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D E C I S I O N
of 5 December 2002

Case Number: T 0024/99 - 3.3.3

Application Number: 89911605.7

Publication Number: 0394487

IPC: C08G 18/48

Language of the proceedings: EN

Title of invention:

Elastic polyurethane foam and process for its production

Patentee:

Asahi Glass Co., Ltd.

Opponent:

Huntsman International LLC

Dow Chemical Europe S.A.

Headword:

-

Relevant legal provisions:

EPC Art. 84, 100(b), 100(c), 111(1), 123(2), 123(3), R. 57a,
88

Keyword:

"Amendments - correction of errors (no)"

Decisions cited:

G 0003/89, G 0001/93, T 0181/82, T 0153/85, T 0840/93,
T 0577/97

Catchword:

-



Case Number: T 0024/99 - 3.3.3

D E C I S I O N
of the Technical Board of Appeal 3.3.3
of 5 December 2002

Appellant: Asahi Glass Co., Ltd.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 14 October 1998 and
issued in writing on 2 November 1998 revoking
European patent No. 0 394 487 pursuant to
Article 102(1) EPC.

Composition of the Board:

Chairman: R. Young
Members: A. Däweritz

Summary of Facts and Submissions

- I. The grant of European patent No. 0 394 487 in respect of European patent application No. 89 911 605.7, based on International patent application No. PCT/JP89/01067, which had been filed on 18 October 1989, was announced on 27 March 1996 (Bulletin 1996/13) on the basis of 13 claims.

Claims 1, 6, 9 and 13 as granted read as follows:

- "1. Use of a polyoxyalkylene polyol having an[...] oxypropylene group content of at least 70 % by weight, a terminal oxyethylene group content of at least 5 % by weight, a number of hydroxyl groups of from 2 to 8, hydroxyl value (X mgKOH/g) of from 5 to 38 and a total unsaturation degree (Y meq/g) of not more than 0.04, provided that when X is from 32.5 to 38, Y satisfies the formula $Y \leq 0.9/(X-10)$, for the manufacture of a polyurethane flexible foam, having an impact resilience of the core of at least 70 % (measured in accordance with JIS K 6401) and a resonant frequency of not higher than 3.5 Hz (measured in accordance with JAS 0 B407-82), said manufacture comprising reacting at least one high molecular weight polyol selected from the group consisting of said polyoxyalkylene polyol and a polymer-dispersed polyol containing said polyoxyalkylene polyol as the matrix, a crosslinking agent having a molecular weight not higher than 600 and possessing at least 2 isocyanate-reactive groups and a polyisocyanate compound in the presence of assisting agents such as a catalyst, a foaming agent and a foam stabilizer."

- "6. The use according to Claim 1, wherein the crosslinking agent is a polyol having a molecular weight of not higher than 600 per hydroxyl group and having from 2 to 8 hydroxyl groups."
- "9. Use of a polyoxyalkylene polyol having an oxypropylene group content of at least 70 % by weight, a terminal oxyethylene group content of at least 5 % by weight, a number of hydroxyl groups of from 2 to 8, a hydroxyl value (X mgKOH/g) of from 5 to 38 and a total unsaturation degree (Y meq/g) of not more than 0.07, with X and Y being in the following relation: $Y \leq 0.9/(X-10)$ with the proviso that the formula is applicable in a range of $x > 10$ for the manufacture of a polyurethane flexible foam, having an impact resilience of the core of at least 70 % (measured in accordance with JIS K 6401) and a resonant frequency of not higher than 3.5 Hz (measured in accordance with JAS 0 B407-82), said manufacture comprising reacting a polymer-dispersed polyol wherein the matrix is the above-mentioned polyoxyalkylene polyol and fine polymer particles are dispersed stably in the matrix, from 0.2 to 10 parts by weight, per 100 parts by weight of the polymer-dispersed polyol, of a crosslinking agent having a molecular weight not higher than 600 and possessing at least 2 isocyanate-reactive groups and an aromatic polyisocyanate in an amount of from 0.8 to 1.3 equivalent of the total amount of the polymer-dispersed polyol, the crosslinking agent and water when a foaming agent contains water, in the presence of a catalyst, a foaming agent and a foam stabilizer."

"13. The use according to Claim 9, wherein the crosslinking agent is a polyoxyalkylene polyol having a molecular weight of not higher than 300 per hydroxyl group and a number of hydroxyl groups of from 3 to 8."

