BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal ~~Yes~~ / No

File Number: T 270/90 - 3.3.3

Application No.: 81 304 201.7

Publication No.: 0 048 155

Title of invention: Polyphenylene ether compositions

Classification: C08L 71/04

D E C I S I O N
of 21 March 1991

Proprietor of the patent: Asahi Kasei Kogyo Kabushiki Kaisha

Opponent: 01: Hüls Aktiengesellschaft
02: BASF Aktiengesellschaft
03: General Electric Company

Headword:

EPC 54, 56, 114

Keyword: "Novelty (no) - prior use - availability of the product and the information" -
"Inventive step (no) - alternative" -
"Late submissions - abuse of procedure"

Headnote

Case Number : T 270/90 - 3.3.3

D E C I S I O N
of the Technical Board of Appeal 3.3.3
of 21 March 1991

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Decision under appeal : **Decision of the Opposition Division of the European Patent Office of 5 December 1989, issued on 17 January 1990, revoking European patent No. 0 048 155 pursuant to Article 102(1) EPC.**

Composition of the Board :

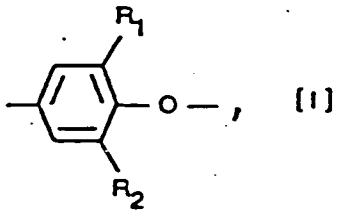
Chairman : F. Antony
Members : C. Gérardin
J. Stephens-Ofner

Summary of Facts and Submissions

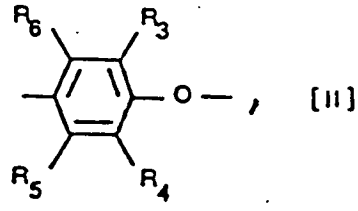
I. The mention of the grant of the patent No. 48 155 in respect of European patent application No. 81 304 201 filed on 14 September 1981 and claiming priority of 16 September 1980 of an earlier application in Japan, was published on 13 August 1986 on the basis of twenty claims.

Claim 1 read as follows:

"A resin composition which comprises 20 to 80 wt.% of polyphenylene ether (PPE) having recurring units (I) or (I) and (II) expressed by the general formulae:



[I]



[II]

(wherein R_1, R_2, R_3, R_4, R_5 and R_6 are the same or different univalent residues, provided R_5 and R_6 are not hydrogen at the same time), and 80 to 20 wt.% of rubber reinforced high impact polystyrene (HIPS), characterised in that the PPE has an intrinsic viscosity (η) (30°C, chloroform solution) in the range of 0.50 to 0.80 and the eluting amount of intermediate molecular weight materials equivalent to polystyrene molecular weight of 3000 or less from the PPE as determined by gel permeation chromatography (GPC) is not more than 5 wt.%."

II. Opponent 1 filed a notice of opposition on 14 November 1986 against the grant of the patent on the grounds of insufficient disclosure within the meaning of Article 100(b) EPC, as well as lack of novelty and inventive step (Article 100(a) EPC).

On 2 May 1987 Opponent 2 lodged an opposition to the granted patent and requested revocation thereof on the grounds of lack of novelty and inventive step.

On 8 May 1987 Opponent 3 also filed an opposition against the grant of the patent and requested revocation thereof for non-compliance with the requirements of Article 100(a) EPC, as well as for lack of unity of invention under Article 82 EPC.

These various objections, which were emphasised and elaborated in later submissions, were based essentially on the following documents:

(7) Technical Leaflet NORYL, General Electric Plastics, 1 September 1975

(9) Experimental Report filed by Opponent 2 on 2 May 1987

(10) Exhibits A to D filed by Opponent 3 on 8 May 1987

(14) Laboratory Notebook from Opponent 2 dated 19 June 1980

(16) Internal General Electric formulation sheet dated 21 June 1976

(17) Copy of shipment notice for NORYL 731 J dated 15 July 1980

(18) Sales ledger for NORYL 731 J corresponding to the order of (17).

