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Datasheet for the decision of 14 June 2018

Case Number: T 0623/15 - 3.3.03

Application Number: 02758484.6

Publication Number: 1421131

IPC: C08G18/34

Language of the proceedings: EN

Title of invention:
PROCESS FOR MAKING RIGID URETHANE-MODIFIED POLYISOCYANURATE FOAMS

Patent Proprietor:
HUNTSMAN INTERNATIONAL LLC

Opponent:
Covestro Deutschland AG/ Bayer Intellectual Property GmbH

Relevant legal provisions:
RPBA Art. 12(4), 13(3)
EPC Art. 54, 56

Keyword:

Documents submitted with the statement setting out the grounds of appeal - admitted
Main request - novelty acknowledged - obvious modification - lack of inventive step
Late-filed evidence - adjournment of oral proceedings would have been required (yes)
First to third auxiliary requests - lack of inventive step
Fourth auxiliary request submitted during the oral proceedings - not admitted

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Case Number: T 0623/15 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 14 June 2018

Appellant: (Opponent)	Covestro Deutschland AG Kaiser-Wilhelm-Allee 60 51373 Leverkusen (DE)
Representative:	Levpat c/o Covestro AG Gebäude 4825 51365 Leverkusen (DE)
Respondent: (Patent Proprietor)	HUNTSMAN INTERNATIONAL LLC 500 Huntsman Way Salt Lake City, Utah 84108 (US)
Representative:	Meissner Bolte Partnerschaft mbB Widenmayerstrasse 47 80538 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 2 February 2015 rejecting the opposition filed against European patent No. 1421131 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	D. Semino
Members:	F. Rousseau
	C. Brandt

Summary of Facts and Submissions

I. The appeal lies against the decision by the opposition division, posted on 2 February 2015, rejecting the opposition against European patent No. 1 421 131, whose claim 1 read as follows:

"1. Process for preparing rigid urethane-modified polyisocyanurate foam comprising the step of reacting an organic polyisocyanate with a polyfunctional isocyanate-reactive component at an isocyanate index of 150 to 450 % in the presence of water and/or a hydrocarbon and/or a hydrofluorocarbon as blowing agent and an alkali metal salt of an organic carboxylic acid as trimerisation catalyst **characterised in that** the process is carried out in the presence of a functionalised carboxylic acid corresponding to the general formula X_n-R'-COOH wherein X is OH, COOH, SH, NH_2, NHR, NO_2 or halogen, R is an alkyl, cycloalkyl or aryl group, R' is an at least divalent hydrocarbon moiety, typically an at least divalent linear or branched aliphatic hydrocarbon moiety and/or an at least divalent alicyclic or aromatic hydrocarbon moiety, n is an integer having a value of at least 1 and allows for mono and polyfunctional substitution on the hydrocarbon moiety."

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

D1: US 5,143,945
D7: WO 98/20059 A1
D10: WO 98/20058 A1
D11: Excerpt from conference proceedings "Alternativen zu FCKW und Halonen", internat. conference, Berlin, 24-26 June 1992

D12: Product bulletin "Inspire® - PIR insulation foam for sandwich panels", Huntsman, 03.04.2012
E1: comparative tests submitted by the patent proprietor (then applicant) with letter of 26 October 2010
E2: comparative tests submitted by the patent proprietor with letter of 30 November 2012
E3: comparative tests submitted by the opponent with letter of 14 November 2014
E4: comparative tests submitted by the patent proprietor with letter of 22 December 2014

III. According to the reasons of the decision, documents D10 to D12 were not admitted to the proceedings. In contrast, experimental report E4 was admitted, as it was in response to experimental report E3. The opposition division held inter alia that the process of claim 1 was novel, since the prior art documents cited disclosed the measures defined in claim 1 of the patent in suit only separately, but not in combination. As regards inventive step, D7 represented the closest prior art, Foam 9 of Example 2 representing the most suitable starting point, from which the claimed process only differed by the use of a functionalized carboxylic acid. The effect resulting from said difference, which was demonstrated by the available experimental data was seen in a slower reaction indicated by an increased string time, while at the same time providing a high conversion to isocyanurate groups. Since this effect was not foreseeable, the presence of an inventive step was acknowledged.

