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Datasheet for the decision of 24 May 2024

Case Number: T 1084/22 - 3.2.04

Application Number: 11009296.2

Publication Number: 2439372

IPC: E06B3/673, E06B3/663

Language of the proceedings: EN

Title of invention:
A method for forming an insulating glazing unit

Patent Proprietor:
Quanex IG Systems, Inc.

Opponent:
LISEC Austria GmbH

Headword:

Relevant legal provisions:
EPC Art. 100(c), 123(2)

Keyword:
Grounds for opposition - subject-matter extends beyond content of earlier application (yes)

Decisions cited:
T 0689/90

Catchword:
Reasons 3.10

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Case Number: T 1084/22 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 24 May 2024

Appellant: (Patent Proprietor)	Quanex IG Systems, Inc. 800 Cochran Avenue Cambridge, OH 43725 (US)
Representative:	Kraus & Lederer PartGmbB Thomas-Wimmer-Ring 15 80539 München (DE)
Respondent: (Opponent)	LISEC Austria GmbH Peter Lisec Straße 1 3353 Seitenstetten (AT)
Representative:	Wunderlich & Heim Patentanwälte PartG mbB Irmgardstraße 3 81479 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 7 March 2022 revoking European patent No. 2439372 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	A. de Vries
Members:	G. Martin Gonzalez
	C. Heath

Summary of Facts and Submissions

I. The appeal was filed by the appellant (patent proprietor) against the decision of the opposition division to revoke their patent.

II. The division found that claim 1 as granted and according to all auxiliary requests on file extended beyond the contents of the original application as filed.

III. In preparation for oral proceedings the board issued a communication setting out its provisional opinion on the relevant issues.

Oral proceedings before the Board were held by videoconference on 24 May 2024.

IV. The appellant requests that the decision under appeal be set aside and that the opposition be rejected (main request), or auxiliarily that the patent be maintained according to auxiliary requests 1-8 as filed on 12 August 2019 and attached to the opposition division's decision.

The respondent requests that the appeal be dismissed.

V. Independent claim 1 of the requests relevant for this appeal reads as follows:

(a) Main request (as granted)

"A method for forming an insulating glazing unit (6) comprising the steps of:

(A) providing a flexible, foam-bodied, desiccant-carrying spacer body (10) in a roll in a storage container wherein the spacer body (10) has pressure sensitive adhesive attached to two opposite sides of the spacer body (10);
(B) unrolling a portion of the spacer body (10) from the storage container;
(C) applying a sealant (18) to two opposed locations on opposite sides of the spacer body (10);
(D) attaching the sealant-laden spacer body (10) to a first sheet of glass (22) with the pressure sensitive adhesive such that the sealant engages the first sheet of glass (22) to form a hermetic seal between the first sheet of glass (22) and the spacer body (10); and
(E) attaching a second sheet of glass (22) to the sealant-laden spacer body (10) with the pressure sensitive adhesive such that the sealant forms a hermetic seal between the second sheet of glass (22) and the spacer body (10)."

(b) Auxiliary requests 1-8

Whilst claim 1 of each of these requests includes different amendments compared to claim 1 in the main request, they all retain the feature of a "pressure sensitive adhesive" as in the main request.

VI. In the present decision, reference is made to the following document:

(HBP8) US 4,831,799
(HBP10) Wikipedia "Adhesive", printout of 1 December 2022.

VII. The appellant's arguments can be summarised as follows:

The amendment to claim 1 specifying the adhesive as "pressure sensitive" does not extend the patent's subject matter beyond the original application. The application includes information implying the adhesive is pressure sensitive, such as in the on-line process description as schematically shown in Fig. 9. Additionally, the reference to HBP8 in the original application further supports the disclosure of a pressure sensitive adhesive in the spacer body.

VIII. The respondent's arguments can be summarised as follows:

The amendment to claim 1, specifying the adhesive as "pressure sensitive", is considered to extend beyond the original content of the application as filed. Although the application discusses steps involving adhesive application, it neither explicitly mentions nor implies the use of a pressure sensitive adhesive. Referring to HBP8 as an example of "exemplary spacer bodies 10" in paragraph [0008] of the published application does not compensate for the lack of disclosure. The paragraph focuses solely on the flexible "spacer body 10" without mentioning additional components, particularly the adhesive used to affix the spacer body to the glass sheets, which are detailed independently elsewhere in the application and not connected to the cited document. The question of a possible intermediate generalisation by taking the feature in isolation from the disclosure of HBP8 was also discussed during the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. Background

The patent concerns insulating glazing units, which typically consist of two glass sheets separated by a perimeter spacer. Specifically, it relates to a method for creating such units. This involves providing a spacer body with adhesive on both sides in a storage container, removing it from the container, applying sealant to create a sealant-laden spacer body, and finally affixing one glass sheet to each side of the sealant-laden spacer body using the adhesive, see patent specification paragraphs 0001, granted claim 1 and Fig. 2, 3 and 7.