The remaining dependent claims 2 to 5, 7, 8 and 10 to 12 related to specific embodiments of the subject-matter of the independent Claims 1 and 9, respectively.

II. In this decision, each reference to the "application" is intended to mean the "application documents as originally filed".

III. On 16 December 1996 and 27 December 1996, respectively, Notices of Opposition were filed by two Opponents in which revocation of the patent in its entirety was requested. Both Opponents raised objections under Article 100(c) EPC and disputed the patentability of the claimed subject-matter under Articles 54 and 56 EPC on the basis of initially seven, later nine documents (Article 100(a) EPC) including

D3: US-A-4 687 851,

D5: US-A-4 098 729,

D6: US-A-3 925 266 and

D7: "Proceedings of the Fourth International Pacific Conference on Automotive Engineering", Melbourne (Australia) November 8 to 14, 1987, pages 299.1 to 299.8.

A further objection under Article 100(b) EPC was raised by Opponent I.

In oral proceedings before the Opposition Division held on 14 October 1998, the Patent Proprietor submitted two auxiliary requests. As the main request, rejection of the oppositions was requested.

- (i) Both independent claims according to the first auxiliary request, a set of Claims 1 to 13, differed from the respective corresponding Claims 1 and 9 of the granted version only in that the definition of the crosslinking agent had been amended to read:

"a crosslinking agent having a molecular weight not higher than 600 per isocyanate-reactive group and possessing at least 2 isocyanate-reactive groups"

- (ii) The second auxiliary request, a set of Claims 1 to 11, differed from the version as granted only in that the definition of the crosslinking agent in each of the above independent claims had been replaced, respectively, by the corresponding definitions in Claims 6 and 13 as granted (section I, above) which latter claims had then been deleted. As a consequence, Claims 7 to 12 were renumbered "6" to "11", and the dependencies in renumbered Claims 9 to 11 were corrected accordingly.

Hence, this amendment resulted in a definition of the crosslinking agent in Claim 1 to read as follows:

"a crosslinking agent which is a polyol having a molecular weight of not higher than 600 per hydroxyl group and having from 2 to 8 hydroxyl groups".

In Claim 8, as renumbered and amended, the respective passage read:

"a crosslinking agent which is a polyoxyalkylene polyol having a molecular weight of not higher than 300 per hydroxyl group and a number of hydroxyl groups of from 3 to 8".

- IV. By decision announced at the end of the above oral proceedings and issued in writing on 2 November 1998, the Opposition Division revoked the patent.

In substance, it was held that the subject-matter according to the main request, i.e. the patent as granted, extended beyond the content of the application as filed (Article 100(c) EPC), that the first auxiliary request contravened Article 123(3) EPC and that the second auxiliary request lacked inventive step (Article 56 EPC) in view of a combination of D3 and D7.

In view of these findings, the Opposition Division concluded that there was no need to consider the further ground for opposition under Article 100(b) EPC raised by Opponent I in its Notice of Opposition.

- V. On 22 December 1998, an appeal was lodged by the Appellant (Proprietor). In the Statement of Grounds of Appeal, received on 12 March 1999, the Appellant requested that the decision be set aside and the patent be maintained with the set of claims submitted as first auxiliary request in the opposition proceedings (**main request**; section III.i), above) or, alternatively, with the set of claims filed as second auxiliary request in those proceedings (**first auxiliary request**; section III.ii), above).

As in the opposition proceedings, where the validity of D7 as prior art had already been in dispute, the Appellant maintained its argument to the invalidity of this document as state of the art.

The Appellant argued that the amendments in both Claims 1 and 9 of the above main request would be admissible in view the embodiments of Claims 6 and 13, because these claims were appendant to Claims 1 and 9, respectively, and related to embodiments which, by referring back to Claim 1 and 9, were elements within the broader scope of those claims. Therefore the Claims 1 and 9 as granted would be understood by the skilled person as spelled out in the corrected version of these claims.

As regards the questions of patentability in view of the citations, the Appellant disputed the conclusions drawn by the Opposition Division.

VI. In their counterstatements dated 29 July 1999 and 21 September 1999, respectively, both Respondents supported the decision under appeal with respect to the question of Article 123(2) EPC and inventive step and requested that the appeal be dismissed. Additionally Respondent II (Opponent II) further pursued its novelty objection, and filed evidence to support its argument that D7 was prior art. D7 was suggested to be considered as the closest state of the art.

