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Datasheet for the decision of 5 November 2014

Case Number: T 0554/13 - 3.3.09

Application Number: 04732033.8

Publication Number: 1624012

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Language of the proceedings: EN

Title of invention:
SHEET-FORM WINDOW MEMBER AND WINDOW STRUCTURE

Patent Proprietor:
Teijin Chemicals, Ltd.

Opponent:
Bayer MaterialScience AG

Headword:

Relevant legal provisions:
EPC Art. 56, 83, 123(2), 114(1), 100(a), 100(b)
RPBA Art. 12(2), 12(4)

Keyword:
Main request: inventive step (no)
Auxiliary request: inventive step (yes)

Decisions cited:

Catchword:

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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 0554/13 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 5 November 2014

Appellant: (Opponent)	Bayer MaterialScience AG Kaiser-Wilhelm-Allee 60 51373 Leverkusen (DE)
Representative:	Davepon, Björn Schlossstraße 74 DE-41363 Jüchen (DE)
Respondent: (Patent Proprietor)	Teijin Chemicals, Ltd. 2-1, Kasumigaseki 3-chome Chiyoda-ku Tokyo 100-0013 (JP)
Representative:	Beckmann, Claus Kraus & Weisert Patentanwälte PartGmbB Thomas-Wimmer-Ring 15 80539 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 10 January 2013 concerning maintenance of the European Patent No. 1624012 in amended form.**

Composition of the Board:

Chairman	W. Sieber
Members:	N. Perakis
	E. Kossonakou

Summary of Facts and Submissions

I. Mention of the grant of European patent No. 1 624 012 in the name of Teijin Chemicals Ltd was published on 30 December 2009 (Bulletin 2009/53). The patent was granted with 22 claims. Claims 1, 6, 8 and 12 read as follows:

"1. A sheet window member comprising:

A: a sheet material (A) comprising an aromatic polycarbonate resin,
B: a frame member (B) laminated along the periphery of one surface of the sheet material (A), and
C: a rubber-like buffer layer (C) formed on the surface of the frame member (B),

wherein
the frame member (B) is formed from a resin composition comprising the following (i) to (iii):

(i) 50 to 90 parts by weight of aromatic polycarbonate resin (B-1),
(ii) 10 to 50 parts by weight of polyethylene terephthalate resin (B-2), and
(iii) 0 to 50 parts by weight of fibrous filler (B-3) based on 100 parts by weight of the total of the (B-1) and the (B-2)."

"6. The member of claim 1, wherein rubber-like buffer layer (C) is formed from a rubber resin composition having a Young's modulus of 0.5 to 50 MPa and has a thickness of 2 to 10 mm."

"8. The member of claim 1, wherein rubber-like buffer layer (C) is formed from a rubber resin composition having a lap shear strength of 1 to 7 MPa."

"12. The member of claim 1, wherein the rubber-like buffer layer (C) is laminated on the frame member (B) via a primer layer."

II. A notice of opposition was filed by Bayer MaterialScience AG requesting the revocation of the patent as a whole on the basis of Article 100(a) EPC (lack of novelty and lack of inventive step) and Article 100(b) EPC.

The documents filed by the opponent with the notice of opposition included the following:

E1: US 3 218 372 A;
E2: DE 32 45 467 A1;
E3: DE 41 20 438 A1; and
E5: US 5 419 088 A.

The opponent later submitted the following document:

E18: DOW CORNING® 895, Structural Glazing Sealant, Product Information, July 2001.

III. By an interlocutory decision announced orally on 30 November 2012 and issued in writing on 10 January 2013, the opposition division maintained the patent on the basis of the claims of the main request filed with letter of 21 November 2012.

The claims of the main request corresponded to the granted claims except that granted claims 20 and 21 had been deleted and granted claim 22 had been renumbered

as claim 20 and included an amendment found allowable by the opposition division, but not relevant for this decision.

The opposition division did not decide on the admissibility of late-filed document E18, because the parties did not rely on this document for the main request.

IV. On 23 February 2013 the opponent (in the following: the appellant) filed an appeal against the interlocutory decision of the opposition division and paid the appeal fee on the same day. On 14 May 2013 the appellant filed the statement setting out the grounds of appeal. It was accompanied by the following document:

E19: Experimental trials vs Teijin EP 1624012.