3. Main request - Added subject-matter over the application as filed

3.1 The present patent was originally filed as a divisional application of a parent application (EP 05712985). Claim 1 was amended during examination to specify that the adhesive is a pressure sensitive adhesive. In opposition, the opposition division concluded that this amendment introduces added subject-matter over the contents of the originally filed divisional application, see sections 18-23 of the appealed decision. In the Board's opinion, this finding was correct.

3.2 It is common ground that the added feature has no literal basis in the originally filed divisional application. The original disclosure leaves open the kind of adhesive to be used, see e.g. its claim 1.

3.3 The appellant puts forward two lines of argument. Neither is convincing.

3.4 A first line of argument aims to show that the feature is implicitly derivable from the description.

The appellant submits that the original application describes an adhesive 14 with a protective cover 15, see p. 4, In. 34 - p. 5, ln. 32 and a manufacturing process, as depicted in Fig. 9 of the application. Appellant submits that the absence of any mention or suggestion of a step for chemically or thermally curing the adhesive spoke against the use of curing adhesives. Furthermore, vertical arrows in Figure 7, illustrating application of the second glass sheet to the assembly of first glass sheet and spacer, see also the paragraph bridging pages 5 and 6, would show the application of pressure. Appellant also argues that the only adhesive compatible with the on-line manufacturing process in Fig. 9 is a pressure-sensitive adhesive. In this process, the spacer 10 is formed into a frame with 90-degree corners (Figs. 5 to 6) on the first sheet of glass. One side of the 90-degree angle must be held while the other is folded, requiring adhesion to the first glass sheet. This would need to happen before any other treatment such as curing, thus excluding curing adhesives and leaving only pressure-sensitive adhesives as providing the necessary adhesion.

3.5 The Board is not convinced by these arguments.

3.5.1 The Board firstly notes that the original description focuses on the sealant, its preservation, and application to the spacer (original application, p. 2, ln. 22-34; p. 6, ln. 17 – p. 7, ln. 14), and on the

process of folding the spacer 90 degrees to form a frame (p. 7, ln. 15-32). It does not mention adhesive properties or its role, except for fixing the glass sheets to the spacer in the final product. The divisional as filed in any case also considers curable sealant, page 6, lines 9 to 12, which can only be cured after assembly of glass sheets and spacer, so that it must already provide sufficient adhesion to stay in place when first applied to the spacer and before curing. By the same token a curable adhesive may also already possess sufficient adhesion to keep it in place to form the rectangular frame on the first sheet. Thus the Board is not convinced that only pressure-sensitive adhesives have the feature of initial sticking before curing. For instance, HBP8 col. 3, ln. 3-7, cited during oral proceedings, describes curable silicone adhesive used in this context that seem to exhibit initial sticking properties.

Furthermore, the description does not detail the tooling or handling apparatus for the on-line process of Fig. 9, and therefore does not indicate how the frame is formed, whether for example the tooling holds the first side of the spacer during folding. Nor does it specify whether adhesive forces hold the first side to the glass sheet or if pressure is applied after placing the spacer.

Consequently, the fact that the spacer is initially shaped to form such a frame on the first glass sheet does not of its own imply that the adhesive is a pressure sensitive adhesive.

3.5.2 Likewise, application of pressure (assuming that the arrows in figure 7 indeed indicate pressure and not for example placement) does not exclude the use of

adhesives of any other kind: contact, drying, hot or other possible types of reactive adhesives as listed in HBP10 filed by the respondent. There, also placement of the second sheet of glass may require some pressure to ensure initial adhesion before a subsequent treatment step such as curing to produce full adhesion.

3.5.3 Moreover, while chemical or thermal curing of adhesive is not mentioned, it is also not excluded. In fact, as mentioned above, the divisional as filed on page 6 does mention curing but for the sealant. That curing step might also at the same time cure an appropriate adhesive.

3.5.4 Also, an adhesive protective cover can be used for a variety of reasons, other than the protection of a pressure sensitive adhesive. For instance, it might serve to protect a material from environmental influences such as dust, drying out or chemical deterioration; to prevent unintended adhesion (as stated even curing adhesives will exhibit initial adhesive properties); or to enable the the product to be rolled up in stored condition.

3.6 The Board is therefore not convinced by the appellant's arguments that the original disclosure implies the use of a pressure sensitive adhesive.

3.7 In a second line of argument, the appellant submits that the reference in the divisional as filed, page 4, line 20, to HBP8, which does mention pressure sensitive adhesives, also provides an original basis for the added feature.

This is also not convincing.

3.8 In this regard, the appealed decision refers to conditions developed in case law for being able to incorporate features from a cross-reference document, as set out in the Case Law of the Boards of Appeal, 10th edition, 2022 (CLBA), II.E.1.2.4, see in particular **T689/90** (OJ 1993, 616), and also mentioned in GL2022 H-IV.2.2.1. Thus, only under particular conditions would adding features from a cross-referenced document to a claim not be contrary to Art. 123(2) EPC 1973, namely if (a) the description of the invention as filed left the skilled reader in no doubt that protection was sought or may be sought for those features; (b) that they implicitly clearly belonged to the description of the invention contained in the application as filed and thus to the content of the application as filed; and (c) that they were precisely defined and identifiable within the total technical information contained in the reference document.