IV. An appeal against that decision was lodged by the opponent (hereafter appellant), the statement of grounds of appeal including the following documents:

D13: US 4,758,602
D14: Declaration by Mr. Hagen, calculation of the amount of free terephthalic acid in Terate® 203
D15: Data sheet concerning diethylene glycol http://www.chemicalbook.com/ChemicalProductProperty_DE_CB0409579.htm[19/05/15 13:09:46]
D16: Data sheet concerning glycolic acid http://www.chemicalbook.com/ChemicalProductProperty_DE_CB9463563.htm[19/05/15 13:11:34]

V. The patent proprietor (respondent) submitted with its rejoinder (letter of 6 October 2015) first to third auxiliary requests whose claims 1 contained the following amendments:

First auxiliary request

In comparison to claim 1 of the main request, the wording "in the presence of water and/or a hydrocarbon and/or a hydrofluorocarbon as blowing agent" was replaced by "in the presence of hydrocarbon and/or a hydrofluorocarbon, optionally together with water, as blowing agent" and the amount of functionalised carboxylic acid of the formula defined in claim 1 was defined to be in the range of 0.05 to 5 % by weight based on the isocyanate-reactive composition.

Second auxiliary request

The wording of the second auxiliary request was identical to that of the first auxiliary request to the exception that in the definition of the blowing agent the amount of (optionally used) water was specified to be in an amount of 0.2 to 5 % by weight based on the isocyanate-reactive compound and the amount of functionalised carboxylic acid was restricted to the

range of 0.1 to 5 % by weight based on the isocyanate-reactive composition".

Third auxiliary request

The wording of the third auxiliary request was identical to that of the first auxiliary request to the exception that the alkali metal of the trimerisation catalyst was specified to be potassium.

VI. A communication of the Board dated 18 Mai 2018 was sent in preparation of oral proceedings.

VII. The respondent submitted with letter of 13 June 2018 an additional experimental report D17.

VIII. The oral proceedings before the Board took place on 14 June 2018 in the course of which the respondent submitted a fourth auxiliary request, claim 1 of which differed from claim 1 as granted in that the wording "in an amount of of 0.05 to 2% by weight based on the isocyanate-reactive composition" was inserted at the end of claim 1.

IX. The appellant's submissions, as far as relevant to the present decision, can be summarized as follows:

(a) Documents D13 to D16 constituted evidence of the knowledge in the art and were relevant. Accordingly, they should be admitted into the proceedings.

(b) All examples of D1, in particular those describing the preparation of Foams 3, 4, 8, 9 and 10 anticipated the subject-matter of claim 1, in particular as water or terephthalic acid were

implicitly disclosed to be present in the formulations used to prepared those foams.

(c) Should novelty over D1 be acknowledged any of the process disclosed in D1 for the preparation of Foams 3, 4, 8 and 9 constituted a suitable starting point for assessing inventive step of claim 1 of the main request. The claimed process, which differed therefrom only be the use of water and/or hydrocarbon and/or hydrofluorocarbon as blowing agent, solved the problem of providing a further process for the preparation of rigid urethane-modified polyisocyanurate foams. The use of hydrofluorocarbons as blowing agent, however, was also taught in D1, so that their use in any of the processes described for preparation of Foams 3, 4, 8 and 9 was obvious to the skilled person who was seeking to merely provide a further process for the preparation of rigid urethane-modified polyisocyanurate foams. As regard to the first to third auxiliary requests the features introduced therein did not provide further distinguishing features over the closest prior art, in particular the preparation of Foam 8 so that the same argumentation as that provided in respect of the main request held good.

(d) The fourth auxiliary request should not be admitted into the proceedings, as it raised new issues which could not reasonably be debated during the oral proceedings.

X. The respondent's submissions, as far as relevant to the present decision, can be summarized as follows:

(a) Documents D13 to D16 should not be not admitted into the proceedings, as they were introduced too late into the proceedings and their relevance was questionable.