The appellant requested that the interlocutory decision of the opposition division be set aside and that the patent be revoked in its entirety. The appellant maintained its objections raised before the opposition division with regard to insufficient disclosure and lack of inventive step. It also requested that documents E18 and E19 be admitted into the proceedings.

V. By letter of 7 October 2013 the patent proprietor (in the following: the respondent) requested that the appeal be dismissed (main request), or that the patent be maintained on the basis of the claims of one of auxiliary requests I to III already filed before the opposition division and re-submitted with that letter. Arguments were provided only with regard to the main request. The respondent also requested that documents E18 and E19 not be admitted into the proceedings.

VI. By letter of 13 January 2014 the appellant filed further arguments regarding the main request. By letter of 7 May 2014 the respondent filed a reply to this letter.

VII. In a communication dated 18 September 2014 the board expressed its preliminary non-binding opinion.

VIII. On 5 November 2014 oral proceedings were held before the board. During the discussion of inventive step of claim 1 of the main request the respondent filed a new document:

D20: Technical Data Sheet of PT 200FC®.

The respondent also filed a description adapted to the claims of auxiliary request I.

IX. The relevant arguments put forward by the appellant in its written submission and during the oral proceedings may be summarised as follows:

Admissibility of E19

- E19 should be admitted into the proceedings because it was filed with the statement setting out the grounds of appeal. It was relevant because it illustrated that the alleged technical problem was not solved across the whole breadth of claim 1 of the main request. E19 was a reply to the criticism of the opposition division that the appellant had not provided technical evidence in order to substantiate its contention that the technical problem had not been solved across the entire breadth of claim 1.

Sufficiency of disclosure (main request)

- The invention of the main request lacked sufficiency of disclosure. The patent specification contained no explicit information relating to the rubber-like buffer layer of claim 1, keeping in mind that not all rubber-like compounds were suitable for use in the claimed invention. Thus the skilled person could not reproduce the sheet window member of claim 1 without undue burden.

- The feature concerning Young's modulus of the rubber-like buffer layer in claim 6 was purely defined by the result to be achieved, leaving no clue for the skilled person aiming to identify a suitable rubber-like buffer layer.

- The same applied to the feature concerning the lap shear strength of the rubber-like buffer layer of claim 8.

Inventive step (main request)

- E5 should be considered to represent the closest prior art, from which claim 1 differed only in the definition of the frame member (B).

- The technical problem was not the wet heat resistance of the bonding between the sheet material (A) and the rubber-like buffer layer (C), since E19 demonstrated that this problem was not solved over the whole breadth of claim 1 and had to be reformulated. Particular reference was made to the tests carried out with the rubber-like buffer layer PT 200FC®. Furthermore, the technical

evidence of the patent in suit always involved a primer layer, which meant that the alleged problem was solved only in the presence of such a primer layer.

- Contrary to the allegations of the respondent, E20 did not teach the skilled person that PT 200FC® was inappropriate as a rubber-like buffer layer and that the skilled person would never have used it. In fact, E20 concerned a different substrate, namely mineral glass and not a sheet material comprising an aromatic polycarbonate resin. Anyway, E20 was an irrelevant late-filed document and should not be admitted into the proceedings.

- The objective technical problem should be seen in the provision of an alternative sheet window member.

- Such an alternative sheet window was obvious in view of E1 to E3, which disclosed the resin blend used in the frame member (B) of claim 1. Thus the skilled person would combine E5 with one of E1 to E3 without exercising any inventive step.

Admissibility of auxiliary request I

- Auxiliary request I should not be admitted into the proceedings because the respondent had not submitted any substantiation in the appeal proceedings regarding its patentability.

Article 123(2) EPC (auxiliary request I)

- The objection under Article 123(2) EPC should be admitted into the proceedings despite the fact

that it was raised for the first time during the oral proceedings before the board of appeal. This was in conformity with the case law of the boards of appeal of the EPO.

- Claim 1 of this request combined granted claims 1 and 12. However, granted claim 12 depended only on granted claim 1. The result was that claims 2-11 of auxiliary request I now depended on the combination of granted claims 1 and 12 and as a consequence contained subject-matter which extended beyond the content of the application as filed.

Sufficiency of disclosure (auxiliary request I)

- The objections raised with regard to the main request likewise applied to auxiliary request I.

Inventive step (auxiliary request I)

- E5 should still be considered to represent the closest prior art. E5 also disclosed the use of a primer, though in direct contact with the sheet material (examples 1-4). Claim 1 of auxiliary request I differed from E5 in that (i) the resin composition used for the frame member (B) comprised polyethylene terephthalate (already dealt with in the context of the main request) and (ii) the rubber-like buffer layer (C) was laminated on the frame member (B) via a primer layer.

- The use of a primer layer did not solve the alleged technical problem of improving the wet heat resistance of the bonding because the

technical evidence in E19 showed that not all primers were appropriate. This was corroborated by E18, which disclosed that manufacturers would offer assistance to adjust the primer when needed. The argument of the respondent, that such an adjustment was to be read in claim 1, was not a correct interpretation of that claim, which concerned the combination of any possible primer with any possible rubber-like buffer layer (C).

- Therefore, the technical problem should be reformulated to concern the provision of an alternative sheet window member.

- The provision of an alternative sheet window member was, however, obvious in view of E5, which disclosed the use of a primer (examples 1-4). Thus claim 1 of auxiliary request I likewise lacked an inventive step.

X. The relevant arguments put forward by the respondent in its written submission and during the oral proceedings may be summarised as follows:

Admissibility of E18 and E19

- Late-filed documents E18 and E19 should not be admitted into the proceedings.

Sufficiency of disclosure (main request)

- The inventions of claims 1, 6 and 8 were sufficiently disclosed. The description and the examples provided sufficient information concerning the rubber-like buffer layer (C) and its physical properties, namely Young's modulus

and lap shear strength. Furthermore, the description disclosed the ASTM methods employed for their determination.

Inventive step (main request)

- E5 should be considered as the closest state of the art. Claim 1 differed from E5 because it required that the frame member (B) comprised a specific resin composition. The technical problem underlying the claimed invention over E5 was the improvement of the wet heat resistance of the bonding between the sheet material (A) and the rubber-like buffer layer (C).

- The conclusions of the appellant, that the technical problem was not solved over the whole breadth of claim 1, were based on an incorrect interpretation of E19, which reported results from the rubber-like buffer layer PT 200FC®, which, as shown in E20, was predestined to fail.

- Furthermore, the presence of a primer layer was not a prerequisite for the solution of the technical problem. According to the description of the patent in suit, the primer layer was a preferred and not an essential embodiment of the claimed invention. Moreover, the technical evidence of E19 clearly demonstrated that the bonding was improved even in the absence of a primer layer.

- As none of the cited documents related to or hinted at the improvement of the wet heat resistance of the bonding, the subject-matter of

claim 1 was not obvious and claim 1 involved an inventive step.

Admissibility of auxiliary request I

- Auxiliary request I should be admitted into the proceedings. It was filed with the observations on the appeal and had already been filed before the opposition division. Furthermore, the appellant had already commented on it and had submitted E18 in order to support its arguments against it.

Article 123(2) EPC (auxiliary request I)

- The objection under Article 123(2) EPC raised for the first time during the oral proceedings before the board should not be admitted into the proceedings.

- But even if admitted, the claims of auxiliary request I fulfilled the requirements of Article 123(2) EPC. The application as originally filed comprised a general statement according to which the rubber-like buffer layer was laminated on the frame member (B) via a primer layer (page 41, lines 26-29). This statement, and not granted claim 12, was combined with granted claim 1 to provide claim 1 of auxiliary request I.

Sufficiency of disclosure of auxiliary request I

- For the reasons given regarding the main request, auxiliary request I too fulfilled the requirements of sufficiency.

Inventive step of auxiliary request I

- E5 should also be considered as the closest prior art, from which claim 1 differed at least in that the rubber-like buffer layer (C) was laminated on the frame member (B) via a primer layer.