III. By a decision delivered orally on 5 December 1989, with written reasons posted on 17 January 1990, the Opposition Division revoked the patent on the ground that the requirement of novelty was not met. More specifically, it was first stated in that decision that lack of unity of invention was not a ground of opposition. Further, the objection of insufficient disclosure lacked substantiation in that no evidence had been produced that any specific combination falling within the scope of the claims could not be reproduced by the average skilled person. However, novelty could not be acknowledged with regard to document (7) in view of the analytical results in document (9), which showed that the composition of NORYL 731, which was available to the public before the priority date of the patent in suit, fell within the scope of Claim 1 of the patent in suit.

IV. The Patentee (Appellant) thereafter lodged a notice of appeal on 13 March 1990 and paid the prescribed fee at the same time.

(i) The arguments presented in the Statement of Grounds of Appeal filed on 16 May 1990, in a later submission filed on 8 March 1991 and during oral proceedings held on 21 March 1991 can be summarised as follows. A substantiated link between the product offered for sale or actually sold before the priority date of the patent in suit, on the one hand, and the analysis results showing that such material meets the requirements of Claim 1 on the other hand, had not been provided. First, the analysis results put forward by the Opponents (Respondents) were questionable, since the storage conditions were unknown; secondly, it had not been conclusively demonstrated that NORYL 731 contained high impact polystyrene (HIPS); furthermore, there

were inconsistencies between the results of documents (9) and (14), as well as documents (9) and (16).

(ii) As an annex to the statement submitted on 8 March 1991, the Appellant filed an experimental report in which the values of eluting portions obtained by using a combination of GPC columns as mentioned in the patent specification were compared with those obtained by using a combination of more recent GPC columns. Owing to the improved resolution of the latter columns, there was a risk of underestimating the amount of eluted material, which made the results presented by the Respondents unreliable.

(iii) In addition, and in conjunction with the statement of 8 March 1991, the Appellant filed eight alternative claims to be considered as Auxiliary Requests during oral proceedings; these eight main claims combined Claim 1 as granted with the subject-matter of various sub-claims (Auxiliary Requests 1 to 4) or with specific features taken from Examples, optionally together with the subject-matter of sub-claims (Auxiliary Requests 5 to 8).

V. In response to these arguments the Respondents argued that the documents on file demonstrated unambiguously that the material analysed was a commercial resin comprising HIPS. Since just any conventional method could be used to prepare polyphenylene ether (PPE) according to the patent specification, the claimed composition could not be regarded as novel. Nevertheless, so they argued further, should novelty be acknowledged, this would raise the question of insufficient disclosure.

From a procedural point of view, the Respondents strongly objected to the late filing of experimental results less than two weeks before the oral proceedings, as well as to the taking into consideration of any or all of the eight alternative claims. In particular, they argued that novelty of the amended compositions, i.e. the question of prior public use, could not be decided on the basis of ordinary documents, but required additional analysis which could not be carried out within such a short time.

VI. In his introductory statements in the oral proceedings, the function of which, as always, is to focus the parties' attention upon salient outstanding or contentious issues, the Chairman first informed the parties that the Board would probably disregard the Appellant's experimental report of 8 March 1991 under Article 114(2) EPC as not submitted in due time. Further, the Board reserved its position as to whether or not to admit the Auxiliary Requests into the proceedings; in this respect, the Board made an explicit reference to its unpublished decision T 38/89 of 21 August 1990, interpreting and following the decision T 153/85, OJ EPO 1988, 1, in which it was held that a Board may justifiably refuse to consider alternative claims which have been filed at a very late stage, for example during oral proceedings, if such alternative claims are not clearly allowable. Moreover, the Board made it clear that, if a decision could not be announced at the end of the hearing as the consequence of those late submissions, whether the appeal procedure had to be continued in writing or the case remitted to the first instance, an apportionment of costs would probably be regarded as appropriate.

VII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained as granted as

Main Request or, alternatively, on the basis of any of the claims submitted as Auxiliary Requests on 8 March 1991.

The Respondents requested 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. As it appears from hereinabove, the objection of lack of novelty boils down to an objection of prior public use based on the analytical results of NORYL samples submitted by the Respondents.

