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Datasheet for the decision of 15 June 2022

Case Number: T 0878/19 - 3.3.03

Application Number: 04768631.6

Publication Number: 1682604

IPC: C08G65/40, C08G8/02, C08G8/26, C08L71/10

Language of the proceedings: EN

Title of invention:
METHOD OF MAKING A COMPONENT INCLUDING POLYETHERETHERKETONE

Patent Proprietor:
VICTREX MANUFACTURING LIMITED

Opponent:
Evonik Operations GmbH

Relevant legal provisions:
RPBA 2020 Art. 13(1)
EPC Art. 56

Keyword:
Amendment to appeal case - justification by party (no)
Inventive step - (yes)

Decisions cited:
T 0939/92, T 1810/14

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Case Number: T 0878/19 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 15 June 2022

Appellant: (Opponent 1)	Evonik Operations GmbH Rellinghauser Straße 1-11 45128 Essen (DE)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted on 23 January 2019 concerning maintenance of the European Patent No. 1682604 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	O. Dury
	W. Ungler

Summary of Facts and Submissions

I. The appeal of opponent 1 is against the interlocutory decision of the opposition division concerning maintenance of European patent No. 1 682 604 in amended form according to the claims of the main request filed with letter of 14 August 2018 and an adapted description.

II. Said main request corresponds to the second auxiliary request dealt with in decision T 1810/14, of 12 December 2017. According to that decision, said second auxiliary request satisfied the requirements of Article 123(2) EPC, Article 84 EPC and Article 54 EPC, whereby the case was remitted to the department of first instance for further prosecution on the basis of said second auxiliary request.

III. Opponent 2 withdrew its opposition with letter of 7 January 2019 and is not party to the proceedings any more.

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

D1: EP 0 184 458 A2
D3: DE 40 39 924 A1
D6: EP 0 247 512 A2
D7: EP 0 722 985 A2
D9: EP 0 001 879 A1
D26: DE 198 20 505 A1
D27: DE 36 32 883 A1
E1: Victrex, THE MECHANICAL PROPERTIES OF HIGH-FLOW PEEK COMPARED TO HIGH-FLOW PEDEK

COPOLYMER

V. Claims 1 and 9 of the **main request dealt with in the decision under appeal** read as follows:

"1. A method of making a component, the method comprising:

selecting at least 10g of a precursor material from which to make said component wherein said precursor material either:

consists essentially of a polymeric material having an MV in the range 0.05 to 0.10 $kNsm^{-2}$ when measured using capillary rheometry operating at 400°C at a shear rate of $1000s^{-1}$ using a tungsten carbide die, 0.5x3.175mm, wherein said polymeric material is of a type which includes:

(a) phenyl moieties;
(b) carbonyl moieties; and
(c) ether moieties

and is polyetheretherketone homopolymer;

or

is a composite material which includes 30 to 80wt% of a single type of polymeric material, and 20 to 70wt% of filler means, said polymeric material having an MV in the range 0.05 to 0.10 $kNsm^{-2}$ when measured using capillary rheometry operating at 400°C at a shear rate of $1000s^{-1}$ using a tungsten carbide die, 0.5x3.175mm, wherein said polymeric material is of a type which includes:

(a) phenyl moieties;
(b) carbonyl moieties; and
(c) ether moieties

and is polyetheretherketone homopolymer;

and

extruding or injection moulding said precursor material by subjecting the precursor material to a temperature above its melting temperature in an extrusion or injection moulding apparatus."

"9. A method of making a component which has a wall which includes a region having a thickness of 3mm or less, the method comprising:

(A) selecting a precursor material which consists essentially of a polymeric material having an MV in the range 0.05 to 0.10 $kNsm^{-2}$ when measured using capillary rheometry operating at 400°C at a shear rate of $1000s^{-1}$ using a tungsten carbide die, 0.5x3.175mm, wherein said polymeric material is of a type which includes:

(a) phenyl moieties;
(b) carbonyl moieties; and
(c) ether moieties

and is polyetheretherketone homopolymer;

and

(B) treating said precursor material by melt processing by extrusion or injection moulding, thereby to form said component."

Claims 2 to 8 of that main request were dependent on claim 1.