Both Respondents also objected to the wording of the new main and first auxiliary requests under Article 123(3) EPC. The insertion of "per isocyanate-reactive group" in Claims 1 and 9 of the main request broadened the scope of these claims considerably due to the fact that the fixed upper limit of the range of molecular weights of the crosslinking agent of "not higher than 600" was extended to at least 1200 when

taking into account the minimum number of at least 2 such groups in the compound. With respect to the first auxiliary request, it was argued that a dependent claim could not be broader than the independent claim to which it was appendant and, consequently, its incorporation into the independent claim could not serve in a proper way to broaden the scope of protection of the patent in suit. In support of these arguments, reference was made to Decision G 1/93 (OJ EPO 1994, 541, in particular, point 13 of the reasons).

There was a clear inconsistency between the definition of the crosslinking agent in the granted version of Claims 1 and 6. However, the most a reader could derive from the patent specification was the conclusion that there was an error in one of its claims. However, the error could not be regarded as having been plainly obvious to the reader of the specification, because it had not been noted by any participant in the opposition proceedings, neither by the Opponents nor the Representatives of the Proprietor nor the Opposition Division, up to the oral proceedings of 14 October 1998.

The reader would have been entitled to take it that the main claim had been drafted with care, whereas less attention might well have been paid to the sub-claims. It was further argued that it was not so uncommon for there to be a failure to carry through amendments to a main claim thoroughly in making consequential amendments in the remainder of the description and claims. Hence, the reader was fully justified in supposing that Claim 1 meant what it said and, when noting the mistake, that Claim 6 as granted was erroneous.

VII. The opposition was transferred from original Respondent I to another company with effect of 28 October 1999, followed by a change of name of this Respondent (letter of confirmation dated 10 March 2001 by the transcription service of the EPO).

VIII. Oral proceedings were held on 5 December 2002. Before opening the floor to the parties, the Board initially made some provisional, preliminary remarks:

Whilst Claims 1 and 9 as granted required that the molecular weight of the crosslinking agent did not exceed 600, their new wording according to the main request included compounds having a molecular weight of 1200 or even more, because the presence of at least two isocyanate-reactive groups was required. Hence, the proposed amendment appeared to contravene Article 123(3) EPC).

With respect to the dispute whether D7 had been made available in due time to be considered as part of the prior art, it would have appeared from the message issued by the British Library dated 25 June 1999, which had been filed by Respondent II with its letter dated 21 September 1999, that D7 had been available to the public since 7 September 1988.

IX. The additional arguments presented by the Appellant during the oral proceedings to complement its written submissions can be summarised as follows:

An error had occurred in Claims 1 and 9 as granted. The error was obvious in view of the definitions of the molecular weight of the crosslinking agent in the main claim and in Claim 6 as granted, which were inconsistent with each other and led the reader of the patent in suit to rely on all the available material including the specification in its entirety and the

contents of the file. The fact that there was an error had not been disputed by the Respondents as could be seen from their initial counterstatements to the Statement of Grounds of Appeal. The correction of the error would, however, and contrary to the statements of the Respondents, not constitute an amendment of the content of the claim, but only be of declaratory nature, to reinstate what had been the original intention of the applicant. It could not, therefore, contravene the two requirements of Article 123(2) and (3) EPC (G 3/89; OJ EPO 1993, 117).

Despite a number of theoretically and formally conceivable further variants, only one way was possible for the reader skilled in this art to carry out the correction, ie the one based on page 10, lines 16 to 18 (under the heading "Crosslinking agent"), where the molecular weight was clearly defined "as not higher than 600 per isocyanate-reactive group" rather than as an absolute limit of up to 600. Moreover, Claim 6 could only be subsumed under Claim 1, if Claim 1 was read and interpreted as suggested by the wording according to the main request. The same would be true for Claim 13 and Claim 9. Therefore Claims 6 and 13 as granted gave the instruction how to read Claims 1 and 9, respectively.

Essentially, the above arguments were also presented with respect to the first auxiliary request. Additionally, it was argued that the protection conferred by a European patent was defined by the wording of the claims, rather than only by a particular claim.

An applicant would have the right to word each claim in an independent or dependent form. Consequently, each claim could be considered as an independent claim, irrespective of whether it referred back to a previous claim.

Thus, Claim 1, as suggested in the first auxiliary request, should be regarded as having initially included two alternative statements, the one as defined in the claim as granted and the other derived from Claim 6 as granted, and the first of these alternatives as having then been deleted from the claim. This would have resulted in dropping/eliminating the narrower range of a molecular weight of not higher than 600, but maintaining the second range as provided by Claim 6. The same would also apply to Claim 8, which was derived from Claims 9 and 13 as granted.

In the course of the oral proceedings, the Appellant submitted a further set of claims as **second auxiliary request**. As in the first auxiliary request, claims 6 and 13 of the granted version were deleted, resulting in a consequential renumbering and adaptation of the wording of the previous Claims 7 to 12 (see sections V and III. (ii) , above). The amendments made in these claims were based on the detailed description of the crosslinking agents on pages 10 and 11 of the application (page 4 of the patent specification). The necessity of a further auxiliary request had become apparent to the Appellant only in view of the discussion during the oral proceedings.

The independent claims of this request read as follows:

- "1. Use of a polyoxyalkylene polyol having an[.] oxypropylene group content of at least 70 % by weight, a terminal oxyethylene group content of at least 5 % by weight, a number of hydroxyl groups

of from 2 to 8, hydroxyl value (X mgKOH/g) of from 5 to 38 and a total unsaturation degree (Y meq/g) of not more than 0.04, provided that when X is from 32.5 to 38, Y satisfies the formula $Y \leq 0.9/(X-10)$, for the manufacture of a polyurethane flexible foam, having an impact resilience of the core of at least 70 % (measured in accordance with JIS K 6401) and a resonant frequency of not higher than 3.5 Hz (measured in accordance with JAS 0 B407-82), said manufacture comprising reacting at least one high molecular weight polyol selected from the group consisting of said polyoxyalkylene polyol and a polymer-dispersed polyol containing said polyoxyalkylene polyol as the matrix, a crosslinking agent and a polyisocyanate compound in the presence of assisting agents such as a catalyst, a foaming agent and a foam stabilizer, wherein the crosslinking agent is a polyfunctional compound having two isocyanate reactive groups and having a molecular weight of not higher than 300 per isocyanate-reactive group or glycerol, diethanolamine, triethanolamine[,] t-butyltolylene[d]iamine, diethyltolylene[d]diamine or chlorodiaminobenzene."

- "8. Use of a polyoxyalkylene polyol having an oxypropylene group content of at least 70 % by weight, a terminal oxyethylene group content of at least 5 % by weight, a number of hydroxyl groups of from 2 to 8, a hydroxyl value (X mgKOH/g) of from 5 to 38 and a total unsaturation degree (Y meq/g) of not more than 0.07, with X and Y being in the following relation: $Y \leq 0.9/(X-10)$ with the proviso that the formula is applicable in a range of $x > 10$ for the manufacture of a polyurethane flexible foam, having an impact resilience of the core of at least 70 % (measured in accordance with JIS K 6401) and a resonant frequency of not higher

than 3.5 Hz (measured in accordance with JAS 0 B407-82), said manufacture comprising reacting a polymer-dispersed polyol wherein the matrix is the above-mentioned polyoxyalkylene polyol and fine polymer particles are dispersed stably in the matrix, from 0.2 to 10 parts by weight, per 100 parts by weight of the polymer-dispersed polyol, of a crosslinking agent and an aromatic polyisocyanate in an amount of from 0.8 to 1.3 equivalent of the total amount of the polymer-dispersed polyol, the crosslinking agent and water when a foaming agent contains water, in the presence of a catalyst, a foaming agent and a foam stabilizer, wherein the crosslinking agent is a polyfunctional compound having two isocyanate reactive groups and having a molecular weight of not higher than 300 per isocyanate-reactive group or glycerol, diethanolamine, triethanolamine[,] t-butyltolylen[e]diamine, diethyltolylenediamine or chlorodiaminobenzene."

Claims 2 to 7 and 9 to 11 are dependent claims.

X. The additional arguments presented by the Respondents in the oral proceedings may be summarised as follows:

The second auxiliary request should not be admitted because of the late submission. The objections under Article 123(2) and (3) had been raised by the Opponents/Respondents a long time ago, so that any requests dealing therewith should have been provided earlier than only during the oral proceedings.

While it had been evident that the patent as granted had contained an error of some kind, the nature thereof had not been clear. Thus, the limitation of Claims 1 and 9 could have been fully intentional, whilst the adaptation of Claims 6 and 13 to the new wording of the

independent claims might have been inadvertently omitted. Having regard to the statement of the invention on page 2 of the specification, the passage further explaining the crosslinking agent on page 4 of the specification (page 10 of the application) which originally referred only to an optional feature might have been erroneous. Moreover, the wording of Claims 1 and 9 as granted had been crystal clear and did not give rise to any questions as to whether it might have been erroneous. Therefore, there was no need for the reader to look in the file itself. Furthermore, the limitation of the molecular weight to 600 was not evidently wrong in view of D5 (column 8, lines 50 to 53) or D6.

Rule 88 EPC required that a correction in the patent specification had to be such that it was evident that nothing else would have been intended than that what was offered as the correction. This requirement was not fulfilled by the amendments in the claims of the main and the first auxiliary requests.

XI. In view of the claims according to the second auxiliary request, both Respondents maintained *expressis verbis* all their respective objections raised during the opposition proceedings, ie those of lack of novelty and inventive step and, in addition, the objection under Article 100(b) EPC, which had been raised by Respondent I and which had not yet been dealt with by the Opposition Division.

XII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the set of claims submitted as first auxiliary request in the opposition proceedings (main request) or on the basis of the set of claims filed as second auxiliary request in those proceedings (first auxiliary request) or, in the alternative, that the case be

remitted to the Opposition Division for further prosecution on the basis of Claims 1 to 11 submitted at the oral proceedings of 5 December 2002 (second auxiliary request).

The Respondents requested that the appeal be dismissed. Respondent I requested in the alternative that the case be remitted to the Opposition Division for further prosecution.

Reasons for the Decision

1. The appeal is admissible.
2. *Wording of the claims as granted*
 - 2.1 In the granted version of Claims 1 and 9, the crosslinking agent was limited to compounds having a molecular weight of not higher than 600 and possessing at least two isocyanate-reactive groups.
 - 2.2 Claims 6 and 13 appendant to the above two independent claims were clearly inconsistent with the wording of those claims. On the one hand, these dependent claims limited the crosslinking agent to a polyol having 2 to 8 hydroxyl groups and to a polyoxyalkylene polyol having 3 to 8 hydroxyl groups, respectively. On the other, the maximum molecular weights of these compounds were extended in these claims to up to 600 per OH-group and 300 per OH-group, respectively. Thus, in fact, the latter features related to *equivalent* weights.

3. *Main request*

The set of claims according to the main request was amended in such a way that in each of the two independent Claims 1 and 9 the expression "per isocyanate-reactive group" had been inserted after "a molecular weight not higher than 600".

3.1 Article 123(2) EPC

The definition of the crosslinking agent in Claims 1 and 9 is based on the passage on page 10, lines 13 to 18 of the application (cf. section II, above) and complies with the requirements of Article 123(2) EPC.

3.2 Rule 88 EPC

With reference to Opinion G 3/89 (above), the Appellant argued that the amendments carried out in Claims 1 and 9 were corrections of purely declaratory nature, fulfilled the requirements of Rule 88 EPC, second sentence and, consequently, could not violate Articles 123(2) and (3) EPC. This was disputed by the Respondents.

3.2.1 It was not disputed between the parties that the set of claims as granted contained an error (see eg the letter of Respondent II dated 21 September 1999, page 2, last two lines and page 3, paragraph 1; and sections IX and X, above) which, according to the Appellant, was to be corrected by inserting the above expression into both independent claims.

3.2.2 The correction of linguistic errors, errors of transcription and mistakes in any document filed with the EPO is possible upon request under Rule 88 EPC, provided the correction is obvious in the sense that it is immediately evident that nothing else would have been intended than what is offered as the correction.

3.2.3 In reply to two questions submitted by the President of the EPO (i) whether documents submitted after the date of filing were admissible as evidence that nothing else would have been intended than what had been offered as the correction, where a correction had been requested in accordance with Rule 88 EPC, second sentence, and (ii) whether such a correction would be admissible even where the amendment requested would represent an (inadmissible) extension in the meaning of Article 123(2) EPC of the subject-matter disclosed in the documents actually submitted on the date of filing, the Enlarged Board of Appeals concluded in Opinion G 3/89 (above) that the parts of a European patent application or a European patent relating to the disclosure (the description, claims and drawings) may be corrected under Rule 88, second sentence, EPC only within the limits of what a skilled person would derive directly and unambiguously, using common knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed. Such a correction is of a strictly declaratory nature and thus does not infringe the prohibition of extension under Article 123(2) EPC.

The Appellant relied on this Opinion to support its main request.

3.2.4 The Respondents disputed that the above requirements for correction were fulfilled by the amended claims of this request (section VI and X, above). Thus, they argued that the error might have been eg in the failure of adapting the dependent claims 6 and 13 to their antecedents in a correct way.

Consequently, there would have been more than one way conceivable for amending the claims as granted, and, therefore, the requirements of the second sentence in Rule 88 EPC were not satisfied.

3.2.5 The first question to be examined in this case, in the Board's view, concerns the issue whether nothing else could have been intended than what has been offered as the correction. It is true that the only values explicitly offered in the general description for the molecular weight of the crosslinking agent are the equivalent weights of "600" and "300" (page 10 of the application; page 4 of the specification), however, this passage includes at least implicitly a molecular weight of "600" as such (derived from an equivalent weight of $300 \cdot 2$ functional groups).

The passage on page 10 of the application (cf. section II, above) clearly and explicitly discloses an upper limit of the molecular weight of 300 and also a number of two isocyanate-reactive groups in the compound. For a long time now, it has been the clear position of the Boards of Appeal that the wording of a definition of a range affects not only the scope of the disclosure (ie the ambit of the range) but also the disclosure itself (ie which individual species out of a defined generic group of compounds are directly and unambiguously presented by the text under consideration). Thus, in T 181/82 (OJ EPO 1984, 401, in particular point 8 of the reasons), a range of "C₁-C₄ alkyl bromides" was found to specifically designate

methyl bromide as the C₁ alkyl member of this group. The Board sees no reason to deviate from this view.

- 3.2.6 Therefore, the Board cannot accept the argument of the Appellant that the suggested amendment in Claims 1 and 9 would have been the only logically conceivable correction and due to the fact that the selection of "600" as the upper limit during the examination of the application would have been a clear mistake. This position is further supported by the examples in the specification (reference to diethanolamine; page 5, line 53; molecular weight [MW] 105.14), and the fact that crosslinking agents of this type had already been used (D5: column 8, lines 50 to 53; and D6: column 2, lines 57 to 61). Consequently, the requirements of the second sentence of Rule 88 EPC are not met.

Hence, the amendment is not allowable by way of correction under Rule 88 EPC.

3.3 Article 123(3) EPC

- 3.3.1 As argued by the Respondents, the requirements of Article 123(3) EPC are not fulfilled by the set of claims according to the main request. The molecular weight range of the crosslinking agent in both independent claims of the patent in suit as granted was limited to a maximum of 600. The suggested wording of Claims 1 and 9 clearly extends beyond this limit due to the fact that the upper limit of this molecular weight range is now defined in terms of molecular weight per isocyanate-reactive group, ie it now relates to an *equivalent* weight, whereby only the minimum number of these functional groups is defined ("at least 2") in both claims.

As demonstrated above for the specific embodiments of claims 6 and 13 (section 2.2, above) the *molecular weight range* at issue can thus reach far beyond the above initial limit of 600. In both independent claims, indeed, it is open ended. Consequently, the claims as amended are broader in scope than the claims as granted.

3.3.2 It follows that the main request contravenes Article 123(3) EPC and must, therefore, be refused.

4. *First auxiliary request*

4.1 Article 84 EPC

4.1.1 The wording of Claim 1 was discussed in detail during the oral proceedings. The Appellant argued that this wording was derived from the combination of the wordings of Claims 1 and 6 as granted.

The first step of the said combination resulted in a claim including the following features in the definition of the crosslinking agent: (i) having a molecular weight of not higher than 600 and a number of at least two isocyanate-reactive groups and (ii) being a polyol having a molecular weight of not higher than 600 per hydroxyl group and having from 2 to 8 hydroxyl groups. In the second step, the first alternative (i) was deleted. An amendment of this type should be allowable, because Claim 6 referred *expressis verbis* to the use according to Claim 1.

Both Respondents disputed the new wording of Claim 1, because a dependent claim could not have a broader scope than the claim on which it depended (Respondent I: letter dated 29 July 1999, page 2, lines 9 to 11; Respondent II: letter dated 21 September

1999, paragraphs bridging pages 2 and 3), so that the deletion of the narrower limitation of a "molecular weight not higher than 600" was improper.

- 4.1.2 Rule 29(3) EPC reads: "Any claim stating the essential features of an invention may be followed by one or more claims concerning particular embodiments of that invention."

This means that the Rule refers to two types of claims:

- (a) a "claim stating the essential features of **an invention**" (here: Claim 1 as granted) and
- (b) "one or more claims concerning particular embodiments of **that invention**" (here: Claims 2 to 8 as granted; emphasis added by the Board). It is evident that the expression "that invention" in quotation (b) can only refer to the same invention as mentioned in passage (a). Moreover, this wording of the Rule does not give room for an interpretation of such a dependent claim so as to concern a second alternative embodiment, ie to be in reality an independent claim (cf. Rule 29(4) EPC: "Any claim which includes all the features of any other claim (dependent claim) ...").

- 4.1.3 From these considerations, it follows that, whilst new Claim 1, said to be a combination of previous Claims 1 and 6, should have combined the essential features of Claim 1 with the additional features of Claim 6, an essential feature of the invention as contained in Claim 1 as granted has, instead, been omitted.

- 4.1.4 Claim 1 does not, therefore, comply with Article 84 and Rule 29(3) EPC.

The same considerations also apply to Claim 8, said to

be based on Claims 9 and 13 as granted.

4.2 Article 123(2) and (3) EPC

4.2.1 The features incorporated in Claims 1 and 9 as granted are based on Claims 8 and 17 of the application. Therefore, the Board has no reason to deviate from the finding of the Opposition Division as regards Article 123(2) EPC.

4.2.2 However, the arguments and findings concerning Article 123(3) EPC in the above section 3.3.1 are also valid for the first auxiliary request with the exception that the molecular weight ranges of the crosslinking agents are not open ended in Claims 1 and 8 due to the limitation of the number of hydroxyl groups to not more than eight. This exception does not, however, affect the validity of the finding that Claims 1 and 8 are broader than the corresponding independent Claims 1 and 9 as granted.

4.3 Consequently, this request cannot be successful either.

5. *Second auxiliary request*

5.1 Admissibility

5.1.1 According to Rule 57a, "the description, claims and drawings of a European patent may be amended, provided that the amendments are occasioned by grounds for opposition specified in Article 100 EPC, even if the respective ground has not been invoked by the opponent". The comparison of the three requests under consideration with the above considerations and findings demonstrates that this requirement is fulfilled.

However, if an Appellant desires that the allowability

of alternative sets of claims should be considered in an appeal, such alternative claims should normally be filed with the Statement of Grounds of Appeal or as soon as possible thereafter (T 153/85; OJ EPO 1988, 1; Headnote I).

- 5.1.2 Both Respondents argued that the second auxiliary request was submitted too late, since the objections raised had already been known to the Appellant since the first replies of the Respondents filed in response to the Statement of Grounds of Appeal (letters dated 29 July 1999 and 21 September 1999, respectively), and should, therefore, not be admitted in these proceedings.
- 5.1.3 The Board has, however, come to the conclusion, under the specific circumstances of the present case, that this auxiliary request should be admitted to the discussion, because the refusal to admit the auxiliary request would have resulted in the immediate loss of the patent on procedural grounds only, irrespective of its possible, not yet examined substantial merits. Thus, this additional request offered a last chance for the Patent Proprietor to maintain the patent in suit at least in amended form, which opportunity is normally given to the Patentee "even at the oral proceedings" (see T 577/97 of 5 April 2000 (not published in OJ EPO), point 3 of the reasons, wherein reference is made to T 840/93, OJ EPO 1996, 335, point 3.2 of the reasons).

Whilst, in examination proceedings, further amendments of the application after expiration of the time limit set in the first communication are subject to the consent of the Examining Division (Rule 86(3) EPC), Rule 57a EPC does not contain any such limiting provision or any time limit (see T 577/97 and section 5.1.1, above).

In this respect, the latter Rule contrasts with Article 114(2) EPC, which refers to "facts and evidence which are not submitted in due time". Such late filed facts and evidence need not be considered by the EPO. The terms "facts and evidence", however, concern documents according to the state of the art and experimental data (comparative or additional), cited and filed, respectively, by the parties at a very late stage of the proceedings, rather than amended claims of the patent in suit.

Moreover, the amendments in the second auxiliary request clearly serve the purpose of meeting the objections raised under Articles 84, 123(2) and 123(3) EPC against the main and first auxiliary requests (above), discussed in detail during the oral proceedings, so that the filing of this auxiliary request cannot be said to amount to an abuse of procedural rights (cf. T 577/97, *loc.cit.*).

5.2 Article 84 EPC

The Board is satisfied that the amendments in the claims of the second auxiliary request are in line with the requirements of Article 84 EPC. The inconsistencies between Claims 1 and 6 and Claims 9 and 13 of the version as granted, respectively, have been removed.

