbitrary selection of any subrange within the scope of D25 is an obvious choice for a skilled person.

4.4.4 During the oral proceedings before the Board, the respondent further argued that D25 covered other embodiments which did not fall under the scope of present claim 1. Furthermore, paragraph [0018] of D25 suggested decreasing the viscosity of the second thermoplastic resin to less than 0.3 dL/g which would lead to an MV ratio outside the range defined in present claim 1.

4.4.5 However, it is important to bear in mind that, as indicated above, the problem to be solved is merely the provision of an alternative composition to those disclosed in D25. According to well-established case law, the fact that the closest prior art discloses other options has no bearing on the obviousness of one specific option (Case Law, I.D.9.21.9 b)). Hence, any composition derivable from the general disclosure of that document is considered obvious for a skilled person seeking to provide an alternative composition. Although D25 suggests further decreasing the viscosity of the second thermoplastic resin, it remains within the scope of that document to select an inherent viscosity (IV) of 0.6 dL/g, as suggested in claim 2 of D25. Therefore, the respondent's argument is not convincing.

4.5 Since distinguishing features (i) to (iii) are obvious in view of the disclosure of document D25 alone, the subject-matter of claim 1 of the main request lacks an inventive step over that document, when considered as the closest prior art.

As a consequence, the Board does not need to assess inventive step over any of the other cited prior art documents.

17th auxiliary request

5. Inventive step

5.1 According to the appellants, claim 1 of the 17th auxiliary request also lacked an inventive step over document D25 taken as the closest prior art.

5.2 Distinguishing features

Claim 1 of the 17th auxiliary request differs from claim 1 of the main request in that:

the first thermoplastic resin has a melt viscosity of ~~150 to 1500~~ **250 to 700** Pa·s, and

the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin is ~~1.5/1 to 10/1~~ **2/1 to 8/1** (deletions in ~~strikethrough~~ and additions in **bold**).

In view of the amendments of present claim 1 and the above analysis of the distinguishing features with respect to the main request (point 4.2 of the present decision), it can be concluded that claim 1 of the 17th auxiliary request differs from the disclosure of D25 as a whole in that:

(i) the first thermoplastic resin is characterised by an MV of 250 to 700 Pa·s;

(ii) the MV ratio of the first thermoplastic resin relative to the second thermoplastic resin is between 2/1 and 8/1 and

(iii) the first thermoplastic resin is a polyetheretherketone (selected from a list of different options according to claim 3 of D25).

5.3 Problem to be solved

5.3.1 During the oral proceedings before the Board, the respondent pointed out that examples 6 to 9 of the opposed patent became comparative examples since the MV of the first polyetheretherketone was 164.3 Pa·s and the MV ratio was 1.56. Furthermore a direct comparison between examples 2 to 5 and examples 6 to 9 led to the conclusion that a composition according to claim 1 of the 17th auxiliary request was characterised by an improved balance of mechanical properties (in particular a high impact strength) and a good moulding efficiency (characterised by an increased crystallisation temperature compared with the weighted average of the crystallisation temperatures of the individual resins).

5.3.2 The appellants argued that the examples of the opposed patent provided no clear evidence of an improvement. They further contended that some experimental data were missing in Table 1 of the opposed patent. Additionally, they claimed that the allegedly advantageous properties of Examples 2 to 5 compared to Examples 6 to 9 were not adequately highlighted in the description.