VI. According to the reasons for the decision under appeal which are pertinent for the present appeal proceedings, the first alternative of the subject-matter according to claim 1 of the main request was inventive in view of example 6 of D1 as the closest prior art. In addition, the subject-matter of the second alternative of claim 1 as well as the one of claim 9 of the main request involved an inventive step in view of either example 6 of D1 or D7 as the closest prior art. For these reasons, the patent amended on the basis of the main request was held to meet the requirements of the EPC.

VII. Opponent 1 (appellant) filed an appeal against the above decision and filed a statement of grounds of appeal on 3 June 2019.

VIII. With their rejoinder to the statement of grounds of appeal, the patent proprietor (respondent) filed three sets of claims as first to third auxiliary requests. The **first to third auxiliary requests** are not relevant to the present decision.

IX. With letter filed on 26 April 2020, the appellant put forward further arguments, whereby reference was in particular made to document D16.

X. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA 2020 was issued by the Board. It was in particular indicated therein that, although the appellant had not explicitly indicated which document D16 was meant in its submission of 26 April 2020, it was the Board's understanding that D16 was EP-A-1 170 318, as indicated

in section V of decision T 1810/14, whereby said document was already filed during the opposition proceedings.

XI. Oral proceedings were held on 15 June 2022 in the presence of both parties (videoconference).

XII. **The final requests of the parties were as follows:**

(a) The appellant requested that the decision of the opposition division be set aside and the patent be revoked.

(b) The respondent requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form according to any of the first to third auxiliary requests filed with the rejoinder to the statement of grounds of appeal.

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

(a) The objection of lack of inventive step based on D1 as the closest prior art in combination with D16 should be admitted into the proceedings;

(b) The subject-matter of both alternatives of claim 1 and the one of claim 9 of the main request was not inventive starting from example 6 of D1 as the closest prior art, in particular in view of the teaching of each of D3, D6, D7, D26 or D27;

(c) The subject-matter of the second alternative of claim 1 and the one of claim 9 of the main request

was also not inventive starting from D7 as closest prior art.

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

(a) The objection of lack of inventive step based on D1 as the closest prior art in combination with D16 should not be admitted into the proceedings;

(b) The subject-matter of both alternatives of claim 1 and the one of claim 9 of the main request was inventive starting from the disclosures of the closest prior art relied upon by the appellant, even in the light of any of the other cited prior art document(s).

Reasons for the Decision

Main request

1. It is undisputed that the operative main request in the present appeal proceedings corresponds to the main request dealt with in the decision under appeal, which itself corresponds to the second auxiliary request dealt with in decision T 1810/14.

2. Regarding said main request, the sole issue at stake in the present appeal proceedings is inventive step, whereby separate analyses in that respect were done by the opposition division and the parties for each of the two alternative embodiments of claim 1 and for claim 9 of the main request. The same approach is used in the

present decision, whereby the embodiment of **claim 1** in which the precursor material consists essentially of a specific polyetheretherketone (PEEK) is referred to as **"alternative 1"**, while the embodiment in which the precursor material is a composite material is referred to as **"alternative 2"**.

3. In the decision under appeal (reasons of the decision: sections 3.1 and 3.2), the opposition division indicated that they adopted the same reading of various features of claims 1 (alternative 1 or 2) and 9 of the operative main request as the one indicated in decision T 1810/14. Considering that the parties did not disputed these views, also the Board sees no reason to deviate from that reading of the operative claims, which means in particular that:

- The expression "consists essentially of" in alternative 1 of claim 1 allows for the presence of other components in addition to the components mandatory in the claim, provided that the essential characteristics of the claimed composition are not materially affected by their presence (T 1810/14: point 1.2.1, first sub-paragraph of the Reasons for the Decision);

- The expression "is a composite material which includes 30 to 80 wt.-% of a single type of polymeric material ... and is polyetheretherketone homopolymer" in alternative 2 of claim 1 excludes the presence of any other polymeric material (T 1810/14: point 1.2.1, second sub-paragraph of the Reasons for the Decision).

4. Objection of lack of inventive step based on the combination of D1 with D16 - Admittance

4.1 At the oral proceedings before the Board, the respondent requested that the objection of lack of inventive step based on the combination of D1 with D16 be not admitted into the proceedings in view of its late filing. In that respect, the Board's view regarding the identity of document D16 remained uncontested (see section IX above).

