Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 18 February 2016

Case Number: T 0614/11 - 3.3.03

Application Number: 99918851.9

Publication Number: 1080126

IPC: C08G18/71, C08G65/36, C08G18/10

Language of the proceedings: EN

Title of invention:
METHOD OF BONDING A WINDOW TO A SUBSTRATE USING A SILANE FUNCTIONAL ADHESIVE COMPOSITION

Patent Proprietor:
Essex Specialty Products LLC

Opponents:
Henkel AG & Co. KGaA
Sika Technology AG

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - added subject-matter (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0614/11 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 18 February 2016

Appellant: (Opponent 1)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Kuhnert, Oliver Henkel AG & Co. KGaA VTP Patente 40191 Düsseldorf (DE)
Appellant: (Opponent 2)	Sika Technology AG Zugerstrasse 50 6340 Baar (CH)
Representative:	Sika Patent Attorneys c/o Sika Technology AG Corp. IP Dept. Tüffenwies 16 Postfach 8048 Zürich (CH)
Respondent: (Patent Proprietor)	Essex Specialty Products LLC 1250 Harmon Road Auburn Hills, MI 48326 (US)
Representative:	Beck Greener Fulwood House 12 Fulwood Place London WC1V 6HR (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 21 January 2011 concerning maintenance of the European Patent No. 1080126 in amended form.**

Composition of the Board:

Chairman	O. Dury
Members:	F. Rousseau
	R. Cramer

Summary of Facts and Submissions

I. European patent No. 1 080 126 was granted in respect of European patent application No. 99 918 851.9, filed as International application PCT/US99/09107 (Publication Number: WO 99/055755).

II. Two notices of opposition were filed requesting revocation of the patent in its entirety on the grounds of added subject-matter (Article 100(c) EPC), lack of novelty and lack of inventive step (Article 100(a) EPC).

III. In a decision announced orally on 13 December 2010 and issued in writing on 21 January 2011, the opposition division held that the patent could be maintained in amended form on the basis of the main request submitted during the oral proceedings on 13 December 2010, claim 1 of which read as follows:

"1. A method of bonding a window into a structure which comprises applying to a window an adhesive comprising:-

a polyether having silane moieties capable of silanol condensation produced by functionalizing a polyether polyol having a weight average molecular weight of 6000 or greater with a silane capable of silanol condensation;
a catalyst comprising 0.2 to 1.0 percent by weight of a dialkyltin dicarboxylate, a dialkyltin oxide, a dialkyl bis(acetylacetonate), a reaction product of dialkyltin oxide and phthalic acid ester or an alkane dione, dialkyltin halide and dialkyl tin oxide, and

from 0.5 to 2.0 parts by weight per one hundred parts by weight of adhesive of an aminoalkoxysilane;
locating the adhesive between the window and the unprimed window frame of the structure, wherein the window frame is painted with an acid resistant paint, which is an acrylic melamine silane modified coating, a melamine carbamate coating, a two part urethane coating or an acid epoxy coating;
and allowing the adhesive to moisture cure,
wherein the polyether polyol corresponds to the formula:
$R^3-((CH(R^4)CH(R^4)O)_q-H)_p$
wherein:
R^3 is the residue of a compound having from 1 to 8 active hydrogen atoms or oxygen;
R^4 is independently in each occurrence a hydrogen or a C_{1-6} saturated or unsaturated hydrocarbon chain;
q is independently in each occurrence a number such that the equivalent weight of the polyol is from 5,000 to 16,000; and
p is independently in each occurrence from 1 to 8."

IV. Claim 1 of the application as filed had the following wording:

"1. A method of bonding a window into a structure which comprises applying to a window an adhesive comprising polymer having a flexible back bone and silane moieties capable of silanol condensation and an organo tin catalyst; contacting the window with the window frame of the structure wherein the adhesive is located between the window and the

structure and allowing the adhesive to moisture cure."

V. According to the decision, the subject-matter of the claims met *inter alia* the requirements of Article 123(2) and (3) EPC. The various amendments were held to be based on the application as filed, in particular having regard to the preferred embodiments and examples given in the application as filed.

VI. Notices of appeal against this decision were filed by opponent 1 (appellant 1) and opponent 2 (appellant 2), their statement setting out the grounds of appeal being submitted with letters of 26 May 2011 and 31 May 2011, respectively.