(b) There was no evidence that the ingredients used for the preparation of Foams 3, 4, 8 and 9 of D1 contained water or that the polyester polyol used in the preparation of Foam 10 contained free terephtalic acid, so that those foams did not constitute anticipatory disclosures of the claimed subject-matter. Novelty over D1 was therefore to be acknowledged.

(c) D1 constituted a suitable starting point for assessing inventive step, but the skilled person would not start from any of Foams 3, 4, 8 or 9, but instead from Foam 2, 7 or 18, since the latter exhibited the best results in terms of flame retardancy and compressive strength. Starting from Foams 2, 7 or 18, the skilled person would not be guided to add a functionalised carboxylic acid as defined in operative claim 1 in order to solve the problem solved by the present invention, namely improving isocyanurate conversion, while slowing the speed of reaction. Starting from D1, the claimed subject-matter involved therefore an inventive step.

(d) The amount of functionalised carboxylic acid defined in the first to third auxiliary requests was based on the isocyanate reactive composition, which amount as demonstrated by D17 was decisive, D17 being only relevant to these auxiliary requests. If D17 was admitted into the proceedings the case should be remitted to the first instance

for further prosecution or the oral proceedings be adjourned. Without taking D17 into account the arguments submitted in support of inventive step of the first to third auxiliary requests were the same as those presented in respect of the main request.

(e) The fourth auxiliary request had been submitted in response to the argument raised during the oral proceedings that the amount of functionalised carboxylic acid as defined in the first to third auxiliary requests did not constitute a distinguishing feature over Foam 8 of D1. Accordingly, it should be admitted to the proceedings.

XI. The appellant requested that the decision under appeal be set aside and that the European patent No. 1 421 131 be revoked.

XII. The respondent requested that the appeal be dismissed, or, alternatively, that the patent be maintained in amended form according to any of the first to third auxiliary requests filed with the reply to the statement of grounds of appeal, or on the basis of the fourth auxiliary request filed during the oral proceedings.

Reasons for the Decision

Admittance of documents D13 to D16

1. The admission of document D13 to D16, all submitted with the statement of grounds of appeal, is left to the power of the Board pursuant to Article 12(4) RPBA.

These documents have been cited in support of the objection that Foams 4, 8 and 10 of D1 constituted anticipatory disclosures of the process of claim 1 of the patent as granted, which objection was submitted first with the statement setting out the grounds of appeal. More particularly D13 and D14 have been cited in support of the argument that the preparation of Foam 10 of D1 is made in the presence of free terephthalic acid contained in Terate® 203 used for preparing that foam and D15 and D16 have been cited as evidence that the preparation of Foams 4 and 8 of D1 takes place in the presence of water contained as impurity in the reactants diethyleneglycol and glycolic acid used for the preparation of said foams. Considering that D1 had been already argued to constitute an anticipatory disclosure before the opposition division, which was denied by the opposition division, holding that D1 disclosed all features of granted claim 1, but not their combination, it was not illegitimate to argue lack of novelty on the basis of the above foams exemplified in D1 and provide supporting evidence D13 to D16, which argumentation does not present any difficulty, so that they can be easily treated at the appeal stage. Under those circumstances, there is no reason for the Board to make use of its discretionary power under Article 12(4) RPBA and to hold documents D13 to D16 as inadmissible. Accordingly, D13 to D16 are admitted into the proceedings.

Main request - patent as granted

Novelty over D1

2. The general principle consistently applied by the Boards of Appeal for concluding lack of novelty is that

there must be a direct and unambiguous disclosure in the state of the art which inevitably leads the skilled person to subject-matter falling within the scope of what is claimed. The process for preparing a rigid urethane-modified polyisocyanurate foam in accordance with operative claim 1 requires the use of a specific functionalised carboxylic acid and that the reaction takes place in the presence of water and/or a hydrocarbon and/or a hydrofluorocarbon as blowing agent, i.e. the substance which will lead to the formation of the gas bubbles necessary to obtain the foam. This implies that use is made of a sufficient amount of water and/or a hydrocarbon and/or a hydrofluorocarbon so as to allow the formation of a foam.