2.1 In relation to the issue of prior use the Appellant strongly argued that, as a matter of law, this ground of objection needed to be proved more strictly than any of the other grounds of objection available under Article 100 EPC. Indeed, he went so far as to say that the evidential test for establishing prior use under the EPC must be at least as strict as the strictest of tests applied by any of the relevant judicial organs of the Contracting States. In effect, he submitted that prior use had to be established not on the balance of probability but beyond reasonable doubt, that is to say established with the same degree of strictness as applies, for example, to criminal proceedings in the United Kingdom.

The Board wishes to restate the principles of law that apply to appeal proceedings under the EPC, for these principles are tacitly assumed in many cases, but are seldom expressly spelt out.

The Boards of Appeal are judicial bodies, adjudicating, in the case of oppositions, in contentious civil matters. The matters are contentious because there is an opposition to a granted patent, and they are civil because they pertain to a species of intellectual property. Although it is true that the Boards are possessed of inquisitorial powers (Article 114(1) EPC), these powers do not convert them from judicial into administrative tribunals.

In consequence, when arriving at their decisions, the Boards, in addition to exercising their inquisitorial powers (should this be necessary), decide the issues before them on the basis of the evidence adduced by the parties. Their decision need not, and indeed in most cases could not, be based on absolute conviction, but has, instead, to be arrived at on the basis of the overall **balance of probability**, in other words, on the footing that one set of facts is more likely to be true than the other (see decision T 182/89 of 14 December 1989, Extent of opposition/SUMITOMO, to be published; headnote published in OJ EPO 8/1990).

As far as each of the parties to the proceedings is concerned, they carry the separate burdens of proof of any fact they allege. The weight of that burden is the **balance of probability** as distinct from "beyond all reasonable doubt" or "absolute conviction". In the course of an appeal, therefore, each party must seek to prove facts alleged by it to this degree of proof and, as was said above, it is the function of the Board to decide, applying the same standard, which set of facts is more likely than the other to be true.

These principles clearly apply to all facts and matters alleged in relation to all grounds of opposition,

including public prior use. Accordingly, the Appellant's submission that the evidential test or burden of proof for prior public use needs to be stricter than that for other grounds of objection under the EPC is rejected.

Therefore, in the present case of alleged prior public use, the Board needs to decide which set of facts is more likely:

(a) that the material analysed by the Opponents was one in general commercial use, or

(b) that it was a confidential and special sample sent by one Opponent to one of his main competitors.

Having regard to all the evidence adduced by the parties, the Board has no hesitation in deciding, on the balance of probability, it is more likely that the sample analysed was one that was already freely on the market, and accordingly the objection of prior public use is upheld.

2.2 Together with his notice of opposition of 2 May 1987, Respondent 2 submitted the results of two test reports. In the second one (document (9)), four commercial products sold by General Electric under the trademark NORYL were analysed; according to the experimental results of Table II, the product NORYL 731 contained 48 parts by weight of PPE having an intrinsic viscosity of 0.76 dl/g and containing 1% of material with a molecular weight equivalent to polystyrene of molecular weight 3000 or less, and 52 parts of HIPS.

Both the quality of the sample used for this analysis and the accuracy of these results are disputed by the Appellant.

His first argument that it was not safe to rely on analysis results carried out some time after the purchase of the material, when the conditions of storage are unknown, cannot be accepted for several reasons. The first one is that the storage conditions are not specified in the experimental part of the patent specification either, and that these conditions cannot be more critical in the case of a test report submitted by a Respondent than in the case of the experimental results disclosed in the patent in suit. Secondly, it must be assumed that the tests of 2 May 1987 had been carried out by skilled persons, who were well aware of the possible causes of instability, if any, of NORYL 731, and, consequently, of the optimal storage conditions for that product. Thirdly, nothing in the patent specification or elsewhere would suggest a tendency to degradation of PPE and/or HIPS, or a possible interaction of these two polymers when blended as in the commercial product.