VII. The reply of the patent proprietor (respondent) was submitted with a letter of 29 September 2011.

VIII. Summons to oral proceedings were issued on 1 September 2015.

IX. Further submissions of the respondent were made with letter of 15 January 2016 to which were attached a new main request, as well as four auxiliary requests. Claim 1 of the main request corresponded to claim 1 of the main request underlying the contested decision.

X. A Board's communication sent in advance by telefax on 21 January 2016 was issued, in which the Board among other issues addressed the question whether the polyether polyols defined in claim 1 of the main request found a basis in the application as filed, in particular on page 7 or in claim 7. It was also questioned whether the application as filed disclosed an adhesive composition comprising 0.5 to 2 wt.% of an

aminoalkoxysilane or rather 0.5 to 2 wt.% of an adhesion promoter. In addition, it was questionable whether the amount of 0.2 to 1.0 percent by weight of the tin compounds listed in claim 1 was disclosed in the application as filed to be based on the total amount of catalyst. Moreover, the dependent claims of the main request had not been brought into line with claim 1 and consequently, the main request did not appear to fulfil the requirements of Article 84 EPC.

XI. Following the Board's telefax of 21 January 2016, the respondent submitted on the same day a corrected version of the main request submitted with letter of 15 January 2016, which had, according to the respondent, been intended to represent a clean version of the main request accepted by the opposition division.

XII. With letter of 2 February 2016, the respondent withdrew all auxiliary requests and indicated that it would no longer be attending the oral proceedings. Additional arguments as to whether the main request was allowable were not submitted.

XIII. Oral proceedings took place on 18 February 2016 in the previously announced absence of the respondent, in accordance with Rule 115(2) EPC.

XIV. The appellants' submissions, as far as relevant for the present decision, can be summarized as follows:

a) The application as filed disclosed an adhesive comprising 0.5 to 2 wt. % of an adhesion promoter, which adhesion promoter could be an aminoalkoxysilane. It did not however disclose that the adhesive comprised that amount of aminoalkoxysilane.

b) The application as filed did not disclose that the catalyst comprised 0.2 to 1 percent by weight of the tin catalysts listed in operative claim 1, but that the adhesive contained that amount of those tin catalysts.

c) The formula of the polyol defined on page 7 of the application as filed was disclosed to be the result of the process described on page 6, in line with the disclosure provided by claims 6 and 7. Accordingly, it was not permitted when amending the claims to isolate the formula describing the polyol on page 7 of the application as filed from the additional features defining the process for its preparation.

d) Accordingly, claim 1 of the main request did not meet the requirements of Article 123(2) EPC.

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

a) As set out in original claim 1, the adhesive was to be one comprising a polymer having a flexible backbone and silane moieties capable of silanol condensation and an organo tin catalyst. The polymer had been limited to specify that this polymer was a polyether and that it was formed by functionalizing a polyether polyol with a silane, the polyether polyol having a specific formula that was based on the original disclosure on page 7, line 13, to page 8, line 2. That polyether polyol was disclosed to be one of the polymers providing a flexible backbone within the meaning of the application as filed.

b) Considering the passage at page 7, lines 19 to 27, and the subsequent passage describing the preferred R^3 and R^4 groups it was immediately apparent to the skilled person that the definition of formula (5) at page 7, lines 19 to 27, should have included initially oxygen for R^3 and hydrogen for R^4. Furthermore, based on the coterminous nature of the limitation at page 7 and that in original claim 7, it was clear that the 1 to 8 hydrogen atoms defined for R^3 on page 7 of the application as filed were meant to be "active hydrogen atoms". In addition, the feature of the polyether polyol having a weight average molecular weight as being 6000 or greater was based on the wording at page 7, lines 13-15, of the application as filed.

c) Claim 1 had been limited to the preferred set of catalysts. Such a selection was clearly an allowable selection. Similarly, preferred amounts of the catalyst had been selected. It was hard to understand how preferred catalyst types and preferred amounts of the catalyst to be used disclosed in the same paragraph could not be combined.

d) Based on the application as filed at page 12, lines 8 to 30, it was made clear that the inclusion of an adhesion promoter was desirable, particularly to enhance adhesion to glass and to coated surfaces, which was the particular method employed in the present invention. As noted by the opposition division, the examples of the present application used adhesion promoters, so it was apparent to the skilled person that these were preferred additional compounds. In addition, the amounts of the adhesion promoter were those which

were most preferred, as set out at page 14, lines 25 to 30, so this did not amount to a selection. Therefore, the only actual selection made was that the adhesion promoter was an aminoalkoxysilane. Even this selection was indicated as being preferred by the use of these adhesion promoters in some of the examples and in addition because a significant number of the specific adhesion promoters in the description were aminoalkyoxysiianes.

e) The limitations were intended to focus the scope of the claims towards the invention as it would have been understood by the skilled person based on the disclosure of the application as filed, in particular its examples. Accordingly, the subject-matter of the present claims did not extend beyond the content of the application as filed.