5.3.3 The Board, however, finds the appellants' arguments unconvincing for the following reasons:

(a) Firstly, it is undisputed that the differences between

- examples 2 to 5 (with an MV of 432 Pa·s for the first polyetheretherketone and an MV ratio of 4.12) and

- examples 6 to 9 (with an MV of 164.3 Pa·s for the first PEEK and an MV ratio of 1.56)

correspond to the distinguishing features (i) and (ii) identified in section 5.2 above. A direct comparison between examples 2 to 5 and the now comparative examples 6 to 9 demonstrates an improvement of the Charpy impact strength. Furthermore, in all examples, the crystallisation temperature Tc is increased in comparison with the value expected from the mixing ratio of the two polyetheretherketones (i.e. the weighted average of the crystallisation temperatures of the individual resins). Notably, as pointed out by the respondent, the increase in Tc (compared to the expected values) is more significant in examples 2 to 5 than in examples 6 to 9. This is particularly relevant given that an increase in Tc translates into improved moulding efficiency due to a shortened moulding cycle (see paragraph [0047] of the opposed patent).

(b) Secondly, while it is true that some data are missing in table 1 of the opposed patent (specifically the tensile strength at break), the Board and the respondent did not rely on these incomplete data to acknowledge a technical effect.

(c) Finally, contrary to the appellants' view, both the opposed patent and the application as filed explained the differences between examples 2 to 5 on the one hand and examples 6 to 9 on the other hand (see paragraphs [0067] and [0068] of the opposed patent and paragraphs [0061] and [0062] of the application as filed). Therefore, the criticism that the differences between these sets of examples were not highlighted is unfounded.

(d) In respect of claim 1 of the main request, appellant 2 argued at the oral proceedings before the Board that the examples of the patent in suit were only directed to specific polyetheretherketones comprising a phenylene ring. Since the polyetheretherketones defined in operative claim 1 were not limited in that respect, any effect shown in the examples of the patent in suit could not be relied upon because it was not commensurate with the breadth of the claim. However, the Board is of the opinion that said argument is not supported by any evidence and does not justify that the effect shown in the patent in suit be disregarded. Consequently, appellant 2's argument is rejected.

5.3.4 For these reasons, the Board agrees with the respondent that the objective problem to be solved may be formulated as the provision of a thermoplastic composition characterised by improved mechanical properties (in particular a high impact strength) and a good moulding efficiency (evidenced by an increased Tc compared to the calculated Tc of the corresponding blend).

5.4 Obviousness of the solution

It remains to be evaluated whether the skilled person, desiring to solve the problem defined in the previous section, would have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject-matter.

5.4.1 The appellants essentially argued that it was obvious in view of the teaching of D25 to increase the MV of the high heat resistant thermoplastic resin (corresponding to the first thermoplastic resin) in order to improve the mechanical properties of the moulding composition (paragraph [0029] of D25).

5.4.2 However, while the appellants addressed part of the objective technical problem identified previously (i.e. the improvement of the mechanical properties), they did not explain why the skilled person would select an MV and an MV ratio as defined in claim 1 of the 17th auxiliary request in order to improve the moulding efficiency (i.e. to increase the Tc of the thermoplastic composition compared with the calculated Tc). In that respect, the Board agrees with the respondent, that D25 provides no teaching as to the crystallisation temperature of the thermoplastic resin compositions or more generally about the moulding efficiency. For this reason, the skilled person wishing to increase both the mechanical properties and the moulding efficiency (as defined by the Tc increase), would have no incentive to select an MV of the first thermoplastic resin (distinguishing feature (i)) and an MV ratio (distinguishing feature (ii)) as defined in present claim 1.

5.5 Consequently, the subject-matter of claim 1 of the 17th auxiliary request involves an inventive step over

document D25 as the closest prior art.

5.6 It is further noted that, questioned by the Board, the appellants explicitly stated at the oral proceedings that they had no further objections (apart from the one based on D25 as the closest prior art) as to inventive step against the 17th auxiliary request (minutes of the oral proceedings, page 5, fourth full paragraph).

For the sake of completeness, it should be noted that appellant 1 initially raised an objection of lack of inventive step starting from document D29 in their statement of grounds of appeal. The Board stated in its preliminary opinion, expressed in the communication under Article 15(1) RPBA, that if it were concluded that the main request involved an inventive step over D25, the same conclusion would be reached over D29 as the closest prior art (bridging paragraph between pages 22 and 23). Since no further arguments were put forward by the appellants at the oral proceedings, the Board does not need to provide a separate reasoning on the question of inventive step starting from document D29.

