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Datasheet for the decision of 12 July 2023

Case Number: T 0233/22 - 3.2.01

Application Number: 14845290.7

Publication Number: 3047989

IPC: B60J1/00, B60R11/02, C03C27/12

Language of the proceedings: EN

Title of invention:
LAMINATED GLASS AND VEHICULAR DISPLAY DEVICE

Patent Proprietor:
AGC Inc.

Opponent:
SAINT-GOBAIN GLASS FRANCE

Headword:

Relevant legal provisions:
EPC Art. 52(1), 54, 56, 84, 123(2), 114(2)

Keyword:
Novelty - (yes)
Inventive step - (yes)
Claims - clarity (yes)
Amendments - extension beyond the content of the application as filed (no)
Late submitted material - correct exercise of discretion (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0233/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 12 July 2023

Respondent: (Patent Proprietor)	AGC Inc. 5-1, Marunouchi 1-chome Chiyoda-ku Tokyo 100-8405 (JP)
Representative:	Müller-Boré & Partner Patentanwälte PartG mbB Friedenheimer Brücke 21 80639 München (DE)
Appellant: (Opponent)	SAINT-GOBAIN GLASS FRANCE Tour Saint-Gobain 12 place de l'Iris 92400 Courbevoie (FR)
Representative:	Saint-Gobain Recherche B.P. 135 39, quai Lucien Lefranc 93303 Aubervilliers Cedex (FR)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 16 December 2021 concerning maintenance of the European Patent No. 3047989 in amended form.**

Composition of the Board:

Chairman	C. Narcisi
Members:	V. Vinci
	P. Guntz

Summary of Facts and Submissions

I. Appeals were filed by the patent proprietor and the opponent against the interlocutory decision of the opposition division to maintain the European patent N°3 047 989 in amended form.

In its decision the opposition division held that the subject matter of claim 1 according to the main request filed on 20 July 2020 was not novel within the meaning of Articles 52(1) and 54 EPC and decided to maintain the patent in amended form according to the auxiliary request 1 filed on 13 July 2021 as auxiliary request 3 and renumbered at the oral proceedings. Novelty and inventive step within the meaning of Article 52(1) in combination with Articles 54 and 56 EPC respectively were assessed in view of the following prior art:

E1 : CN 202503691 U
E1a : Translation of E1 into Eglish
E4 : US 2011073773 A1
E5 : WO 2013093351 A1

The affidavit E8 submitted by the opponent (appellant) after expiring of the time limit pursuant to Rule 116(1) EPC was not admitted in the opposition proceedings.

With its statement of grounds of appeal the appellant (opponent) submitted further evidence:

E9 : US2002/148255
E10 : US2007/045264

II. With a communication pursuant to Article 15(1) RPBA dated 7 March 2023 the Board informed the parties of its preliminary, non-binding assessment of the appeal.

With a letter dated 3 May 2023 the appellant (opponent) withdrew its request for oral proceedings and informed the Board that it will not attend the oral proceedings scheduled for the 12 July 2023. No further submissions were made by the appellant (opponent) in reaction to the preliminary assessment of the appeal of the Board.

Oral proceedings pursuant to Article 116 EPC were held before the Board on 12 July 2023 in the absence of the appellant (opponent).

During the oral proceedings the patent proprietor withdrew its appeal and from thereon only had the procedural status of a respondent.

III. The final requests of the parties were as follows:

The appellant (opponent) requested in writing that the decision under appeal be set aside and that the European patent be revoked.

The respondent's (patent proprietor's) initial request remained after withdrawal of their own appeal that the appeal be dismissed and that the interlocutory decision of the opposition division be confirmed.

IV. Claim 1 of the patent as maintained by the opposition division reads as follows:

"Laminated glass (30) utilized as windshield glass for a vehicle (32), comprising:

at least two glass plates (12, 14} and an interlayer (18) interposed therebetween;

at least one display (22) interposed between the at least two glass plates (12, 14);

the at least one display (22) being disposed in a peripheral edge area of the laminated glass (30),

characterized in that

the at least one display (22) is disposed on a car-interior side of an optically shielding layer (40) disposed in the peripheral edge area of the laminated glass (30),

the at least one display (22} comprises a flat panel display,

the at least one display (22) is interposed between at least two interlayers (16, 20) interposed between the at least two glass plates (12, 14),

the interlayer (18) surrounds the at least one display (22), and

the optically shielding layer {40} is a black ceramic."