XVI. The appellants requested that the decision under appeal be set aside and the patent be revoked.

XVII. The respondent requested that the appeals be rejected and the patent be maintained based on the main request as approved by the opposition division and as filed with letter of 21 January 2016.

XVIII. At the end of the oral proceedings, the decision of the Board was announced.

Reasons for the Decision

1. In accordance with the established case law of the boards of appeal of the EPO, the relevant question to be answered in assessing whether the subject-matter of an amended claim extends beyond the content of the application as filed, is whether after the amendment the skilled person is presented with new technical information (see G 2/10 (OJ 2012, 376), point 4.5.1 of the Reasons and Case Law of the Boards of Appeal of the EPO, 7th edition 2013, II.E.1). In other words, the amendments are only allowable if the skilled person would derive the resulting claimed subject-matter directly and unambiguously, using common general knowledge, from the application as filed.

2. Compared to claim 1 as originally filed, claim 1 of the main request contains *inter alia* the following amendments:

   (1) the adhesive is defined to comprise a catalyst comprising 0.2 to 1.0 percent by weight of a dialkyltin dicarboxylate, a dialkyltin oxide, a dialkyl bis(acetylacetonate), a reaction product of dialkyltin oxide and phthalic acid ester or an alkane dione, dialkyltin halide and dialkyl tin oxide, whereas according to original claim 1 the adhesive was defined to comprise an organo tin catalyst in general,

   (2) the adhesive is further defined to comprise from 0.5 to 2.0 parts by weight per one hundred parts by weight of adhesive of an aminoalkoxysilane and

(3) the definition of "polymer having a flexible back bone and silane moieties capable of silanol condensation" has been replaced by that of "a polyether having silane moieties capable of silanol condensation produced by functionalizing a polyether polyol having a weight average molecular weight of 6000 or greater with a silane capable of silanol condensation, wherein the polyether polyol corresponds to the formula:
$R^3-((CH(R^4)CH(R^4)O)_q-H)_p$
wherein:
R^3 is the residue of a compound having from 1 to 8 active hydrogen atoms or oxygen;
R^4 is independently in each occurrence a hydrogen or a C_{1-6} saturated or unsaturated hydrocarbon chain;
q is independently in each occurrence a number such that the equivalent weight of the polyol is from 5,000 to 16,000; and
p is independently in each occurrence from 1 to 8".

3. As regards amendment (1), the patent proprietor did not indicate the passage providing a basis for that amendment, but the range of values of 0.2 to 1.0 percent by weight in respect of tin catalysts can only be based on the passage at page 10, lines 8-32, of the application as filed generally describing the use of tin catalysts.

According to that passage, the "*adhesive composition comprises one or more tin catalysts which catalyses the silanol condensation reaction*", the tin catalysts defined in present claim 1 being described to be preferred. The amount of catalyst to be used is specified in that passage to be such as to facilitate the cure of the adhesive without causing degradation of

the adhesive after cure. Lower and upper amounts of catalyst **in the adhesive formulation** (emphasis added by the Board) are then disclosed at the end of said passage, including the numerical values of "*0.2 percent by weight or greater*" and "*1.0 percent by weight or less*" now inserted in operative claim 1. Additional passages in the application as filed which specify specific amounts of tin catalysts are the exemplified adhesive formulations indicated in Table 2. They describe the use of a single tin catalyst (dibutyl tin bis-acetylacetonate) in various amounts comprised between 0,40 and 0,47 percent by weight of the adhesive formulation, in line with the information provided at page 10, lines 8-32.

The technically meaningful information to be found in operative claim 1 according to which the catalyst comprises "*0.2 to 1.0 percent by weight of a dialkyltin dicarboxylate, a dialkyltin oxide, a dialkyl bis(acetylacetonate), a reaction product of dialkyltin oxide and phthalic acid ester or an alkane dione, dialkyltin halide and dialkyl tin oxide*" is however not disclosed in the above mentioned passages of the application as filed, as those amounts are only described in the original disclosure to define amounts of tin catalysts based on the total amount of the adhesive.