6. Article 123(2) EPC

6.1 According to the appellants, claim 1 of the 17th auxiliary request did not comply with the requirements of Article 123(2) EPC for the following reasons:

6.1.1 The application as filed did not disclose a composition according to present claim 1 comprising a plurality of thermoplastic resins wherein the first and second thermoplastic resins were each a polyetheretherketone. Instead, the application as filed would only provide a basis for either a composition consisting of a plurality of polyetheretherketones (paragraph [0031])

or a composition comprising at least one member selected from the group consisting of polyetheretherketone and polyetherketone (original claim 5). Moreover, the examples of the patent could not be used as a pointer towards the subject-matter of present claim 1 since they concerned compositions consisting solely of two polyetheretherketones.

6.1.2 The application as filed did not disclose a composition according to claim 1 comprising a plurality of crystalline thermoplastic resins (multiple selection). It was merely specified in paragraph [0025] of the original description that the thermoplastic resin could be optionally "crystalline".

6.1.3 The subject-matter of present claim 1 was the result of multiple selections in three lists: selection of a resin composition comprising two polyetheretherketones as the first and second thermoplastic resins, selection of an MV range of 250 to 700 Pa·s and selection of an MV ratio of 2/1 to 8/1. However, there would be no direct and unambiguous basis for this combination of features in the application as filed.

6.2 The Board addresses these three lines of argument separately below:

6.2.1 With regard to the combination of two polyetheretherketones, it is noted that claim 1 as originally filed is directed to a thermoplastic resin composition, which comprises a plurality of thermoplastic resins, wherein the thermoplastic resins at least comprise a first thermoplastic resin and a second thermoplastic resin. The chemical nature (apart from the presence of a unit which comprises an arylene group and an ether group and/or a carbonyl group) and

crystallinity of the thermoplastic resins is however not specified.

Paragraph [0030] of the original application further specifies that the thermoplastic resins are preferably polyetheretherketones or polyetherketones. In addition, according to paragraph [0039] of the application as filed the chemical structure of the first thermoplastic resin and that of the second thermoplastic resin may be the same or different. Therefore, it can be considered that the combination of original claim 1 with paragraphs [0030] and [0039] of the description leads to only four possibilities (as argued by the opposition division), one of which being selected to arrive at the subject-matter of present claim 1: selection of a first and second resins which are polyetheretherketones (contested decision, page 8, first two paragraphs). In addition, the examples points to this selection, as the compositions described therein are all based on two polyetheretherketone resins (paragraphs [0057], [0058] and [0060] of the application as filed). Although it is true that the examples of the application as filed are limited to compositions consisting of two polyetheretherketones (without any additional thermoplastic resin), the Board considers that these examples can be taken as an indication that the combination of two polyetheretherketones (as first and second thermoplastic resins) is, if not preferred, at least seriously considered as embodiments of the claimed invention.

In conclusion, the Board agrees with the opposition division that the choice of a thermoplastic composition comprising two polyetheretherketones can be seen as a single selection from the disclosure of the application as filed as a whole (contested decision, page 8 to page

9, first paragraph). Hence, contrary to the appellants' view, the amendment of claim 1 of the main request directed to the combination of two polyetheretherketones as the first and second thermoplastic resins is directly and unambiguously derivable from the application as filed.

6.2.2 As regards the crystallinity of the thermoplastic resins, it can be derived from original paragraph [0025] that the thermoplastic resins of the composition can be crystalline. Paragraph [0034] further specifies preferred ranges for the crystallisation temperature of said resins. In addition, a purpose of the claimed invention is to provide a resin composition having a crystallisation temperature which is higher than the weighted average of the crystallisation temperatures of the plurality of the thermoplastic resins (paragraphs [0019] and [0047] of the application as filed). In view of this purpose, the Board considers that the crystallinity of the thermoplastic resins is not only an option (or a selection as alleged by appellant 2) but a preferred (if not essential) feature of the claimed invention. Hence, the application as filed provides a clear incentive towards the choice of crystalline resins and the feature is therefore not seen as a selection.