- The technical problem in view of E5 was the improvement of the wet heat resistance of the bonding between the sheet material (A) and the rubber-like buffer layer (C). The technical evidence of the patent showed that the problem was indeed solved. This is corroborated by the technical evidence of E19 when correctly interpreted. Contrary to the allegations of the appellant, E18 did not invalidate the technical evidence of the patent in suit. This document concerned the adjustment of the primer in the context of a project. Moreover, the skilled person was aware that the term "primer layer" had a functional meaning and included only those layers which fulfilled that function, i.e. successfully bonded layer (C) to the frame member (B).

- As none of the cited prior art documents dealt with the technical problem underlying the claimed invention, the skilled person starting from E5 would not find any motivation in the art leading him towards the claimed solution. Thus the subject-matter of claim 1 of auxiliary request I was not obvious and claim 1 involved an inventive step.

XI. The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked. It also requested that document E18 (filed

before the opposition division) and E19 (technical evidence filed with the statement setting out the grounds of appeal) be admitted into the proceedings.

The respondent (patent proprietor) requested that the appeal be dismissed (main request) or that the patent be maintained on the basis of the claims of one of auxiliary requests I to III. It also requested that documents E18 and E19 not be admitted in the proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. Admissibility of E18, E19 and E20

2.1 E18, a late-filed document already submitted before the opposition division, discloses the use of a primer when the expected adhesive effect of the sealant DOW CORNING® 895 is not obtained. Since it appeared to be *prima facie* relevant for the assessment of inventive step, in particular of auxiliary request I, it was admitted into the appeal proceedings by virtue of Article 114(1) EPC and Article 12(2) RPBA.

2.2 As pointed out by the appellant, E19 was filed in reaction to the criticism of the opposition division that no technical evidence had been filed to support the opponent's argument that the technical problem was not solved over the whole breadth of claim 1. Since the technical evidence E19 was filed at the earliest possible stage in the appeal proceedings, namely with with the statement setting out the grounds of appeal,

and appeared to be *prima facie* relevant for the issue of inventive step, the board admitted E19 into the appeal proceedings by virtue of Article 114(1) EPC and Article 12(2) RPBA.

2.3 E20 was filed by the respondent during the oral proceedings in order to contest the interpretation of those tests of E19 which involved PT 200FC® as the rubber-like buffer layer. Since E20 appeared to be *prima facie* relevant, the board admitted it into the proceedings by virtue of Article 114(1) EPC and Article 13(1) RPBA.

Main request

3. Sufficiency of disclosure under Article 100(b) EPC

3.1 The appellant raised objections in the context of sufficiency of disclosure relating to various aspects of the subject-matter of claims 1, 6 and 8 (identical to granted claims 1, 6 and 8; for the exact wording see point I above).

Regarding claim 1, it argued that the definition of the rubber-like buffer layer was so broad that it put an undue burden on the skilled person seeking to determine the appropriate rubber-like buffer layer in order to put the claimed invention into practice. Additionally, the description disclosed that the thickness of this layer was essential.

Regarding claim 6, it argued that Young's modulus of the rubber-like buffer layer was a feature defined by the result to be achieved, which did not put the skilled person in a position to identify a specific buffer material without undue burden, with the

consequence that the invention according to claim 6 could not be carried out.

Likewise, the subject-matter of claim 8 lacked sufficiency, because the lap sheer strength of the rubber-like buffer layer was also defined by the result to be achieved.

3.2 The board finds none of these objections convincing. The patent specification acknowledges that the rubber-like buffer layer (C) used in the claimed invention was well known in the art of direct glazing and similar technologies for fixing inorganic glass (see paragraph [0006]). Thus, the rubber-like buffer layer (C), required according to claim 1, was known in the technical field to which the patent in suit relates, so that the skilled person would know which material to choose for it. Furthermore, the patent in suit describes suitable rubber-like buffer layer compositions in paragraphs [0079] to [0095] and in the working examples (paragraph [0148]). In paragraph [0092] a specific rubber-like buffer layer, namely *BETAMATE 2810®*, is disclosed.