5.3 Article 123(2) EPC

Claims 1 and 8 according to this auxiliary request differ from Claims 1 and 9 as granted, respectively, only by the definition of the crosslinking agent.

5.3.1 The new definition of this component is split into two parts: the compounds according to a first part have two isocyanate-reactive groups and a molecular weight of *not higher than 300* per isocyanate-reactive group; those according to the second are identified by their chemical structural name.

5.3.2 The polyfunctional compounds (crosslinking agents or chain extenders) are disclosed in the application as "having at least two isocyanate-reactive groups and having a molecular weight of not higher than 600, particularly not higher than 300, per isocyanate-reactive group" and are exemplified to belong to several classes of compounds, including polyhydric alcohols, alkanolamines and polyamines (application: page 10, lines 13 to 23; patent in suit: page 4, lines 11 to 16).

The list of preferred compounds of these types which comply with the requirement in the independent claims of this request refers to ethylene glycol (MW 62.07) and propylene glycol (MW 76.11), 1,4-butanediol (MW 90.12) and glycerol (MW 92.11), diethanolamine (MW 105.14) and triethanolamine (MW 149.19), t-butyltolylenediamine (MW 178.28), diethyltolylenediamine (MW 178.28) and chlorodiaminobenzene (MW 142.59) (application: page 11, lines 1 to 8; patent in suit: page 4, lines 18 to 21).

5.3.3 Contrary to the opinion of Respondent II, the Board does not see a selection of individual species having been made from a comprehensive generic disclosure in

the text of the application which would have resulted in an improper singling out of compounds. In fact, the Respondent did not identify any compound disclosed in the relevant text of the application which, at the same time, would clearly meet the requirement of having a molecular weight of not more than 600 (as required by the granted version of the patent in suit) and would not be comprised in the two-part definition of compounds in Claims 1 and 8 according to this request. The Board has not become aware of any such selection either.

- 5.3.4 Moreover, the Board is satisfied that the above range of molecular weights of the *difunctional* compounds of not higher than 300 per functional group is supported by page 10 of the application (cf. sections 3.1 and 3.2.5, above).

For these reasons, the Board is convinced that the wording "a compound having at least two isocyanate-reactive groups" specifically designates a compound having two such groups.

- 5.3.5 In view of the issues discussed in these appeal proceedings, the Board comes, therefore, to the conclusion that the second auxiliary request meets the requirements of Article 123(2) EPC.

5.4 Article 123(3) EPC

- 5.4.1 It is evident that the formulation "a polyfunctional compound having two isocyanate-reactive groups and having a molecular weight of not higher than 300 per isocyanate-reactive group" does not exceed a molecular weight of 600 as required in the granted version of the

patent in suit. In fact, the definition is even narrower than that in Claims 1 and 9 as granted due to the additional limitation to two isocyanate-reactive groups.

5.4.2 All the individual chemical species listed in the second part of the definition of crosslinking agents have molecular weights of less than 600 as required in the granted version of the patent in suit (see section 5.3.2, above).

5.4.3 Hence, it is evident that the definition of the crosslinking agent in the independent claims of the auxiliary request is narrower than the definition in the granted version of the patent in suit. Consequently, the requirements of Article 123(3) EPC are met by the second auxiliary request.

6. *Procedural matters*

6.1 In view of the second auxiliary request submitted during the oral proceedings before the Board, the objection under Article 100(b) EPC, initially raised in the opposition, has been maintained *expressis verbis* by Respondent I.

6.2 In the Board's view, this issue has to be decided before patentability under Articles 52 to 56 EPC (Article 100a EPC) can be assessed finally.

6.3 The objection under Article 100(b) EPC has not, however, been dealt with by the Opposition Division (see the decision under appeal: page 9, last paragraph).

6.4 Under these circumstances and since both the Appellant and Respondent I requested to remit the case to the Opposition Division for further examination of the

opposition, including the examination of the objection under Article 100(b) EPC, the Board decides to exercise its power under Article 111(1) EPC to remit the case to the Opposition Division to continue the examination of the opposition on the basis of the claims of the second auxiliary request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The main request and the first auxiliary request of the Appellant are refused.
3. The case is remitted to the Opposition Division for further prosecution on the basis of the set of claims 1 to 11 submitted as second auxiliary request during the oral proceedings of 5 December 2002.

The Registrar:

The Chairman:

E. Görgmaier

R. Young