6.2.3 As to the alleged multiple selections from three lists the following is noted:

(a) As explained under point 6.2.1, the Board considers that the choice of a composition comprising two polyetheretherketones can be seen as a single selection in the disclosure of the application as filed as a whole. On this basis, the Board needs to establish whether the ranges for the MV of the

first polyetheretherketone (250 to 700 Pa·s) and for the MV ratio (2/1 to 8/1) can be seen as additional selections. Should that be the case, it will also need to be assessed whether the application as filed includes a pointer towards these multiple selections.

(b) As regards the first thermoplastic resin, it can be derived from paragraph [0040] of the application as filed that its MV can be selected from

> "*the range of not less than 150 Pa·s (e.g., about 150 to 1500 Pa·s) and may for example be not less than 160 Pa·s (e.g., about 170 to 800 Pa·s), preferably not less than 200 Pa·s (e.g., about 250 to 700 Pa·s), more preferably not less than 300 Pa·s (e.g., about 350 to 600 Pa·s), and particularly not less than 400 Pa·s (e.g. about 400 to 500 Pa·s).*"

According to the respondent, the choice of a range of 250 to 700 Pa·s is a limitation to a preferred embodiment of the claimed invention but not a selection leading to a singling out of an embodiment in a list of alternatives.

While the Board agrees with the respondent that the MV range of 250 to 700 Pa·s can be seen as one of the preferred ranges, it is neither the most preferred range of the claimed invention, nor the broadest one. According to the case law, it is generally considered that the choice of an intermediate range in a list of converging alternative does not lead to a singling out of an invention from among a plurality of distinct

options, but to a subject-matter based on a more or less restricted version of said feature (Case Law, II.E.1.6.2 d)). For this subject-matter to meet the requirements of Article 123(2) EPC, it then needs to be assessed whether the specific combination is supported by the content of the application as filed. The present Board has no reason to depart from that view.

(c) The MV ratio is derived from paragraph [0041] of the application as filed:

> "*the melt viscosity ratio of the first thermoplastic resin relative to the second thermoplastic resin [the former/ the latter] may be about 1.5/1 to 10/1, preferably about 2/1 to 8/1 (e.g., about 2.5/1 to 6/1), and more preferably about 3/1 to 5/1.*"

According to the same rationale, the range of 2/1 to 8/1 is an intermediate range in a list of converging alternatives and therefore based on a more or less restricted version of the MV ratio.

(f) As a first conclusion, the Board takes the view that the subject-matter of present claim 1 is the result of the following combinations:

- a selection from a list of distinct options (selection of a composition comprising two polyetheretherketones as the first and second thermoplastic resins);

- a selection of the range for MV of the first polyetheretherketone from a list of converging alternatives and

- a selection of the range for the MV ratio from a list of converging alternatives.

(d) It remains to be assessed whether this combination of features can be considered to be directly and unambiguously disclosed in the application as filed. In this respect, the Board has no reason to deviate from the case law relating to selections from lists of converging alternatives that the present combination of features should be supported by a pointer in the application as filed (Case Law, II.E.1.6.2 d)).

(e) The respondent argued that examples 1 to 5 of the opposed patent could be seen as pointers towards the combination of features of present claim 1.

As noted previously, these examples disclose thermoplastic compositions comprising a first polyetheretherketone having an MV of 432 Pa·s and a second polyetheretherketone having an MV of 104.8 Pa·s. The MV ratio is therefore 4.12.

While these examples fall under the ranges of present claim 1 (respectively 250 to 700 Pa·s and 2/1 to 8/1), they also fall under any of the other ranges listed in paragraphs [0040] and [0041]. As they do not allow to highlight a specific range from the list of converging ranges, examples 1 to 5 of the application as filed cannot be seen as pointers towards the specific combination of ranges of present claim 1.