3.9 The Board views these conditions, along with alternative or reformulated criteria found in the cases cited in CLBA II.E.1.2.4, as different applications of the strict principle of direct and unambiguous disclosure or the "gold standard" for assessing compliance with Art. 123(2) EPC or Art. 100(c) EPC.

As variously emphasised in case law, while different tests have been developed for different cases of amendments, they may assist in determining whether an amendment complies with Art. 123(2) EPC, but do not replace the "gold standard" and should not lead to a different result, see CLBA, II.E.1.3.1.

Thus, the Board considers it sufficient and appropriate to apply the "gold standard" principle to this case.

3.10 The "gold standard" essentially requires in a case of incorporating features from a cross-reference document that the skilled reader should be able to directly and unambiguously derive which subject-matter of the incorporated document is part of the original application or, in other words, which features of the application are to be taken from the referenced document.

Therefore, the question that the Board needs to answer in the present case is whether, absent any hindsight or knowledge of the amended claim, the skilled person reading the original documents would directly and unambiguously derive from the cross reference to HBP8 that the adhesive's pressure sensitive nature is a feature to be incorporated from HBP8 into the original application. This requires that when the skilled reader of the divisional application as filed consults HPB8 as instructed it is immediately clear to them that it is that feature and that feature alone that is to be included. If that feature is disclosed in a certain technical context in the cross-referenced document, then, applying the same standard as for intermediate generalizations, see CLBA, II.E.1.9.1, isolation of the feature is justified only in the absence of any clearly recognizable functional or structural relationship. In the Board's view, this standard must naturally apply also to features meant to be incorporated from a cross-referenced document.

3.11 In the Board's view it is neither immediately clear to the skilled person from the cross-reference to HBP8 that it is the feature of the adhesive being pressure sensitive that is to be included, nor that that feature can be lifted out of its context in HPB8.

3.12 Firstly, as already explained above, the original description focuses on the sealant, its preservation, and application and on the process of folding the spacer 90 degrees to form a frame, without mentioning the adhesive properties. Thus there is no indication here that the nature of the adhesive plays any role for the disclosed invention.

3.12.1 The specific reference to HBP8 on page 4, line 20, states: "Exemplary spacer bodies 10 are disclosed in US 4,831,799, the disclosures of which are incorporated herein by reference". However, this reference refers only to the spacer body 10 and does not mention the adhesive. In the following lines, adhesive 14 is mentioned independently, see page 4, lines 24-25, without reference to HBP8.

The appellant argues that in the divisional as filed, the term "spacer body" means the complete product including additional elements such as the vapour barrier and adhesive, not just the the main body formed of flexible foam material. They cite the preceding passage on page 4, line 8 to 13. 10, which states, "... spacer body 10 may include a vapor barrier and adhesive used to secure spacer body 10 to glass sheets 22". By using the term "include," it is argued that wherever the term "spacer body" appears in the rest of the application, it should be understood to include the adhesive component if mentioned or described.

However, the Board is not persuaded, since the passage, through the use of the modal "may" indicates that inclusion of these elements is optional. This implies that the adhesive is optional so that any reference to a spacer body may or may not include the adhesive (or the vapour barrier).

3.13 Furthermore, though HBP8 undoubtedly discloses a spacer with pressure sensitive adhesive, see its abstract, column 7, lines 25-26, or its independent claims (1,2), it does so together with other features. For example, the spacer body in HBP8 is made of moisture permeable (silicone) foam and incorporates desiccant material, while its inwardly facing surface is resistant to ultraviolet radiation and the pressure sensitive adhesive is itself an ultraviolet resistant acrylic, see in particular the independent claims directed at the core of the teaching of HBP8, see also column 7, lines 14 to 45, and the abstract. Neither does HBP8 give the feature of the adhesive being pressure sensitive prominence over other features. Because all these features appear in the independent claims together, the skilled person does not immediately recognize that they might be functionally and structurally unrelated. Indeed, column 8, lines 5 to 21, indicates that this combination of features is intentional to simplify manufacture and improve handling, and thus functionally and structurally linked. The last sentence of the cited passage for example specifically relates the use of an acrylic pressure sensitive adhesive to that of a foam spacer, allowing it to be easily cut. The Board can but conclude that lifting the isolated feature of a pressure sensitive adhesive out of its context in HBP8 would lead to an unallowable intermediate generalization.

3.14 The Board concludes from the above that the amendment to claim 1 specifying the adhesive as "pressure sensitive" extends the patent's subject matter beyond the contents of the original application, Art 100(c) EPC.

4. Auxiliary requests 1-8

Claim 1 of all of these requests retain the isolated feature of a "pressure sensitive adhesive" as in the main request. They therefore contain added subject-matter for the same reasons as the main requests, Art 123(2) EPC.

5. As all appellant proprietor's requests are unallowable for added subject-matter, their appeal fails.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated