

A		B		C	X
---	--	---	--	---	---

File No.: T 0233/91 - 3.3.3
Application No.: 84 111 651.0
Publication No.: 0 138 128
Classification: C08L 65/00
Title of invention: Blends of poly(aryl ketones)

DECISION
of 28 April 1993

Applicant: -
Proprietor of the patent: Amoco Corporation
Opponent: Hoechst Aktiengesellschaft

Headword:

EPC: Art. 54, 123(2)

Keyword: "Novelty (main request: no)" - "Amendments not deriving directly and unambiguously from the original application as the only possible interpretation not admissible (auxiliary request)"

Headnote
Catchwords



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Case Number: T 0233/91 - 3.3.3

D E C I S I O N
of the Technical Board of Appeal 3.3.3
of 28 April 1993

Appellant:
(Proprietor of the patent) Amoco Corporation
200 East Randolph Drive
P.O. Box 5910-A
Chicago
Illinois 60680 (US)

Representative:
Weinhold, Peter, Dr.
Patentanwälte Dr. V. Schmied-Kowarzik
Dipl.-Ing. G. Dannenberg
Dr. P. Weinhold
Dr. D. Gudel
Dipl.-Ing. s. Schubert
Dr. P. Barz
Siegfriedstrasse 8
W-8000 München 40 (DE)

Respondent:
(Opponent) Hoechst Aktiengesellschaft, Frankfurt
Ressortgruppe Patente, Marken und Lizenzen
W-6230 Frankfurt am Main 80 (DE)

Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 12 November 1990,
posted on 8 January 1991 revoking European patent
No. 0 138 128 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: F. Antony
Members: C. Gerardin
J. Stephens-Ofner

Summary of Facts and Submissions

- I. The mention of the grant of the patent No. 138 128 in respect of European patent application No. 84 111 651.0 filed on 28 September 1984 and claiming the priorities of 29 September 1983 and 14 September 1984 from two earlier applications in the United States, was published on 1 June 1988 on the basis of 15 claims, Claim 1 reading as follows:

"A polyarylether resin blend comprising at least two separately made crystalline poly(aryl ether ketone) resins formed into an intimate moldable mixture, each resin having, prior to being formed into said mixture (i) a different crystalline melting temperature and a different glass transition temperature, or (ii) a different molecular arrangement of unit components."

Claims 2 to 14 were dependent product claims directed to preferred blends as defined in the main claim; as to Claim 15, it concerned an article moulded from the blends according to Claims 1 to 14.

- II. On 25 February 1989 the Opponent filed a Notice of Opposition against the grant of the patent and requested revocation thereof in its entirety for lack of inventive step under Article 100(a) EPC. This objection, which was emphasised and elaborated in later submissions as well as during oral proceedings, was based essentially on the following document:

(1) US-A-3 668 057.

- III. Together with the summons to attend oral proceedings the Opposition Division issued a communication expressing the preliminary view that the claimed subject-matter was not novel.

- (i) During these oral proceedings held on 12 November 1990 the Patentee filed a new Claim 1 as the basis of the main request, wherein it was now specified that each resin had (i) a different crystalline melting temperature, (ii) a different glass transition temperature, and (iii) a different ~~molecular arrangement of unit components.~~

As auxiliary requests the Patentee further submitted two amended versions of the main claim, wherein in addition to features (i) and (ii) it was indicated that the resins should differ in the structure of at least one repeating unit contained therein.

- (ii) By a decision delivered at the end of said oral proceedings, with written reasons posted on 8 January 1991, the Opposition Division revoked the patent on the grounds, on the one hand, that the subject-matter of Claim 1 according to the main request was not novel and, on the other hand, that the additional structural feature mentioned in Claim 1 according to the auxiliary requests was not supported by the application as originally filed. While it was admitted by the Patentee that the said feature was not explicitly disclosed in the original documents, an implicit disclosure was not sufficient according to the Opposition Division's understanding of the Guidelines C-VI, 5.4.

IV. The Appellant (Patentee) thereafter filed a Notice of Appeal against this decision on 8 March 1991 and paid the prescribed fee at the same time.

Without denying that the wording of Claim 1 of the main request allowed more than one interpretation, the Appellant argued in the Statement of Grounds of Appeal

as well as during oral proceedings held on 28 April 1993 that the finding of lack of novelty was in fact the result of a misinterpretation of the claim. As far as the auxiliary requests were concerned, the mention of a difference in the structure of at least one repeating unit was regarded as implicitly disclosed in the original application, which was sufficient according to the Guidelines on their proper construction.

In addition to these substantive issues, the Appellant objected to the alleged fact that the communication sent together with the summons to oral proceedings before the Opposition Division was completely silent as to the ground which actually led to the revocation of the patent in suit. This was regarded as a substantial procedural violation justifying the reimbursement of the appeal fee.

V. In his written submission the Respondent (Opponent), which informed the Board on 6 April 1993 that it would not attend the oral proceedings; relied mainly on Example 1 of document (1) to support its objection of lack of novelty. This citation described copolyetherketones containing units derived from terephthalic (T) and isophthalic (I) acids; the parameters which were said to be essential for the properties of these polymers were the ratio T:I and the inherent viscosity. The blends prepared in Example 1 were obtained from a copolyetherketone having a ratio T:I of 70:30 and an inherent viscosity of 1.10, and products of eight similar unspecified polymerisation runs.

VI. The Appellant requested that the decision under appeal be set aside, a patent be granted on the basis of one of the three main claims filed on 12 November 1990 as main

request, first auxiliary request and second auxiliary request, and further that the appeal fee be reimbursed.

The Board interprets the arguments presented in the Counterstatement of Appeal and the letter received on 6 April 1993 as the request by the Respondent that the appeal be dismissed.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

Main Request

2. The current wording of the claims does not give rise to any objections under Article 123 EPC.

Claim 1 differs in substance from the main claim as granted by the fact that the requirement (i), which specified that both the crystalline melting temperature and the glass transition temperature of the polymer components should be different, and the requirement (ii), which specified that the molecular arrangement of the unit components of these polymers should be different, which were presented as alternative conditions in the granted version of the claim, are now formulated as three cumulative conditions, namely (i) different crystalline melting temperature, (ii) different glass transition temperature, and (iii) different molecular arrangement of unit components, which have to be fulfilled simultaneously. This amendment is supported by page 4, lines 48/49 of the patent as granted corresponding to page 11, lines 18 to 20 of the application as originally filed.

Claims 2 to 15 have been maintained as granted.

3. Document (1) describes laminar structures of a metal and a crystalline copolyketone, the latter being prepared from diphenyl ether and a mixture of terephthalic and isophthalic acids in the ratio T:I between 90:10 and 50:50, and having an inherent viscosity of at least 0.75, as measured as a 0.5 percent solution by weight in concentrated sulfuric acid at 23°C (Claim 1). From the description it clearly appears that these two features are essential for the properties of the polymer layer. On the one hand, a copolyketone of a too low inherent viscosity would tend to crack upon flexing, especially at low temperatures (column 3, lines 25 to 38); on the other hand, the ratio T:I determines the degree of crystallinity and, thereby, the dimensional stability of the copolymer (column 3, lines 55 to 76).

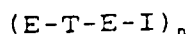
- 3.1 The copolyketone resin extruded into film form in Example 1 is a blend of a first copolyketone, which is said to have an inherent viscosity of 1.10 and a T:I ratio of 70:30, and a second copolyketone component, which is defined as one of eight products obtained under similar polymerisation conditions. The table in column 6 specifies the amounts and inherent viscosities of the eight samples in this second component, but does not specify the value of the T:I ratio. The question thus arises whether this compositional feature is the same for the eight products as for the first copolyketone, i.e. 7030, or whether, in view of the extensive discussion of the influence of this parameter on the properties of the laminar structure, it can reasonably be assumed that different ratios have been used.