Claim 6 relates to a display device for a vehicle (32) comprising the laminated glass (30) defined in any one of the preceding claims.

Reasons for the Decision

1. The appeal of the appellant (opponent) is directed against the interlocutory decision of the opposition division to maintain the patent in amended form according to the auxiliary request 1 underlying the contested decision.

1.1 The appellant (opponent) did not make any written submission in reply to the preliminary assessment of the case provided by the Board and did not attend the oral proceedings scheduled on 12 July 2023 as announced with letter dated 3 May 2023. The Board has thus no reasons to deviate from its preliminary conclusions as set out in the communication according to Article 15(1) RPBA 2020 which are herewith confirmed and are as follows:

Admissibility of the Auxiliary Request III - Patent as maintained

2. The appellant (opponent) requested that neither of the auxiliary requests I to XI filed in appeal by the respondent (patent proprietor) be admitted, with the reason that they were not substantiated within the meaning of Articles 12(3) and 12(5) RPBA 2020.

2.1 However, the auxiliary request III originally filed by the respondent (appellant) corresponds to the auxiliary request 1 underlying the decision under appeal which was decided upon and deemed to be allowable by the opposition division. The appeal of the appellant (opponent) is directed to this request which, as such, is indisputably part of the appeal proceedings pursuant

to Article 12(2) RPBA 2020 and its admissibility cannot be questioned.

Amendments: Article 123(2) EPC

3. The patent as maintained meets the requirements of Article 123(2) EPC as correctly assessed by the opposition division in the decision under appeal.

3.1 The appellant (opponent) contested the view of the opposition division and the respondent (patent proprietor) that the amendments introduced in claim 1 of the patent as maintained were directly and unambiguously supported by the disclosure of paragraphs [0060] and [0061] of the published patent application in combination with the information presented in figure 5. In particular the appellant (opponent) argued that the amendments at stake were based on an unallowable intermediate generalisation of the specific embodiment in Figure 5 infringing Article 123(2) EPC.

3.2 The Board does not agree for the following reasons:

Contrary to the view of the appellant (opponent), the features introduced in claim 1 as maintained are directly and unambiguously derivable from the originally filed description alone and not only from the particular embodiment of Figure 5. Regarding the objected feature that "*the at least one display comprises a flat panel display*" the Board shares the view of the opposition division and the respondent (patent proprietor) that it is not necessary to specify in claim 1 that the display is an OLED display, as alleged by the appellant (opponent), because this specific kind of display is presented in the originally filed application as mere optional feature, see

paragraphs [0023], [0039] and [0057] of the A-Publication. Furthermore, the feature that *"the interlayer (18) surrounds at least one display"*, also objected to under Article 123(2) EPC by the appellant (opponent), is wordily disclosed in paragraph [0040] of the A-Publication. In any event, this objection is based on an interpretation of the term *"surrounding"* which cannot be followed by the Board for the reasons set out below in the context of the assessment of the alleged lack of clarity. Moreover, as correctly pointed out by the respondent (patent proprietor), the provision of *"at least 2 interlayers interposed between the at least two glass plates"* is presented in claim 7 as filed and is also verbatim disclosed in paragraph [0024] of the A-Publication. Finally, the feature that the optically shielding layer is in particular a *"black ceramic"* is unambiguously derivable from paragraphs [0060] and [0061] of the A-publication and there is no reason to assume that it does not apply to all the embodiments as instead alleged by the appellant (opponent), no other alternative material or substance forming the shielding layer 40 being disclosed in the A-Publication. In conclusion, no undisclosed information is introduced in claim 1 as maintained.

Clarity: Article 84 EPC

4. The patent as maintained meets the requirements of Article 84 EPC as correctly concluded by the opposition division in the decision under appeal.