2.1 D1 describes the preparation of rigid polyurethane-polyisocyanurate foams by bringing together under foam forming conditions a mixture comprising an organic polyisocyanate, a polyol, a trimerization catalyst and a blowing agent mixture comprising a halocarbon blowing agent and an organic carboxylic acid wherein the carboxylic acid group is attached to a non-aromatic carbon atom (claim 1 and column 2, lines 38-49).

2.2 Foams 3, 4, 8 and 9 of D1 (example 1, table I and example 2, table II) are made using as part of the blowing agent either azelaic acid (Foams 3, 8 and 9) or glycolic acid (Foam 4), which are functionalised carboxylic acids within the meaning of operative claim 1. It is not disputed that the preparation of those foams is not described in D1 to be made by adding water or any of the blowing agents defined in operative claim 1. Use is made instead, in addition to the above mentioned acids, of CFC-11 (i.e. trichlorofluoromethane).

2.3 The appellant, however, argues that the preparation of Foams 3, 4, 8 and 9 is implicitly disclosed to take place in the presence of water necessarily contained as impurity in technical grade products used for the preparation of those foams, such as glycolic acid or diethylene glycol (both known to be hygroscopic as shown in D15 and D16, respectively) or the various polyester polyols employed (such as Terate® 203). This argument is however purely speculative in the absence of any additional information in D1 concerning those ingredients and/or corroborative evidence concerning the presence of water in said ingredients or the absence of storage of those under inert atmosphere. Moreover, the amount of water contained in formic acid used for the preparation of other foams of D1 is indicated in footnote 9 of table I (3% by weight of water). Accordingly, there is no reason for the reader of D1 to assume that other constituents used for the preparation of the foams exemplified in D1 contain as an impurity substantial amounts of water, let alone in an amount sufficient to significantly participate to the foaming as implicitly defined in operative claim 1. Hence, the objection that Foams 3, 4, 8 and 9 anticipate the process of operative claim 1 fails to convince.

2.4 Contrary to the objection of the appellant, D1 does not disclose having regard to the paragraph bridging columns 4 and 5 which teaches that the blowing mixture can also contain water or having regard to the description of Foams 10 to 22 constituting specific embodiments of that option, that water also should be employed in a different specific context, in particular that of the preparation of Foams 4 and 8. In other words nothing more than the bare disclosure of the specific constituents and measures described therein

can be derived from the exemplified embodiments describing the preparation of foam in the absence of water as blowing agent, in particular Foams 4 and 8. In particular, D1 has not been shown to disclose even implicitly that specific foam preparation processes described therein which do not use water have to be repeated using water. In other words it is necessary for the skilled person reader of D1 in order to find a disclosure for the combined use of water and of a functionalised carboxylic acid within the meaning of operative claim 1 to operate a double selection within the teaching of D1, i.e to select specific carboxylic acids described in that document, while at the same time use water as an optional blowing agent. In the absence of a corresponding pointer in D1 for this combined use or of a teaching to modify Foams 4 and 8 also using water, the reading of D1 made by the appellant is to be seen as the result from an *ex post facto* and therefore inadmissible interpretation thereof made in the light of the knowledge of the present invention.

2.5 As to Foam 10, whose synthesis occurs in the presence of water, the objection of lack of novelty of the appellant is based on the allegation that the dimethyl terephthalate based polyester polyol "Terate® 203" which is used for the preparation of said foam (see Table I, footnote 4 and column 7, lines 7-30) necessarily contains terephthalic acid as a free acid, terephthalic acid being a functionalised carboxylic acid within the meaning of operative claim 1. The appellant's reasoning is based on D14, a calculation made by the appellant of the amount of free terephthalic acid contained in Terate® 203, which calculation is based on the hydroxyl and acid numbers of Terate® 203 indicated in column 4, lines 16-19 of