By contrast with the other examples, from which it appears in particular that the copolyketones in Examples 3 to 8 have been prepared in the same way as

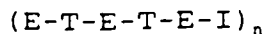
the copolyketone in Example 2, whereby further copolyketones having the same T:I ratio of 70:30, but differing by their inherent viscosity, have been obtained, the polymerisation runs giving rise to the eight copolyketones in Example 1 are described as similar only. In the Board's view, this reference to only "~~similarity~~" is significant and must be interpreted as an indication that these eight copolyketones differ from the first component not only by their inherent viscosities, but also by an additional feature which, in view of the emphasis laid in the citation on the influence of inherent viscosity and T:I ratio on the properties of the polymer layer, can only be a different value or different values of that ratio. For this reason, the Board concludes that the eight copolyketones constituting the second component of the blend of Example 1 must be derived from isomeric mixtures having T:I ratios at least partially different from 70:30.

The teaching of Example 1 would thus be interpreted by the skilled man in the light of this conclusion, i.e. on the assumption that the two components of the blend differ by their inherent viscosities as well as by their T:I ratios.

- 3.2 Since it is not disputed that the requirements (i) and (ii) as specified in Claim 1 of the patent in suit are met by the prior art blends, there is no need to discuss these two points in further detail. Additionally, the difference in T:I ratio involves a difference in molecular arrangement of unit components between the two components of the blend. If, for the purpose of illustration, one assumes that the two T:I ratios are 1:1 and 2:1 respectively, the two corresponding copolyketones can be represented schematically by



and



respectively, wherein E is the divalent diphenyl ether radical, thus by different recurrent units. This means that blends of two copolyketones having different T:I ratios also meet the third requirement (iii).

- 3.3 For these reasons, the subject-matter as defined in Claim 1 according to the main request cannot be regarded as novel.
4. In the absence of a separate request directed to the specific features mentioned in Claims 2 to 15, the latter must fall with the main claim, since a request can only be considered as a whole.

First and Second Auxiliary Requests

5. Claim 1 in both auxiliary requests differs from Claim 1 of the main request inter alia in that the wording of feature (iii) "a different molecular arrangement of unit components" has been replaced by "said resins differing in the structure of at least one repeating unit contained therein". In Claim 1 of the second auxiliary request it is additionally mentioned that each resin has repeating units selected from those of six specific formulae. Since these formulae are disclosed in Claims 5 to 8 and 12 as granted, which correspond to Claims 6 to 9 and 13 as originally filed, the issue of the allowability of the amendments under Article 123(2) EPC boils down to the question whether the condition of a difference in the structure is adequately supported by the original documents.

More specifically, since it is not disputed that there is no explicit support for such a feature in the application as originally filed, the Board has to decide whether, by way of implicit disclosure, this amendment derives directly and unambiguously from the original application as the only possible interpretation. As correctly pointed out by the Appellant, an implicit disclosure would be sufficient, provided it would be clear and unambiguous, the conclusion reached in the decision under appeal being erroneous and based on a misinterpretation of the Guidelines.

- 5.1 As the discussion during oral proceedings has made clear, the subject-matter of the original application was very broad and, according to the second alternative, comprised any blend of two crystalline poly(aryl ether ketone) resins differing by the molecular arrangement of their unit components. This requirement could be met in more than one way. A first is illustrated in the examples of the patent in suit, wherein two poly(aryl ether ketone) homopolymer or copolymer resins obtained from different bisphenols and/or dihalobenzoid compounds are blended; a second is explicitly envisaged in Claims 3 to 5 of the application as originally filed, which correspond to Claims 2 to 4 of the patent as granted, wherein the blend is obtained from two poly(aryl ether ketone) polymers having basically the same repeating unit, the two polymer components differing thus only by the degree of repetition of some sub-unit according to the values of the parameters a to e and n and/or by the isomeric composition of other sub-units. The latter situation corresponds to the one occurring in Example 1 of document (1), wherein two poly(aryl ether ketone) copolymer resins obtained from the same starting compounds, but used in different proportions, are blended.