4.1 The appellant (opponent) held that, contrary to the assessment of the opposition division, the subject-matter of independent claim 1 as maintained lacked clarity within the meaning of Article 84 EPC. It was argued that the expression "*the interlayer surrounds at*

least one display" was ambiguous in the sense that it let open whether the interlayer extended around the edge of the display and was located within its plane or whether the display was completely embedded in the interlayer. Furthermore, it was objected that even by referring to Figure 5 to clarify the expression at stake it was not possible to derive whether the interlayer completely surrounded the display in its plane or only partially.

4.2 The Board, in agreement with the opposition division and the respondent (patent proprietor), does not see why the objected expression and in particular the term *"surrounds"*, read in the technical context of the claim, should cause any ambiguity. The only technically meaningful interpretation in the context of a laminated glass structure is that the interlayer surrounds the displays in its plane, as confirmed by all the embodiments of the contested patent.

4.3 The appellant (opponent) further alleged that as the interlayers were fused together in the final product it was impossible to distinguish the actual number and relative location of interlayers specified in claim 1 and whether one of them surrounded the display. In the appellant's (opponent's) view the claim thus contained unclear *"product-by-process"* features.

4.4 The Board does not agree and shares the view of the opposition division and the respondent (patent proprietor) that the presence of the at least three layers in a laminated glass according to claim 1 is a characteristic observable also in the finally assembled status of the product, and this because the location of the individual layers as defined in the claim can be verified by means of conventional material microscopic

investigation techniques. Therefore, contrary to the view of the appellant (opponent), no unclear *"product-by-process"* definition is included in claim 1.

4.5 The appellant (opponent) also objected to the clarity of the term *"black ceramic"* in claim 1. In support of this objection documents E9 and E10 were introduced for the first time with the statement of grounds of appeal to substantiate the allegation that ceramics and enamels were considered in the technical field of the laminated glasses as one and the same material, whereby the actual extension of the protection afforded by the term *"black ceramic"* in claim 1 was not clear. In this respect the appellant (opponent) pointed out that E9 disclosed in paragraphs [0002] and [0004] an optically shielding layer made of *"opaque layers of ceramic enamel(s)"* provided around the the edge portion of a windshield and that E10 disclosed in paragraph [0004] the provision of a *"dark ceramic"* coating provided in the periphery of glass plate, the composition of which also corresponded to that of an enamel. In view of the above, the appellant (opponent) alleged that it was unclear whether the term *"black ceramic"* recited in claim 1 also covered black enamel. Finally it was asserted that the word *"black"* is a relative term which, as such, introduced a further ambiguity.

4.6 Also these arguments of the appellant (opponent) are not convincing for the following reasons:

Irrespective of the admissibility of documents E9 and E10 which was contested by the respondent (patent proprietor), the Board does not see any lack of clarity resulting from the term *"black ceramic"* which, as pointed out by the opposition division and the respondent (patent proprietor) and as it will be

explained in the context of the novelty and inventive step assessment, has a well determined meaning in the relevant technical field. The fact that two pieces of prior art may use an incorrect or at least ambiguous terminology cannot put in doubt the generally accepted technical meaning that the person skilled in the art would adopt for the term "b*lack ceramic*" which does not correspond in the common understanding to an *"enamel"*. In any event, the broader interpretation of the term *"black ceramic"* alleged by the appellant (opponent) covering also enamel materials and variable shades of dark is not prejudicial to the clarity of the claim, but might only affect, at the most, the extension of the scope of the protection afforded by the claim. This is however not the case as will be set out below.

Interpretation of claim 1 as maintained

"ceramic layer" vs. *"enamel layer"*

5. An important point under discussion is whether a shielding layer made of black enamel technically and functionally corresponds or equates to a black ceramic layer as alleged by the appellant (opponent), in particular in the technical context of documents E1, E4, E9 and E10. In this respect the Board follows the view of the opposition division that, although ceramic and enamel are often both used to coat surfaces, for example cookware, they are not the same material in view of the fact that they are produced by different manufacturing processes starting from different raw materials, namely stoneware/clays in the case of ceramics and powdered melt glass in the case of enamels.