(f) In the absence of a suitable pointer, the Board concludes that the following combination of features:

- a first and second thermoplastic resin which are polyetheretherketones,

wherein

- the MV of the first polyetheretherketone is between 250 to 700 Pa·s and

- the MV ratio of the first polyetheretherketone relative to the second polyetheretherketone is between 2/1 and 8/1

finds no direct and unambiguous basis in the application as filed.

6.3 Consequently, claim 1 of the 17th auxiliary request does not comply with the requirements of Article 123(2) EPC.

20th auxiliary request

7. Article 123(2) EPC

7.1 Claim 1 of the 20th auxiliary request differs from claim 1 of the 17th auxiliary request in that:

the MV ratio of the first polyetheretherketone relative to the second polyetheretherketone is ~~2/1 to 8/1~~ **2.5/1 to 6/1** (deletion in ~~strikethrough~~ and addition in **bold**).

7.2 With regard to the 17th auxiliary request, the Board came to the conclusion that claim 1 was the result of multiple selections in three lists, the combination of which had no direct an unambiguous basis in the application as filed (point 6.2.3 (f)). In particular, one of the selections was the range of 2/1 to 8/1 for the MV ratio chosen from a list of converging alternatives in paragraph [0041] of the application as filed.

7.3 Concerning the 20th auxiliary request, the respondent argued that the MV ratio range of 2.5/1 to 6/1 was the third preferred range in the converging list of paragraph [0041]. This level of preference was identical to that of the MV range (250 to 700 Pa·s) selected from paragraph [0040]. On this basis, the respondent contended that the combination of these two ranges was directly and unambiguously disclosed in the application as filed.

7.4 The Board, however, observes that the ranges for the MV ratio and MV of the first polyetheretherketone defined in present claim 1 are neither the most preferred nor the broadest ranges in the converging lists disclosed in paragraphs [0040] and [0041] of the application as filed. Consequently, each range remains a selection from the lists of converging alternatives. Furthermore, these lists are disclosed independently of each other, meaning there is no clear link between each member of these independent lists according to their level of preference. Therefore, the Board finds no compelling reason to consider that the selection of ranges having the same level of preference could alter the previous conclusion that the combination of these ranges is not directly and unambiguously disclosed in the application as filed.

7.5 Consequently, claim 1 of the 20th auxiliary request does not comply with the requirements of Article 123(2) EPC.

27th auxiliary request

8. Article 123(2) EPC

8.1 Claim 1 of the 27th auxiliary request differs from claim 1 of the 17th auxiliary request in that:

> the first polyetheretherketone has a melt viscosity of ~~250 to 700~~ **400 to 500** Pa·s, and
>
> the MV ratio of the first polyetheretherketone relative to the second polyetheretherketone is ~~2/1 to 8/1~~ **3/1 to 5/1** (deletions in ~~strikethrough~~ and additions in **bold**).

8.2 With regard to the 17th auxiliary request, the Board came to the conclusion that claim 1 was the result of multiple selections in three lists, the combination of which had no direct an unambiguous basis in the application as filed (point 6.2.3 (f)). In particular, two of the selections were the ranges of 250 to 700 Pa·s and 2/1 to 8/1 chosen from lists of converging alternatives in paragraphs [0040] and [0041] of the application as filed.

8.3 Concerning the 27th auxiliary request, the respondent argued that the MV range of 400 to 500 Pa·s was the most preferred range in the converging list of paragraph [0040]. The same applied to the MV ratio of 3/1 to 5/1 from paragraph [0041]. On this basis, the respondent contended that the combination of most

preferred ranges was directly and unambiguously disclosed in the application as filed.