This clearly shows that the application as originally filed allowed more than one interpretation of the condition now expressed as requirement (iii).

- 5.2 The fact that all the examples illustrate only one alternative cannot be construed as a clear and unambiguous disclosure of this particular embodiment in the original application for several reasons.

The first is that such a specific interpretation would be contrary to the description itself, which merely recalls that the examples serve to give specific illustrations of the practice of the invention, but are in no way intended to limit the scope thereof (page 9, lines 64/65). The second is that the description regards several methods to produce the poly(aryl ether ketone) resins as appropriate, including the use of mixtures of similar reactants to produce copolymers (page 8, lines 18 to 20 and 37 to 47; page 9, lines 35/36), in particular the use of isomeric mixtures, such as mixtures of terephthalic and isophthalic acids in ratios between 100:0 and 50:50 (page 8, lines 14, 34 and 63), which is nothing other than the method described in document (1). The third is that the description nowhere specifies how the original requirement of "a different molecular arrangement of unit components" should be understood and that, consequently, it cannot be allowed to give explicit preference to one specific interpretation several years after the dates of priority.

- 5.3 The reference to Article 69(1) EPC to find a support in the description for the Appellant's particular interpretation of the requirement of "a different molecular arrangement of unit components" is clearly inappropriate.

The fact that the original application allowed more than one interpretation of this expression is evidence of the intended broadness of the claimed subject-matter, which cannot be equated with obscurity. There is thus no need to refer to the description for the purpose of resolving an alleged ambiguity. But even if he did, the skilled reader would find no indication supporting the Appellant's contention, for, as stated above in point 5.2, the teaching of the description is fully in line with the various options covered by a claim containing the above requirement. In particular, in contradistinction to the Appellant's argument (Statement of Grounds of Appeal, point 1), the description is in no way limited to homopolymers and mixtures thereof, but expressly indicates that mixtures of similar reactants may be used to produce copolymers.

5.4 It follows that the application as originally filed, like the patent as granted, could be construed differently to the specific option retained in the two auxiliary requests, which is the criterion used in the decision T 113/86 (not published in OJ EPO) for not allowing an amendment (Reasons for the Decision, point 2.2). In other words, the amendment proposed in the main claim according to the two auxiliary requests must be regarded as an information which is not directly and unambiguously derivable from that previously presented by the application (cf. the following decisions not published in OJ EPO: T 64/91 of 28 October 1992, point 2, and T 383/88 of 1 December 1992, point 2.2.2). Consequently, it offends against Article 123(2) EPC.

6. The amendment in Claim 1 not being allowable, the dependent claims must fall with the main claim in both auxiliary requests, since a request can only be considered as a whole.

Procedural Matters

7. As the appeal is not allowable, the request for reimbursement of the appeal fee under Rule 67 EPC must be rejected as well.

In substance, the fact that the objection raised in the communication sent together with the summons to oral proceedings before the Opposition Division did not correspond to the ground which actually led to the revocation of the patent cannot be regarded as a substantial procedural violation. As stated above (point III), the Opposition Division took the view in this communication that the subject-matter of the first alternative of Claim 1 as granted, which was characterized by the combination of present features (i) and (ii), was not novel. Since a new Claim 1 to be considered as the basis of the main request was not filed prior to the oral proceedings, it is self-evident that the Opposition Division was not in the position to comment in writing on this amended version of the main claim. From the minutes and the decision itself it clearly appears that the issue has been discussed extensively, as evident from the submission of two additional auxiliary requests during these oral proceedings. In the Board's view, there can thus be no doubt that the Appellant had an opportunity to present its comments on the grounds on which the decision of revocation was based and that, consequently, the rights of the Appellant under Article 113(1) EPC were fully observed.

;

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



E. Gorgmaier



F. Antony