Nor can the Board accept the Appellant's objection regarding the lack of relevance of the results submitted by Respondent 2 in opposition procedure because allegedly inappropriate GPC columns had been used to determine the eluting portion. First of all, this objection has been raised for the first time and supported by an experimental test report filed less than two weeks before the oral proceedings; in the Board's view, this late submission clearly represents an abuse of procedure, since in all fairness it cannot be expected from the Respondents to carry out their own tests within such a short period. For this reason already, the Board decides to disregard this late submitted evidence under Article 114(2) EPC. Besides, the Appellant's objection would have to be considered in the light of the present wording of Claim 1, wherein there

is no reference at all to the method of measurement of the eluting portion; this would make the Appellant's argumentation irrelevant anyway.

2.3 Together with his statement filed on 30 March 1988, Respondent 2 submitted document (14), i.e. a copy of a Laboratory Notebook dated 19 June 1980, wherein six different NORYL commercial products, among which NORYL 731, were analysed. This document provides evidence that NORYL 731 was acquired by Respondent 2 before the priority date of the patent in suit and was thus commonly available before that date. From the analysis report of (14), it appears that NORYL 731 contains 45 parts by weight of PPE, 49.1 parts by weight of polystyrene, between 1 and 2 parts by weight of an unspecified phosphate, as well as unspecified amounts of polyethylene wax.

Without disputing the availability of this product, the Appellant points out that the latter cannot be identified with the claimed product, since from a qualitative point of view the detected polystyrene contained no butadiene and was thus not a HIPS; moreover, the Appellant argues that the above amounts were not consistent with those given in document (9).

As it appears from the minutes of the oral proceedings before the Opposition Division as well as from point 5.6 of the decision under appeal, the analysis report referred to is based on IR and NMR spectroscopy analysis, by which only PPE and polystyrene can be detected; for this purpose, the rubber portion, as partially gelled, insoluble component of the blend, has to be removed in order to retain only soluble materials for analysis. The rubber contentresults from the difference of the total of the above amounts to 100% and thus lies in the range of

5 to 6%. Although the Appellant disputes this conclusion in general terms in the paragraph bridging pages 2 and 3 of the Statement of Grounds of Appeal, different figures based on his own experimental data have not been provided since; in fact, the method used by Respondent 2 corresponds to the procedure described in the patent specification (page 4, line 44 to page 5, line 2), according to which the determination of the composition as well as essential parameters, such as intrinsic viscosity and eluting amount, requires the separation of the soluble portion from the insoluble portion. This identity of investigation methods, in the Board's view, renders the qualitative conclusions reached by Respondent 2 entirely credible.

The fact remains that from a quantitative point of view the relative amounts of PPE and HIPS according to document (14) do not correspond to the amounts indicated in document (9). More specifically, on the basis of a complementary amount of 5 to 6 weight percent of rubber, the relative amounts of the two polymer components would be respectively about 45 and 55 weight percent according to document (14), whereas they are given respectively as 48 and 52 weight percent in document (9). Such differences, however, cannot be regarded as significant, since it is specified at the end of document (14) that the values obtained by IR spectroscopy are somewhat lower as the result of a darker coloration of the sample. There is thus no substantial discrepancy between the results of documents (9) and (14), so that the experimental data provided in document (9) can be considered to be a reliable basis.

2.4 The arguments presented by Respondent 3 to demonstrate that NORYL 731 J has been brought into the market before the priority date of the patent in suit, rely first on

document (10), which itself contains four Exhibits, A to D. Exhibits A and C are the translation of a test report submitted on 6 June 1983 in support of an opposition against the Japanese counterpart of the patent in suit and, respectively, a further submission by the Opponent filed on 13 April 1984. According to Exhibit A in combination with Exhibit C, page 9, the weight percentage of portions equivalent to polystyrene with a molecular weight of 3000 or less in the NORYL 731 J sample is 2.6%; this figure was determined by an independent technical centre, i.e. a third party to the opposition procedure, in Japan on 13 August 1980, thus before the priority date of the patent in suit. Further, Exhibit D shows that PPE as manufactured by Respondent 3 in 1980 and used in NORYL 731 J blends (statement filed on 21 March 1988, page 2, paragraph 5) has an intrinsic viscosity which ranges from 0.54 to 0.57 dl/g for the 16 samples examined.

Apart from the fact that the above values of the eluting amount and the intrinsic viscosity of NORYL 731 J meet the requirements specified in Claim 1 of the patent in suit, it has been convincingly demonstrated that NORYL 731 J actually comprises PPE and HIPS, and further that this commercial product was actually available on the market before the priority date of the patent in suit, thus not only supplied for the purpose of a single analysis made by the above independent technical centre. From the Declaration by T. Ishihara in annex to the statement filed by Respondent 3 on 18 February 1991 it is clear that NORYL 731 J has always, i.e. since 1979, comprised about 44% by weight of PPE and about 56% by weight of HIPS, the latter containing approximately 9% by weight of

polybutadiene. Document (17), which is dated 15 July 1980, provides evidence of the shipment of 2000 kg of NORYL 731 J-8100, the figure 8100 being an indication of the colour; document (18) shows that this order has also been booked in the sales ledger of July 1980.

Thus, in the Board's view, there can be no doubt that NORYL 731 J has consistently been a product falling within the terms of Claim 1 of the patent in suit and that this product was commercially available before the priority date thereof.

2.5 In reality, whether one regards the various results submitted by the Respondents as corresponding to one single commercial product analysed under different conditions or to slightly different formulations of the same basic product, is of little importance for the issue of prior public use. In the Board's view, clear evidence has been provided that before the priority date of the patent in suit, in any case, at least one commercial product meeting all the requirements specified in Claim 1 of the patent in suit, was available on the market.

Moreover, the information regarding its composition, at least from a qualitative point of view, was available as well before that critical date. Together with the counterstatement of appeal filed on 14 November 1990 Respondent 2 submitted a copy of the article "Quantitative Thermal Analysis of Polyblends" by H.E. Bair published in Polymer Engineering and Science, Volume 10, Number 4, July 1970; on page 249, right column, it is specified that the tradename NORYL refers to commercial resins which are blends of PPE and HIPS in various proportions. In the same respect, Respondent 1 submitted together with the counterstatement of appeal filed on 31 August 1990 a copy of a report entitled "Performance Polymers in

Electrical/Electronic Applications", Report Number 81-4, Chem. System Inc., August 1982; although this document was published after the priority date of the patent in suit, it explicitly mentions that blends of PPE and HIPS were sold under the trademark NORYL as early as 1966 (page 68) and further indicates that the HIPS component thereof contains 8 to 10% by weight of rubber (page 70, second paragraph).

As Respondent 3 put forward during oral proceedings, the commercial success of the grade NORYL 731/731 J must have been an incentive, at least for the competitors, to determine the relative amounts of its two polymer components. Document (10) provides evidence that this has actually occurred, since it is specified in Exhibit C, page 5, last paragraph, that commercial resins like NORYL are normally subjected to routine analysis. It follows that the entire information, i.e. qualitative as well as quantitative, relative to the claimed product was actually available to the public before the priority date of the patent in suit.

2.6 In conclusion, for the above reasons, neither the actual public prior use of the claimed product, nor the public availability of the analytical data concerning its composition can be seriously questioned. The subject-matter of Claim 1 of the Main Request is thus not novel. As to the reference to the Decision G 2/88 "Friction reducing additive/MOBIL OIL III" of 11 December 1989 published in OJ EPO 1990, 93, it is clearly inappropriate, since the question referred to the Enlarged Board of Appeal concerned a functional technical feature conferring novelty to a use claim.

Auxiliary Requests

3. As indicated during oral proceedings with reference to the Board's earlier decision T 38/89 (see point VI above), the late filing of the eight alternative claims as Auxiliary Requests raises, first, the procedural problem of their admissibility.

The question of the admissibility of late-filed alternative claims is to be decided by applying the test set out in the decision T 153/85, published in OJ EPO 1988,1, as interpreted and followed in the Board's unpublished decision T 38/89 of 21 August 1990. According to this clear line of jurisprudence, late-filed alternative claims may not be admitted into consideration if they are found to be not clearly allowable. In order to decide upon the admissibility of the eight auxiliary requests submitted late in the proceedings, the Board, therefore, needs to deal with various criteria of allowability, including formal and substantive ones not previously discussed.