The fact that claim 1 does not specify the thickness of the rubber-like buffer layer (C) is irrelevant for the question of sufficiency since suitable ranges for the thickness of this layer are specified in paragraph [0094] of the patent in suit. In fact, this paragraph does not identify the thickness as an essential feature of the invention, but rather states that a suitable range for the thickness depends on the size of the sheet material (A) and lists advantageous ranges for the thickness of the rubber-line buffer layer (C).

In summary, the rubber-like buffer layer of claim 1 is sufficiently described in the patent and the skilled person can select a suitable rubber-like buffer layer (C) in order to put the invention into practice without undue burden.

3.3 Regarding the Young's modulus referred to in claim 6, the board acknowledges that it is a physical property which is well known to the skilled person and that its method of determination belongs to the state of the art. The patent in suit cites at page 19, line 18, the ASTM D-797 method for the determination of the Young's modulus. In addition, the respondent explained, without being contradicted by the appellant, that rubber-like resin compositions having a Young's modulus of 0.5 to 50 MPa, as specified in claim 6, were commercially available for use as rubber-like buffer layers and that such a commercially available rubber-like resin composition was explicitly mentioned in experiment 1 on page 19 of the patent in suit. Thus, the skilled person could easily select a suitable rubber resin composition material having the required Young's modulus.

3.4 Regarding the lap shear strength referred to in claim 8, the patent in suit states at page 19, line 17, that the lap shear strength is determined in accordance with the method ASTM D-1002. Thus, the skilled person would obtain the information from the patent as to how to determine it, i.e. he would simply have to follow the instructions according to the cited ASTM industrial standard. In addition, the respondent explained that rubber resin compositions having the lap shear strength within the claimed range were commercially available and that such a commercially available rubber resin composition was mentioned in experiment 1 described on page 19 of the patent in suit. Again, this was not

contested by the appellant. Consequently, the skilled person could easily select suitable rubber resin compositions having a lap shear strength as required in claim 8.

3.5 In view of the above, the board concludes that the invention, in particular as regards the aspects in connection with claims 1, 6 and 8, is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art and therefore complies with the requirements of Article 83 EPC.

4. Inventive step

4.1 Closest prior art

The board agrees with both parties that E5 is to be considered to represent the closest prior art. E5 discloses a plastic automobile window which is safe during side impact collisions. The window frame assembly comprises a sheet of a high modulus transparent thermoplastic polymer having an abrasion resistant coating which is fixed in the window opening by a bonding which will provide a weather seal (abstract).

In particular, the window disclosed in E5 includes:

- a window body portion in the form of a sheet of transparent or semi-transparent synthetic resin among which polycarbonate resin is cited (figure 1, element 4; column 2, lines 44-47; column 5, line 61 to column 7, line 7; example 5); [this corresponds to the sheet material (A) of claim 1]

and

- a frame portion extending along the peripheral edge of the window body portion 4 (figure 1, element 5; column 2, lines 47-50; column 4, lines 64-66; column 5, lines 53-58).
  [this corresponds to the frame member (B) of claim 1]

The window body portion can be attached to the vehicle chassis panel using a foam tape with a pressure sensitive adhesive. The adhesive will bond the foam tape core to the window and the vehicle providing a weather seal (column 3, lines 51-55; column 7, lines 4-7). Apart from the foam tape, other types of sealants providing the same effect could be used, such as polyurethanes, silicones and acrylic based sealants, which are commonly used in the automotive industry (column 7, lines 35-38). Also butyl rubber based products could be used (column 7, lines 38-43). They are circumferentially positioned around the window frame (claim 1).
[this corresponds to the rubber-like buffer layer (C) of claim 1]

Thus, the sheet window member of claim 1 of the main request differs from the sheet window member disclosed by E5 in the definition of the blending composition of the frame member (B), which requires blending of constituents (i) and (ii), optionally (iii):

(i) 50 to 90 parts by weight of aromatic polycarbonate resin (B-1),

(ii) 10 to 50 parts by weight of polyethylene terephthalate resin (B-2), and

(iii) 0 to 50 parts by weight of fibrous filler (B-3) based on 100 parts by weight of the total of the (B-1) and the (B-2).