Admissibility of the late filed affidavit D8

6. The Board does not see any reason to deviate from the discretionary decision of the opposition division not to admit the late filed affidavit E8 which was submitted only one week before the date of the oral proceedings, hence after the expiring of the time limit set by the opposition division according to Rule 116(1) EPC.

6.1 The appellant (opponent) objected that the discretionary decision of the opposition division was erroneously based only on the fact that the affidavit E8 was late filed, whereas the most decisive criterion of the *"prima facie"* relevance which should have instead been applied was completely disregarded. Furthermore, it was asserted that one week time was widely enough to study the very simple content of the two-page affidavit E8 and to prepare an appropriate reaction if the respondent (patent proprietor) wished to do so.

6.2 The arguments of the appellant (opponent) are not convincing for the following reasons:

6.3 The Board observes that when exercising the discretion provided by Article 114(2) EPC to disregard facts or evidence not submitted in due time, the entrusted department of the EPO has certainly to consider, among other aspects, whether the late submissions are justified by previous procedural circumstances and whether the delay negatively affects the position of the other party/parties in the proceedings having regard in particular to the right of the parties to have a fair and equal treatment, and has to ensure that the right to be heard is granted.

6.4 In the specific case the contested late submissions consist in an affidavit redacted and signed by Mr. Jin Hong providing an allegedly more accurate translation of the Chinese word adopted in E1 to indicate the material of the optically shielding layer (14) compared with the machine translation E1a. If on the one hand one week is certainly sufficient to study the content of E8, the Board considers that the only possible reaction of the respondent (patent proprietor) to the allegation of the appellant (opponent) resulting from E8 could have been to seek to confute the translation of Mr. Jin Hong by obtaining and submitting a further certified translation of the technical term at stake confirming that the optically shield layer of the laminated glass of E1 was made of a *"black lacquer or paint"* as stated in E1a. That said, there is no doubt in the Board's view that one week was not sufficient to order, obtain and submit such a new certificated translation. Therefore, in the Board's view, the opposition division was correct in not admitting the affidavit E8 filed just one week before the date of the oral proceedings because its admittance would have been detrimental to the position of the respondent (patent proprietor) regarding in particular its right to be heard.

6.5 For the sake of completeness and contrary to the view of the appellant (opponent), the Board cannot see any *"prima facie"* relevance for the outcoming of the proceedings of the information contained in the affidavit E8, that could justify a decision by the Board to overrule the discretionary decision of the opposition division and to admit the contested late filed evidence. In fact, according to the declarant of E8, the correct translation of the Chinese technical term of E1 at stake was "*black enamel*" and not a

"black lacquer or paint" as indicated in the machine translation E1a and assumed by the opposition division in the decision under appeal. However, even assuming that the translation suggested in E8 is the correct one, no *"prima facie"* relevance of this information for the assessment of novelty and/or inventive step can be identified. Indeed, claim 1 as maintained recites an optically shielding layer made of a different material, namely a *"black ceramic"* (see point 5.1 above) and this information does not go beyond the disclosure of document E4 which already teaches the use of an optically shielding layer made of "*black enamel"* in the context of a laminated glass utilized as windshield for a vehicle, taking into account that as explained above *"ceramic"* and *"enamels"* are different materials.

Novelty: Articles 52(1) and 54 EPC

7. The patent as maintained meets the requirements of Articles 52(1) and 54 EPC as correctly stated by the opposition division in the decision under appeal.

7.1 The appellant (opponent) maintained that the subject-matter of independent claim 1 of the patent as maintained lacked novelty over both documents E1 and E5.

7.2 The Board does not agree for the following reasons:

Novelty in view of El

7.3 The Board concurs with the opposition division and the respondent (patent proprietor) that El fails to disclose an optical shielding layer made of *"black ceramic"*. In fact according to E1a the optically shielding layer (14) of this known laminated glass

consists of a *"black lacquer or paint"* (see for example E1a, page 17, lines 5-6).

Novelty in view of E5

7.4 The Board concurs with the opposition division and the respondent (patent proprietor) that, contrary to the allegation of the appellant (opponent), the layer of luminophore used in E5 is not a display as recited in claim 1 in the meaning that is normally attributed to this electronic component in the relevant state of the art. Therefore, at least because of this reason, the subject-matter of independent claim 1 as maintained is novel also in view of document E5.