D13. Independently of the validity of the hypothesis made by the appellant that the reactions for producing Terate® 203 are thermodynamically rather than kinetically controlled, the calculation cannot convince the Board as D13 is an earlier patent document and there is no evidence that the properties of Terate® 203 indicated in D13, in particular the hydroxyl and acid numbers forming the basis for the calculation in D14 were necessarily the same at the date of D1. The Board notes in particular that the viscosity at 25°C of Terate® 203 is indicated in D13 to be of 18000 cps, whereas it is indicated to be 30000 cps in D1 (footnote 4, table I). Furthermore, the calculation made in D14 is only based on the use of terephthalic acid and diethylene glycol, the functionality of Terate® 203 being taken as 2, whereas it is obvious having regard to the description of the products commercialised under the name Terate® 200 series which is made in column 7, lines 12 to 30 of D1, that the chemistry involved when preparing Terate® 203 is much more complex than the one taken in D14 as basis of the calculation, which is also illustrated by the indication in footnote 4 of Table 1 of D1 that the functionality of Terate® 203 is about 2.3. Accordingly, the evidence submitted by the appellant cannot demonstrate that the preparation of Foam 10 of D1 takes place in the presence of a functionalised carboxylic acid as defined in operative claim 1.

2.6 The indication by the appellant that all examples of D1 showed the features of claim 1 was not substantiated beyond of what has been indicated in the above section.

2.7 Accordingly, the objection of the appellant that the process according to operative claim 1 lacks novelty over D1 cannot convince.

Inventive step

Closest state of the art

3. According to established Case Law the closest prior art for the purpose of assessing inventive step is normally a prior art document disclosing subject-matter conceived for the same purpose or aiming at the same objective as the claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural and functional modifications (Case Law of the Boards of Appeal of the EPO, 8th edition, 2016, I.D.3.1).

3.1 The patent in suit concerns a process for preparing rigid urethane-modified polyisocyanurate foams (claim 1) which are useful for the production of high thickness panels, e.g. for building, the preparation of which requires a slow reaction speed (paragraphs [0002], [0005], [0006], [0009] and [0057]). Having regard to the fact that urethane-modified polyisocyanurate foams are known to exhibit better fire retardancy, reduced smoke emission in fire situations and greater thermal stability than polyurethane foams in general, due to the presence of the isocyanurate groups, it is generally desired to produce higher index polyisocyanurate foams in order to further improve those properties (paragraphs [0003] and [0004]). Accordingly, in order achieve high index polyisocyanurate foams for the production of high thickness panels, it is the goal of the present invention to provide a process for preparing rigid urethane-modified polyisocyanurate foams which leads to a good isocyanurate conversion, while the reaction speed is controlled (see paragraphs [0009] to [0011]).

3.2 As indicated in above section 2.2, D1 is directed to rigid polyurethane-polyisocyanurate foams prepared by bringing together under foam forming conditions a mixture comprising an organic polyisocyanate, a polyol, a trimerization catalyst and a blowing agent mixture comprising a halocarbon blowing agent and an organic carboxylic acid wherein the carboxylic acid group is attached to a non-aromatic carbon atom. D1 aims at producing articles having a thickness similar to that envisaged in the patent in suit, reference being made to thermal insulating building panels (D1, column 3, lines 8-10 and Example 1, Table I - footnote 14). All examples of D1, i.e. the processes described for the production of Foams 1 to 22, concern the preparation of rigid polyurethane-polyisocyanurate foams using a trimer catalyst and isocyanate index from at least 250% and as high as 415%, i.e. values in the range defined in operative claim 1, measures which are taken to obtain high index polyisocyanurate foams. Even if some of the foams could be considered to exhibit higher flame retardancy or better compressive strength, as argued by the respondent on the basis of Foams 2, 7 and 18, which properties obviously depend on the amount of isocyanurate groups present in the foam, there is no reason for the skilled person to select those foams as starting point for the present invention, when the skilled person is not concerned with an absolute increase of the amount of isocyanurate groups and the properties which depend on that amount, but rather with the achievement of a good isocyanurate conversion, while controlling the reaction speed. In this respect, the exemplified foams of D1 do not provide any indication of the isocyanurate conversion, which obviously depends on many variables, including the amount and type of trimer catalyst both varied in the examples of D1, or any indication that for the

production of said foams the speed of the reaction would not be controlled, the contrary being rather expected by the skilled person on the basis of the rise profile indicated.