4. Starting with the new claims according to the Auxiliary Requests 1 to 4, these incorporate the subject-matter of respectively Claim 7; Claims 7, 11 and 12; Claims 4 and 7; and Claims 4, 7, 11 and 12 as granted, into Claim 1 as granted, the latter corresponding to Claim 1 as originally filed with the exception of minor differences in the wording without influence on the scope of protection. Such combinations are not objectionable under Article 123 EPC and are, therefore, clearly allowable under this heading.

5. The experimental data provided by the Respondents show that at least some of the requirements specified in Claims 4, 7, 11 and 12 as granted are explicitly met by the known commercial products NORYL 731/731J. This applies to the rubber content mentioned in document (14) (see

point 2.3 above), which is confirmed in the Declarations by Prof. J. Bussink and T. Ishihara in annex to the statement filed by Respondent 3 on 18 February 1991. Further, document (9) reports a value of less than 1% for the amount of GPC eluting portion of PPE equivalent to polystyrene of a molecular weight of 3000 or less.

As to the other features, i.e. (i) the amount of GPC eluting portion of PPE equivalent to polystyrene molecular weight of 10 000 or less, (ii) the measurement of the isolation amount from a dichloromethane solution, and (iii) the $\overline{R_v}$ and $\overline{R_n}$ parameters in the elastomer phase, it is not clear how they could be regarded as novel. No argument in that sense has been provided by the Appellant; in particular, it has not been made plausible how products which are otherwise identical with the known commercial products could differ by one or more of these parameters. In other words, the presence of such parameters cannot be related to an objective difference in terms of properties, making it credible that the claimed requirements were not implicitly met by the known commercial products.

Accordingly, it cannot be said with any degree of certainty that the alternative claims submitted as Auxiliary Requests 1 to 4 are clearly allowable on the ground of novelty; the Board, therefore, refuses to admit them.

6. As to the alternative claims according to the Auxiliary Requests 5 to 8, these incorporate specific features taken from Example 2 (Auxiliary Request 5) and Example 8 (Auxiliary Request 6), i.e. an eluting amount of not more than 1 weight percent, respectively 0.5 weight percent, optionally in combination with the subject-matter of Claim 7 as granted (Auxiliary Requests 7 and 8). The Board has considerable doubts whether such isolated features,

which have been originally disclosed only in the context of specific compositions containing 50 parts by weight of PPE, 50 parts by weight of HIPS and 1.5 parts by weight of polyethylene (Example 2), or 60 parts by weight of PPE, 40 parts by weight of HIPS and 1.5 parts by weight of polyethylene (Example 8), can be generalised to compositions in which the amounts of the two polymer components are defined by broad ranges, without any reference to the other additives.

Applying the test of "clear allowability", these doubts are in themselves sufficient to exclude the late-filed alternative claims submitted as Auxiliary Requests 5 to 8 from consideration at this stage.

7. Further, as noted by Respondent 1, the question of novelty of the alternative claims according to the Auxiliary Requests 5 to 8 would in turn raise the issue of sufficient disclosure, since it is not clear how in particular the PPE component of the claimed composition, which according to the patent specification (page 5, lines 19 to 34) can be obtained more or less by any conventional method and must thus be regarded as a standard product, could be characterised by values of the eluting portion different from those known from the prior art; in the Board's view, there is here a fundamental contradiction in the Appellant's argumentation.

From a more procedural standpoint, it is essential to appreciate that the question of novelty in these claims is raised in new terms which cannot be answered by mere reference to the documents on file. Proper examination of that issue would require further experimental evidence to be submitted by the Respondents and involve either a continuation in writing of the appeal procedure or a remittal of the case to the first instance, thus in any

case would make it impossible to announce a final decision at the end of the hearing. There can be no doubt that the Appellant was well aware of the situation arising from the late submission of the alternative claims, which must, therefore, be regarded as a further abuse of procedure.

8. In view of the above negative conclusions regarding the various criteria of allowability, the Board decides not to admit into consideration any of the late filed alternative claims submitted as Auxiliary Requests 1 to 8.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

E. Görgmaier F. Antony