7.5 As no further novelty attacks were submitted by the appellant (opponent), the positive assessment of novelty of the opposition division is to be confirmed.

Inventive Step: Articles 52(1) and 56 EPC

8. The patent as maintained meets the requirements of Articles 52(1) and 56 EPC as correctly concluded by the opposition division in the decision under appeal.

8.1 The appellant (opponent) held that the subject-matter of claim 1 as maintained is obvious in view of E1 in combination with E4. The appellant (opponent) also presented a new line of inventive step attack based on El and E9, the latter submitted for the first time with the statement of grounds of appeal together with document E10. Finally, inventive step was challenged in view of E2 in combination with E1 and E4 or E9.

8.2 As stated under point 7.3 above, the opposition division correctly concluded that the subject-matter of

the patent as maintained differs from the content of E1 in that the optically shielding layer is a black ceramic.

8.3 The appellant (opponent) argued that the optical shielding layer made of *"black enamel"* and *"ceramic enamel"* disclosed in documents E4 (see for example paragraph [0042]) and E9 (see for example paragraph [0004]) repectively technically and functionally equates with the optical shielding layer made of *"black ceramic"* recited in claim 1. It was thus alleged that the person skilled in the art starting from E1 and aiming to an alternative material for the optical shielding layer of E1 would replace the *"paint of black lacquer"* suggested in this prior art document by a black enamel ceramic as allegedly suggested in E4 or E9 thereby arriving without inventive step to the subject-matter of claim 1 as maintained. The same conclusions were presented regarding the combination of E2 with E1, E4 or E9.

8.4 The arguments of the appellant (opponent) are not convincing:

As explained under point 5. above, the Board concurs with the opposition division and the respondent (patent proprietor) that ceramics and enamels are not the same materials as instead alleged by the appellant (opponent). Therefore E1 in combination with E4 cannot obviously and directly lead to the subject-matter of claim 1 as maintained. Irrespective of the admissibility issue raised by the respondent (patent proprietor) in respect to document E9, the same applies to the combination of E1 with this prior art document. Furthermore, the Board shares the view of the opposition division supported by the respondent (patent

proprietor) that the person skilled in the art cannot find any motivation in E4 or E9 to replace the paint or black lacquer of the optically shielding layer of E1 by a new layer material and in particular by a black ceramic. Also in view of the technical effects achieved as plausibly presented by the respondent (patent proprietor), i.e. preventing the sealing material at the periphery of the display from being degraded by ultraviolet rays and at the same time improving the visibility of the information displayed for the driver (see description paragraphs [0059] and [0061]), the Board confirms the conclusion of the opposition division that the subject-matter of claim 1 as maintained is not rendered obvious by the cited prior art. The same conclusion applies with the same arguments to the combination of E2 with E1, E4 or E9 which equally fails to disclose an optically shielding layer made of a black ceramic as required by claim 1 as maintained.

8.5 For the sake of completeness and irrespective of the admissibility issue raised by the respondent (patent proprietor) in respect of E10, also a combination of E1 with this late filed evidence does not render obvious the subject-matter of claim 1 of the patent as maintained. E10 discloses indeed a *"printed dark ceramic (13)"* printed along the periphery of a glass plate for a windscreen, wherein bus bars are provided on the printed dark ceramic coating. According to E10 this arrangement prevents uneven temperature distribution and hence uneven viscosity in the glass plate when it is curved under high temperature, thereby achieving a windscreen of excellent quality characterized in particular by reduced image distortion and reflection. In view of the substantially different functionality of the printed dark ceramic disclosed in

E10 compared with the optical shielding layer of E1 which is used to shield a head up display, it cannot be considered obvious to isolate the coating material disclosed in E10 and use it to replace the *"paint or black lacquer"* disclosed in E1, as E1 has a fully different functionality.

8.6 As no further inventive step attacks were submitted by the appellant (opponent), the positive assessment of inventive step of the opposition division is to be confirmed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Voyé C. Narcisi

Decision electronically authenticated