4.2 It was not disputed by the appellant that said objection was raised for the first time in their letter filed on 26 April 2020. Since said objection was submitted after the statement of grounds of appeal (appellant's letter of 3 June 2019), its admittance underlies the stipulations of Article 13(1) RPBA 2020, according to which any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted only at the Board's discretion.

4.3 The appellant argued that whereas D1 was already central to the decision under appeal, D16 was mentioned in paragraph 5 of the patent in suit. Therefore, both documents were well known to the respondent. It was further derivable from the file history that many documents had been cited in the proceedings. Under such circumstances, the appellant held that they should be allowed to provide additional objections at a later stage of the proceedings, in particular in reaction to the Board's communication, which was negative for them.

However, the Board cannot recognise in the appellant's arguments any reasons which can justify that the objection of lack of inventive step based on the combination of D1 with D16 be submitted so late in the

proceedings. To the contrary, since D1 and D16 were well known to the parties (D1 was a document considered as the closest prior art in the decision under appeal; D16 is cited in the patent in suit and was also considered for the assessment of novelty in the first appeal proceedings concerning the patent in suit: see point 6.4 of the Reasons for the Decision in T 1810/14) and since the operative main request is the main request dealt with in the decision under appeal, the appellant would have had good reasons to submit such an objection already during the opposition proceedings or, at the latest, with the statement of grounds of appeal.

In addition, admitting the appellant's objection to the proceedings would run counter to the economy of the proceedings and would further not be in line with the requirements of Article 12(3) RPBA 2020, whose wording is in essence identical to the one of Article 12(2) RPBA 2007, which specifies that the statement of grounds of appeal shall contain a party's complete appeal case. In that respect, the high number of attacks possible in view of the numerous documents cited in the present appeal proceedings does not constitute a valid reason which may allow to discharge the appellant of its responsibility to present a complete case at the outset of the appeal proceedings.

For these reasons, the Board found it appropriate to make use of its discretion by not admitting into the proceedings the appellant's objection of lack of inventive step based on the combination of D1 with D16 (Article 13(1) RPBA 2020).

5. Article 56 EPC: **claim 1, alternative 1**

5.1 Closest prior art

5.1.1 The opposition division's conclusion according to which example 6 of D1 constituted the closest prior art document (reasons: section 4.1.2) is not contested by the parties. The Board has no reason to deviate from that view.

5.1.2 The appellant further held that the disclosure of D1 as a whole constituted a further suitable starting point for the assessment of the inventive step (statement of grounds of appeal: section 4.1.2, third paragraph), which was contested by the respondent (rejoinder to the statement of grounds of appeal: bottom of page 3 and page 4).

However, since no separate line of argumentation, different from the one starting from example 6 of D1, was substantiated any further by the appellant, in particular not at the oral proceedings before the Board, the following analysis is limited to example 6 of D1 being the closest prior art.

5.1.3 In that respect, example 6 of D1 is directed to the preparation of a PEEK copolymer with a melt viscosity of 0.07 $kNsm^{-2}$, i.e. within the range specified in operative claim 1 (D1: page 11, in particular lines 22-27 and 33-34). In addition, it is derivable from the passage on page 8, lines 1-12 of D1 that the polymers prepared therein exhibit good mechanical and thermal properties and are particularly suitable to be used in injection moulding or extrusion processes.

5.2 Distinguishing feature(s)

5.2.1 It was common ground between the parties that the subject-matter of operative claim 1, alternative 1,

differs from example 6 of D1 at least in that the precursor material is limited to a PEEK being a homopolymer (whereas a PEEK copolymer is prepared in example 6 of D1).

5.2.2 Although there is no explicit disclosure in example 6 of D1 of an amount of precursor material and/or of an extrusion or injection moulding process specified in operative claim 1, the appellant's view according to which the nature of the PEEK polymer was the sole distinguishing feature (statement of grounds of appeal: last paragraph on page 5) was not contested by the respondent (rejoinder: page 4, penultimate paragraph). In view of the appellant's arguments (statement of grounds of appeal: page 5, starting from the first full paragraph to the top of page 6, after formula II) and of the disclosures of example 6 and on page 8, lines 1-12 of D1, also the Board has no reason to deviate from that view.

5.3 Problem effectively solved over the closest prior art

5.3.1 Whereas the respondent argued in writing that the examples of the patent in suit together with E1 showed that the problem solved was to provide a method of making components requiring high flowability whilst in the melt state yet forming a solid with improved strength when set in the form of an industrial component (rejoinder: paragraph bridging pages 4 and 5), the respondent explicitly agreed during the oral proceedings before the Board that the problem effectively solved over the closest prior art could not be formulated as an improvement but only resided in the formulation of an alternative method to the one of the closest prior art. Under these circumstances, there is no need for the Board to assess whether or not such an

improvement can be acknowledged.

5.3.2 Regarding the formulation of the problem effectively solved over the closest prior art, it is in the Board's view derivable both from the teaching of D1 and from the examples of the patent in suit illustrative of the subject-matter being claimed (Table 4, examples 6a to 6g; Table 10, examples 14b to 14d) that, even if no fair comparison between a method according to alternative 1 of claim 1 and the one according to example 6 of D1 may be made - as put forward by the appellant - the components prepared with the polymeric material according to example 6 of D1 and the ones prepared according to the method of operative claim 1 can at least be expected to show reasonably good mechanical properties. Therefore, the Board is satisfied that this effect can be taken into account in the formulation of the problem effectively solved over the closest prior art.

5.3.3 In addition, considering that it was undisputed that the extrusion or injection moulding step was not a distinguishing feature and that such a step is explicitly mentioned in alternative 1 of operative claim 1, the problem effectively solved over example 6 of D1 is seen as residing in the provision of a further method for making extruded or injection moulded components with reasonable mechanical properties, in alternative to the one according to example 6 of D1.

5.4 Obviousness

5.4.1 The question has to be answered if the skilled person, desiring to solve the problem(s) identified as indicated above, would, in view of the closest prior art, possibly in combination with other prior art or

with common general knowledge, have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject matter.

5.4.2 In that respect, the appellant's objections were based either on D1 alone or on D1 in combination with any of D3, D6, D7, D26 or D27.

5.4.3 D1 alone

Concerning D1 alone, the Board is of the opinion that the teaching of that document is primarily directed to specific PEEK copolymers (which was also the opposition division's view, as may be derived from section 4.2.10, second full paragraph of the reasons of the decision under appeal). This is not only derivable from the fact that claim 1 of D1 is specifically directed to such copolymers, but also from the aim of D1, which is to provide polymers having a lower melting temperature than aromatic polyetherketones PEK and PEEK homopolymers (D1: page 1, lines 7-20 and 24-32; page 2, lines 17-20). That conclusion is further confirmed by the data of the table on page 10 of D1, in which comparative example A is directed to a PEEK homopolymer having a higher melting temperature than any of the PEEK copolymers illustrative of the teaching of D1 and prepared in examples 1 to 5 of D1. In that respect, it was further not contested that the PEEK homopolymer disclosed as comparative example A of D1 exhibits a melt viscosity of 0.49 $kNsm^{-2}$, which is well outside the range defined in alternative 1 of claim 1 (0.05 to 0.10 $kNsm^{-2}$). Therefore, D1 alone does not teach that a PEEK homopolymer having a melt viscosity in the range defined in alternative 1 of claim 1 would constitute a suitable alternative to the PEEK copolymer prepared in example 6 of D1. In other words, it cannot be concluded

in view of the teaching of D1 alone that it would be obvious to solve the problem defined in section 5.3.4 above by replacing the PEEK copolymer prepared in example 6 of D1 by a PEEK homopolymer having a melt viscosity according to claim 1, alternative 1.

That conclusion is further confirmed by the fact that no evidence was provided by the appellant to refute the statements made in paragraphs 2 to 6 of the patent in suit that it was the general understanding in the present technical field that, as was in particular derivable from D9(see e.g. claim 1 whereby an inherent viscosity of 0.7 dl/g corresponds to a melt viscosity of slightly less than 0.1 $kNsm^{-2}$ in view of the figure of the patent in suit; see also D9: page 1, lines 14-22; page 14, lines 3-11), PEEK having a melt viscosity below 0.7 dl/g (i.e. having a melt viscosity below 0.1 $kNsm^{-2}$ and, therefore having a melt viscosity in the range defined in operative claim 1, alternative 1) would have been expected to be brittle, i.e. would not have been suitable to solve the above problem.

For these reasons, the appellant's objection based on D1 alone did not convince.

5.4.4 D1 with D3, D6, D7, D26 or D27.

a) As already indicated by the opposition division (see e.g. penultimate paragraph of section 4.1 on page 19 of the decision under appeal), D3 deals with polymer alloys comprising semi-crystalline and amorphous polyarylether ketones (claim 1). Although that document mentions PEEK homopolymers (see e.g. claim 7 and Formula I on page 7, line 35), it does not teach components "consisting essentially" of PEEK

homopolymers as defined in alternative 1 of claim 1 (whereby the term "consisting essentially" is read as indicated in section 3 above). Therefore, also the combination of D1 with D3 cannot render obvious to solve the problem posed by replacing the PEEK copolymer according to example 6 of D1 by a PEEK homopolymer having a melt viscosity as defined in alternative 1 of claim 1.

b) Similarly to D3, D6 describes blends of a polyetherketone with a polysulfone (D6: claim 1). Although D6 also mentions PEEK homopolymers (see e.g. claim 3 and page 3, line 40), it does not teach components "consisting essentially" of PEEK homopolymers as defined in alternative 1 of claim 1.

At the oral proceedings before the Board, the appellant pointed out that comparative example 10 of D6 (Table 1, page 9) was directed to a PEEK homopolymer having a melt viscosity of 1000 Poise, i.e. 0.10 $kNsm^{-2}$, which showed that the skilled person would have considered using a PEEK homopolymer as defined in alternative 1 of claim 1 to solve the problem posed.

However, it was not shown by the appellant that the method of determination of the melt viscosity indicated in D1 (page 3, lines 4 to 8) would lead to identical results than the one specified in alternative 1 of claim 1. To the contrary, it is derivable from the comparison of the data related to the melt viscosities and inherent viscosities of various PEEK indicated on page 6, lines 26 to 29 of D1 with the similar type of information provided in the figure of the patent in suit (page 16 of the patent specification) that the melt viscosity indicated for comparative example 10 of D6 corresponds to an inherent viscosity of 0.9 or to a

melt viscosity which would be outside the range specified in alternative 1 of claim 1 and determined according to the method mentioned in said claim 1. Therefore, it cannot be concluded from the evidence on file that the PEEK homopolymer according to comparative example 10 of D6 is effectively a PEEK homopolymer having a melt viscosity within the range defined in alternative 1 of operative claim 1. In addition, the teaching of D6 related to said comparative example 10 is that the PEEK homopolymer alone is not satisfactory as compared to the blend of PEEK homopolymer and polysulfone which is the object of the invention of D6. However, there is no teaching in D6 that the PEEK homopolymer according to comparative example 10 would be a suitable alternative to a PEEK copolymer according to example 6 of D1, in particular to solve the problem posed.

Therefore, also the combination of D1 with D6 does not render obvious the subject-matter of alternative 1 of claim 1.

c) D7 refers to a polyetherketone resin composition comprising carbon fibres, polyether ketone and liquid crystal polymers (see e.g. claim 1). Although D7 discloses PEEK homopolymers (see claim 5 and page 4, line 35) and also mentions that such polymers may have a melt viscosity of 500 to 3800 Poise, i.e. 0.05 to 0.38 $kNsm^{-2}$ (D7: page 4, lines 41-45), D7 does not teach components "consisting essentially" of PEEK homopolymers as defined in alternative 1 of claim 1 (in that respect, it is explained in section 6.3.2 below that the liquid crystal polymers according to D7 constitute an essential technical feature of the invention of D7, which means that the compositions according to D7 cannot be held to "consist essentially

of a PEEK homopolymer"). In addition, D7 also does not teach that a PEEK homopolymer with a melt viscosity in the range according to alternative 1 of claim 1 would be a suitable alternative to a PEEK copolymer according to example 6 of D1.

Therefore, for similar reasons as outlined above for D3 and D6, also the combination of D1 with D7 does not render obvious the subject-matter of alternative 1 of claim 1.

d) At the oral proceedings before the Board, the respondent pointed out that PEEK homopolymers having a (low) melt viscosity in the range specified in alternative 1 of claim 1 were nowhere disclosed in D26 or D27. That point of view was not contested by the appellant. Also the Board sees no reason to disagree with it. Under these circumstances, also D26 and D27 cannot lead in an obvious manner to the subject-matter defined in alternative 1 of claim 1 (which is among others characterised by such PEEK homopolymers having a low melt viscosity). Therefore, the appellant's objection based on the combination of D1 with either D26 or D27 must fail.

e) For these reasons, the appellant's objections based on the combination of D1 with D3, D6, D7, D26 or D27 are rejected.

5.4.5 At the oral proceedings before the Board the appellant put forward that, since in the present case the problem to be solved resided in the provision of a mere alternative, it would have been obvious for the skilled person to solve that problem by using a PEEK homopolymer as defined in operative claim 1, alternative 1, which were known in the art.

In the Board's view, this approach is based on the established principle that the answer to the question as to what a person skilled in the art would have done depends on the result he wished to obtain (T 939/92, OJ EPO 1996, 309: point 2.5.3 of the reasons). However, in the present case, no evidence was provided to show that PEEK homopolymers having a (low) melt viscosity in the range specified in alternative 1 of claim 1 could be suitably used in extrusion or injection moulded processes to prepare components having acceptable mechanical properties (see formulation of the problem solved indicated in section 5.4.3 above). Under these circumstances, the selection of such a low melt viscosity PEEK homopolymer cannot be considered in the present case as amounting to an arbitrary choice within a host of possible solutions to the problem posed. For this reason, the appellant's objection is rejected.

5.4.6 In view of the above, the appellant's arguments do not justify that the Board overturns the opposition division's decision regarding inventive step of the subject-matter of claim 1, alternative 1.

6. Article 56 EPC: **claim 1, alternative 2**

6.1 The opposition division’s conclusion according to which either example 6 of D1 or D7 constituted alternative documents to be taken as the closest prior art (reasons: section 4.2.2) was not contested by the parties.

6.2 Example 6 of D1 as closest prior art

6.2.1 It was not in dispute between the parties that the subject-matter of alternative 2 of claim 1 further

differs from example 6 of D1, as compared to alternative 1, in that the composite material must comprise 20-70 wt% of filler means. However, the same distinguishing features as for alternative 1 of claim 1 is still present (PEEK homopolymer of low melt viscosity instead of the PEEK copolymer prepared in example 6 of D1).

6.2.2 As outlined in section 5 above, alternative 1 of claim 1 was found to be inventive because it was not obvious to modify the closest prior art disclosure according to the distinguishing feature directed to the nature of the PEEK. Since alternative 2 of claim 1 differs from example 6 of D1 at least in the same distinguishing feature, it is bound to share the same fate regarding inventive step. Therefore, following the same line of reasoning as for alternative 1 of claim 1, in particular adopting the same formulation of the problem to be solved as defined in section 5.3.4 above and reading alternative 2 of claim 1 as indicated in section 3 (last sub-section) above, the subject-matter of alternative 2 of claim 1 involves an inventive step in view of D1 as the closest prior art, optionally in combination with D3, D6, D7, D26 or D27.

6.2.3 That view, which was already communicated to the parties in the Board's communication (section 8.2.2, first paragraph), was not contested any further, in particular at the oral proceedings before the Board.

6.3 D7 as closest prior art

6.3.1 In the Board's view, it is derivable from section 4.2 of the decision under appeal, that the opposition division considered that D7 taught that the presence of liquid crystal polyester (LCP) was an essential

technical feature of the teaching of D7. As a consequence, an inventive step was acknowledged because it was considered, among others, that it would not be obvious to remove said LCP from any disclosure of D7 (which would be necessary in order to arrive at the subject-matter of alternative 2 of claim 1 in view of the reading of claim 1, which does not allow the presence of any other polymeric material different from the PEEK homopolymer; see last paragraph of section 3 above).

6.3.2 In that respect, the Board agrees with the opposition division that LCP is an essential technical feature of D7 (see D7: claim 1; page 3, lines 27-29; page 5, lines 39-40; page 10, lines 49-54).