8.4 In that respect, the Board agrees with the respondent that the ranges defined in present claim 1 are the most preferred ones of the application as filed. This is a clear pointer towards the choice of these two ranges such that their combination is considered to be directly and unambiguously disclosed in the application as filed. The only selection necessary to arrive at the subject-matter of claim 1 of the 27th is the choice of a thermoplastic composition comprising two polyetheretherketones as the first and second thermoplastic resins. However a single selection in the disclosure of the application as filed does not contravene the requirements of Article 123(2) EPC.

9. Inventive step

The scope of claim 1 of the 27th auxiliary request being more limited than the scope of claim 1 of the 17th auxiliary request, the conclusion on inventive step reached for the latter applies *mutatis mutandis* to present claim 1 (point 5. above).

10. Article 123(3) EPC

10.1 According to appellant 2, claim 1 as granted was directed to a composition comprising a plurality of crystalline thermoplastic resins wherein the resins comprise a combination of a first polyetheretherketone and a second polyetheretherketone. The wording of this claim would make clear that each resin should comprise two polyetheretherketones. Conversely, claim 1 of the main request (and by extension of the 27th auxiliary request) would only require that the plurality of the

resins comprises a combination of a first polyetheretherketone and a second polyetheretherketone. Therefore while claim 1 as granted was directed to a composition comprising at least four polyetheretherketones (two for each resin), claim 1 of the 27th auxiliary request defined compositions comprising only two polyetheretherketones (statement of grounds of appeal of appellant 2, pages 2 and 3, point 2.1).

10.2 In this respect, the Board agrees with the opposition division and the respondent that the interpretation of granted claim 1 proposed by appellant 2 and that of claim 1 of the main request (and by extension of the 27th auxiliary request) are not reasonable. As noted in the decision (page 10, second paragraph), the Board finds no justification for interpreting the expressions "the resins comprise" and "the plurality of resins comprises" differently. Appellant 2's interpretation might have been plausible if granted claim 1 had used the word "each" in the first expression, such as "each resin comprises". However, no such wording was employed in the claim.

10.3 Consequently, the Board is satisfied that the 27th auxiliary request meets the requirements of Article 123(3) EPC.

11. Sufficiency of disclosure

11.1 In their written submissions (statement of grounds of appeal of appellant 2, pages 7 and 8, point 2.3), appellant 2 argued that claim 1 of the main request (and by extension of the 27th auxiliary request) required crystalline thermoplastic resins with different viscosities. However, they contended that the

claim failed to specify the conditions (temperature, shear rate) under which the viscosity should be measured. Consequently, appellant 2 asserted that the claimed invention was insufficiently disclosed, as the skilled person was not instructed how to select crystalline polymers with different melt viscosities at any temperature and any shear rate.

11.2 The Board, however, finds this interpretation of claim 1 of the main request (and by extension of the 27^{th} auxiliary request) by appellant 2 unconvincing. Claim 1 does not mandate that the viscosities differ at all temperatures and all shear rates; it merely requires that the resins have different melt viscosities. This implies that at a specific temperature and shear rate, the measured viscosities are not identical. Moreover, it is noteworthy that the two polyetheretherketones specified in claim 1 inherently possess different melt viscosities at a temperature of 400°C and a shear rate of 1216 s^{-1}, as their ratio cannot be 1/1. Therefore, the stipulation that "the composition comprises crystalline thermoplastic resins of different viscosities" is automatically fulfilled by the presence of the polyetheretherketones.

11.3 Consequently, the Board has no reason to deviate from the conclusion of the opposition division with regard to the requirement of sufficiency of disclosure (contested decision, point 3 of the Reasons).

12. Since none of the appellants' objections against the 27^{th} auxiliary request is successful, the patent is to be maintained on the basis of this request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent in amended form on the basis of the 27th auxiliary request, filed with the rejoinder to the statement of grounds of appeal and after any necessary consequential amendment of the description.

The Registrar: The Chairman:

C. Rodríguez Rodríguez O. Dury

Decision electronically authenticated