Accordingly, amendment (1) extends beyond the content of the application as filed.

4. Concerning amendment (2), it is disclosed on page 14, lines 8-30, of the application as filed that adhesion promoters can be added to enhance adhesion to either the glass or to the surface of the substrate to which the glass is bonded. That passage specifies that "*the amount*

of adhesion promoter is 10 parts by weight or less based on the weight of the adhesive; more preferably 5 parts by weight or less and most preferably 2 parts by weight or less. Preferably the amount of adhesion promoter is 0.01 part by weight or greater based on the weight of the adhesive; more preferably 0.1 parts by weight or greater and most preferably 0.5 part by weight or greater". Accordingly, it can be inferred from that passage that the adhesive can comprise from 0.5 to 2.0 parts by weight based on the weight of the adhesive of an adhesion promoter. To the benefit of the respondent, it can be understood, in the light of examples 3 to 7, that those amounts are per one hundred parts by weight of the adhesive. The passage at page 14, lines 8-30, also discloses that the adhesion promoter can be an aminoalkoxysilane. Accordingly, the application as filed discloses that the adhesive comprises a total amount of adhesion promoter of from 0.5 to 2.0 parts by weight per one hundred parts by weight of adhesive, which adhesion promoter can comprise or consist of aminoalkoxysilane(s), as confirmed by examples 3 and 7 in Table 2.

The technical information conveyed by operative claim 1 is however different from that conveyed by the application as filed, as operative claim 1 defines the use of 0.5 to 2.0 parts by weight per one hundred parts by weight of adhesive of an aminoalkoxysilane, not excluding the use of further adhesion promoters. In other words, the amount of 0.5 to 2.0 parts by weight per one hundred parts by weight of adhesive defined in operative claim 1 is not defined to correspond to the total amount of adhesion promoter present in the adhesive composition, contrary to the disclosure on page 14 of the application as filed.

Therefore, amendment (2) also extends beyond the content of the application as filed.

5. Concerning amendment (3), the respondent indicated that the definition of the polyether polyol in operative claim 1 was based on the passage from page 7, line 13, to page 8, line 2, of the application as filed. First of all, the Board agrees with the respondent that the formula on page 7, lines 18-27, of the application as filed would be read by the skilled person, in particular in view of the subsequent description of residues R^3 and R^4 in lines 27 to 29, as implicitly defining a formula exactly corresponding to that of claim 7 of the original disclosure. The passage from page 7, line 13, to page 8, line 2, of the application as filed, however, should not be considered in isolation, but must be read, in order to objectively assess its technical meaning, in the context of the text in which it is embedded, i.e. in the light of the whole description and the claims which determine the disclosure of the invention. Therefore, that passage must be read in the light of the preceding passages starting at page 6, line 1, and ending at page 7, line 12. This is clear from the structure of the text which describes the process for preparing the polyether polyol (page 6, line 1, to page 7, line 12) and the references to the "resulting polyether polyol" and "the resulting high molecular weight polyol" on page 7, lines 15-18. This is also consistent with the structure of the claims as originally filed, wherein the formula of the polyol in claim 7 represents a limiting definition of the more general description of the polyol in claim 6 in which the polyol is defined in terms of the process features used for its preparation.

Accordingly, the only passages of the application as filed which might be seen to provide a disclosure of the

formula defined in operative claim 1, i.e. page 7 and claim 7, implicitly describe additional features linked to the process for its preparation, in particular that the polyol exhibits a specific maximum polydispersity value and has been prepared with a catalyst consisting of calcium having counterions of carbonate and a C_{6-10} alkanoate (page 6, lines 3-4, lines 7-9 and claim 6). As those additional restrictions are not contained in operative claim 1, it must be concluded that the definition of the polyether polyol in operative claim 1 also extends beyond the content of the application as filed.

6. It follows from the above that the original disclosure does not provide a direct and unambiguous disclosure for an adhesive as defined in operative claim 1 and consequently for the method claimed which comprises applying to a window that adhesive. Consequently, amended claim 1 does not meet the requirements of Article 123(2) EPC and the sole pending claims request is not allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

B. ter Heijden O. Dury

Decision electronically authenticated