3.3 On that basis it is legitimate the take as closest prior art and starting point for assessing inventive step, the processes exemplified in D1 which have the most relevant technical features in common with the process of operative claim 1. These are in D1 the processes for the preparation of Foams 3, 4, 8 and 9 already mentioned in above sections 2.2 and 3.2, which indisputably describe all measures of operative claim 1 to the exception of the use of water and/or a hydrocarbon and/or a hydrofluorocarbon as blowing agent. It is also pointed out that operative claim 1 does not exclude that the acids defined in operative claim 1 also act as blowing agent, which is even foreseen in paragraph [0047] of the specification, so that the fact that the carboxylic acids in D1 are used as blowing agent is of no relevance for the selection of the closest prior art nor for the identification of the distinguishing features. Hence, any of the processes described for the preparation of the rigid urethane-modified polyisocyanurate Foams 3, 4, 8 and 9 can be taken as the closest prior art and starting point for assessing inventive step.

Problem successfully solved over D1

4. Having regard to the process for preparing Foams 3, 4, 8 and 9 of D1, the appellant submitted that the technical problem solved by the subject-matter of claim 1 of the patent in suit is the provision of a further process for the preparation of rigid urethane-modified polyisocyanurate foams. This was not disputed

by the respondent and the Board has no reason to take a different view.

Obviousness

5. It remains to be decided whether or not the proposed solution to the objective problem underlying the patent in suit, namely the process in accordance with operative claim 1, characterized by the use of water and/or a hydrocarbon and/or a hydrofluorocarbon as blowing agent, is obvious in view of the state of the art.

5.1 The blowing agent mixture used in D1 is as already indicated above a mixture comprising (i) a halocarbon blowing agent, (ii) an organic acid and (iii) possibly water, the blowing mixture being described in details from column 3, line 38 to column 5, line 22. D1 suggests in particular the use of aliphatic or cycloaliphatic halocarbon having 1 to 4 carbon atoms which are partially or fully substituted by halogen atoms selected from fluorine, chlorine, bromine, and mixtures thereof (column 3, lines 42-47). Preferred are fluorocarbons having 1 to 2 carbon atoms substituted by at least one fluorine atom. e.g. 1,1 difluoroethane (column 3, lines 47-49 and 55). The use of hydrofluorocarbons is therefore clearly suggested.

5.2 Accordingly, starting from the preparation of any of Foams 3, 4, 8 and 9 of D1, the skilled person having in mind the objective to merely provide a further process for the preparation of rigid urethane-modified polyisocyanurate foams would be guided by D1 to modify the blowing agent mixture used for this preparation and to simply replace CFC-11 by a compound having the same function, e.g. hydrofluorocarbons such as

1,1 difluoroethane, arriving thereby in an obvious manner at the process of present claim 1.

6. Accordingly, the subject-matter of claim 1 of the main request does not meet the requirements of Article 56 EPC.

Admissibility of D17

7. The filing of experimental report D17 submitted by the respondent one day before the oral proceedings, represents an amendment to a party's case and its admission to the proceedings is subject to the Board's discretion pursuant to Articles 13(1) RPBA taking into account the additional condition of Article 13(3) RPBA. Its late submission was, according to the respondent, triggered by the provisional opinion of the Board which had made it rather clear for the first time to the respondent that D1 had to be regarded as closest prior and that the first auxiliary request was not inventive. D17 was relevant to the first auxiliary request as it showed that the limitation in respect of the amount of functionalised organic carboxylic acid was advantageous.