The appellant disagreed with that view and argued that D7 taught that LCP was used to decrease the viscosity, which would not be necessary if the skilled person were to use a PEEK of low viscosity (as defined in operative claim 1, alternative 2), which was also contemplated by D7 (statement of grounds of appeal: page 14, fourth paragraph).

However, it is in the Board's view derivable from page 10, lines 52-55 of D7 that LCP is used in D7 not only to decrease the viscosity but also to ensure good dimensional accuracy. In addition, the statement made therein, that less than 5 wt.% LCP is not preferred, is disclosed independently of both the nature of the polyetherketone (D7 is not limited to PEEK homopolymers) and its melt viscosity (D7 is not limited to polyetherketone having a melt viscosity in the range of alternative 2 of operative claim 1). That finding is further confirmed by the passage on page 12, lines 27-33 of D7, as pointed out by the respondent at

the oral proceedings before the Board. Therefore, the appellant's argument is not persuasive.

In view of the above, even if the problem to be solved over D7 were to be formulated as an alternative method to the one of D7 in the same manner as indicated in section 5.4.3 above (it is also derivable from e.g. Table 1 of D7 that the components prepared therein have suitable mechanical properties), it would not be obvious to solve that problem by removing said LCP from any disclosure of D7, as already held by the opposition division. In particular, D7 cannot teach to solve the above problem by using a composite material comprising a PEEK homopolymer having a melt viscosity according to alternative 2 of claim 1 as sole polymeric material in alternative to the compositions containing LCP taught in D7.

6.3.3 For these reasons, the subject-matter of alternative 2 of claim 1 involves an inventive step in view of D7 as the closest prior art document. In particular, this reasoning cannot be changed by the disclosure of D1, which was used by the appellant as a combination document with D7 (statement of grounds of appeal: page 13, section 4.2.2).

6.4 In view of the above, the appellant's arguments provide no reason for the Board to overturn the opposition division's decision in respect of the inventive step of the subject-matter of claim 1, alternative 2.

7. Article 56 EPC: **claim 9**

7.1 The subject-matter of claim 9 of the main request is defined in very similar terms as the one of alternative 1 of claim 1 and, in essence, only differs

therefrom in that the method defined therein is not limited in terms of the amount of precursor material to be selected but additionally requires that the component being made should have a wall which includes a region having a thickness of 3 mm or less (i.e. the method being claimed is for making components having relatively thin walls, as indicated in paragraph 28 of the patent in suit).

7.2 In the decision under appeal either example 6 of D1 or D7 were held to constitute suitable documents to be taken as the closest prior art for said claim 9 (reasons: section 4.3.2).

7.3 Whereas the selection of example 6 of D1 as the closest prior art was not in dispute between the parties, the respondent argued that D7 would not be a suitable document to be taken as the closest prior art (rejoinder: page 6, third paragraph from the bottom).

7.4 In that respect, the Board indicated to the parties in its communication (section 9.1.3) that in view of the parties' submissions and independently of the selection of the closest prior art to be made, it was the Board's understanding that, should an inventive step be present for both alternatives of operative claim 1, the same conclusion would be valid for claim 9 of the main request.

That preliminary consideration was not contested any further, in particular at the oral proceedings before the Board.

Therefore, considering that the subject-matter of claim 9 differs from the one of example 6 of D1 and of D7 at least in the same distinguishing feature (PEEK

homopolymer of low melt viscosity instead of the PEEK copolymer prepared in example 6 of D1 or the composite including LCP of D7) which was found to confer an inventive step to alternatives 1 and 2 of claim 1, the subject-matter of claim 9 can only share the same fate as claim 1.

For these reasons, the subject-matter of claim 9 of the main request is inventive in view of either D1 or D7 as the closest prior art document. Under these circumstances, there is no need for the Board to address the issue of the selection of D7 as a suitable closest prior art document in more details in the present decision.

8. In view of the above, the subject-matter of claim 1 (alternatives 1 and 2) and claim 9 of the main request involves an inventive step. It was not contested that the same conclusion is valid for any of claims 2 to 8 of the main request.

9. Since none of the objections put forward by the appellant against the main request and admitted is successful, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. ter Heijden D. Semino

Decision electronically authenticated