8. The preliminary assessment of inventive step starting from D1 as closest prior art provided in the Board's communication, including reasons as to why D1 could be considered to represent an adequate starting point for assessing inventive, was essentially based on the appellant's argumentation submitted in the statement setting out the grounds of appeal (pages 6 and 7, section II). Having regard to the fact that the parties' submissions in support of the first to third auxiliary requests did not concern the issue of inventive step, the Board refrained to provide a

preliminary opinion on that issue in its communication. The Board merely noted by reference to the second and sixth paragraphs on page 3 of the respondent's rejoinder that the limitations introduced in claims 1 of those auxiliary requests were indicated to restore novelty over D1 (point 19 of the communication). Hence, it was not the Board's communication which had caused the filing of D17, but rather the fact that the respondent had realised on its own at an extremely late stage of the proceeding that if the Board followed the appellant's objection of a lack of inventive step over D1 in respect of the main request, evidence for the presence of a technical effect linked to the specific amount of functionalized carboxylic acid as defined in the auxiliary requests was necessary in order to demonstrate that the amendments introduced into the auxiliary requests overcame the objection against the main request. While the Board therefore does not find any justification for the late submission of experimental evidence D17 and the argument based thereon submitted for the first time during the oral proceedings that the specific amount of functionalised organic carboxylic acid now defined in the auxiliary requests was a crucial aspect of the present invention, the admittance of D17 would also put the opposing party in the position of not being able to properly reply to it without adjournment of the oral proceedings. On this basis, the Board does not admit document D17 into the proceedings (Article 13(1) and 13(3) RPBA).

First to third auxiliary requests - inventive step

9. The respondent indicated that the arguments in support of an inventive step in respect of the first to third auxiliary requests would be the same as those brought forward for the main request. In claims 1 of the first

to third auxiliary requests, the use of water has been made optional, which modification does not introduce any distinguishing feature over the closest prior art, all Foams 3, 4, 8 and 9 of D1 being produced in the absence of water. The respondent also acknowledged that the amendments concerning the amount of functionalised carboxylic acid in claims 1 of the first to third auxiliary requests which could be up to 5 % by weight based on the isocyanate-reactive composition also did not result in the presence of an additional distinguishing feature compared to Foam 8 of D1, since this foam is prepared with 5 parts by weight of azelaic acid and 100 parts by weight of the polyester polyol "Chardol-336A" as part of the isocyanate-reactive composition (D1, column 13, table II, footnote 1). Finally, the definition in claim 1 of the third auxiliary request that the alkali metal of the trimerisation catalyst is potassium does not provide any difference in comparison to the process of making Foam 8, wherein the trimer catalyst is potassium octoate (D1, column 13, table II). Accordingly, none of the modifications introduced results in a distinguishing feature over the preparation of Foam 8 of D1, which means that the reasoning of inventive step provided in respect of claim 1 of the main request must remain the same for claim 1 according to any of the first to third auxiliary requests.

Admittance of the fourth auxiliary request

10. The fourth auxiliary request was filed during the oral proceedings after the Board had already announced the conclusion that none of the requests of higher ranking involved an inventive step when starting from D1 as the closest prior art. The modification introduced into claim 1 of the fourth auxiliary request aimed at taking

distance from the preparation process of Foams 3, 4, 8 and 9 of D1 by defining an amount of functionalised carboxylic acid which is below the amount used for the preparation of those foams, which amount as argued in relation to the admittance of D17 was alleged to be beneficial. As shown in above section 8 in relation to the admittance of D17, there was no justification for the respondent to submit at such a late stage of the proceedings the argument that the amount of functionalised organic carboxylic acid was crucial to the present invention and justified the acknowledgement of an inventive step over the disclosure of D1, whether one started from Foam 3, 4, 8 or 9 of that document. The objection of inventive step against the main request when starting from Foam 3 of D1 as the closest prior art had been submitted as early as with the statement setting out the grounds of appeal, meaning that the fourth auxiliary request and accompanying submissions relating the cruciality of the amount of functionalised organic carboxylic acid now defined in claim 1 of the fourth auxiliary request, not only could, but should have been submitted at en earlier stage of the proceedings. Admitting the fourth auxiliary request which focused on said aspect of the invention would therefore necessitate an adjournment of the oral proceedings. On that basis, the fourth auxiliary request is not admitted into the proceedings (Article 13(1) and 13(3) RPBA).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. European patent No. 1 421 131 is revoked.

The Registrar: The Chairman:

I. Aperribay D. Semino

Decision electronically authenticated