4.2 The technical problem

4.2.1 The respondent saw the technical problem underlying the invention of claim 1 in view of E5 in the provision of a window member which provides an improved wet heat resistance of the bonding between the sheet material (A) and the rubber-like buffer layer (C). This is also the technical problem cited in the patent in suit (page 2, lines 5-7 and 50-52; page 3, lines 2, 5, and 38).

4.2.2 However, the appellant referred to the technical evidence of E19, which showed that the above-cited technical problem had not been solved over the entire breadth of claim 1. The appellant referred, in particular, to tests 9, 14, and 19 of E19, which fall within the scope of claim 1 and use *PT 200FC®* as rubber-like buffer layer (C). These tests show an extremely bad wet heat bonding when applying the test for wet heat bonding evaluation of the patent in suit (paragraph [0148]) since no adhesive remained on the test sample in any of the peel tests.

Besides these tests referred to by the appellant, the board refers additionally to tests 11, 16 and 20 of E19, which also fall within the scope of claim 1 and use either *BETAMATE 2810®* (tests 11 and 16) or *Probau Kleb-und Dichtmasse* (test 20) as rubber-like buffer layer (C). These tests also show an extremely bad wet heat bonding when applying the test for wet heat bonding evaluation of the patent in suit

(paragraph [0148]), since no adhesive remained on the test sample in any of the peel tests.

The board thus concurs with the appellant that, on the basis of the above cited tests of E19, the alleged technical problem is indeed not solved over the entire breadth of claim 1.

4.2.3 The respondent contested the results of tests 9, 14 and 19 of E19 and alleged that the rubber-like material *PT 200FC®*, used in these tests, should have been used in combination with a primer layer in order to be in conformity with the disclosure of E20 (front page, last sentence). However, such a primer layer has not been used in disputed tests 9, 14 and 19. Contrary to the allegations of the respondent, it appears from E20 that the combination of *PT 200FC®* with a primer is required only when the substrate is a mineral glass, which is a substrate different from the aromatic polycarbonate resin substrate of claim 1. Thus, this argument of the respondent is disregarded.

4.2.4 In view of the above, the board comes to the conclusion that the technical problem set out in the patent in suit is not solved over the entire breadth of claim 1 and that it has to be reformulated in a less ambitious manner.

4.2.5 The board agrees with the appellant that the objective technical problem underlying claim 1 in view of E5 is to be seen in the provision of an alternative sheet window member. It was not disputed that this problem is solved by the features of claim 1, in particular the resin composition of member (B) comprising components (i) to (iii).

4.3 Obviousness

4.3.1 The issue of obviousness boils down to the question of whether the skilled person starting from the sheet window member of E5 and aiming at an alternative member would find in the state of the art any hint to use a frame member which comprises:

(i) 50 to 90 parts by weight of aromatic polycarbonate resin (B-1),
(ii) 10 to 50 parts by weight of polyethylene terephthalate resin (B-2), and
(iii) 0 to 50 parts by weight of fibrous filler (B-3) based on 100 parts by weight of the total of the (B-1) and the (B-2).

4.3.2 It was not disputed that such compositions are disclosed in E1 to E3:

E1 discloses moulding material and moulding articles made of 95-5% by weight of an aromatic polycarbonate resin and 5-95% by weight of polyalkylene terephthalate resin (column 1, lines 11-17; figure 3), these resins being miscible with uniformity at any ratios (column 1, lines 70-71).

E2 discloses a polycarbonate resin composition with improved properties, such as resistance to solvents and impact resistance, the polycarbonate resin composition comprising: 20-90% by weight of a polycarbonate resin, including aromatic polycarbonates, and 5-70% by weight of an aromatic polyester resin, including polyethylene terephthalate resins (page 13, last paragraph; page 14, line 15; page 29, lines 19-22; table I, tests 1-6).

E3 discloses resin compositions which are reinforced with fibres and provide a smooth surface (abstract). These resin compositions comprise 10-90 pbw of an aromatic polycarbonate resin and 90-10 pbw of a thermoplastic polyester resin such as polyethylene terephthalate (page 2, lines 3-7; page 3, lines 14-15; page 5, line 12-13; page 8, table, examples 1, 2 and 4).

4.3.3 Furthermore, the board considers that the skilled person looking for an alternative sheet window member would consult E1 to E3 and would consider the blends disclosed therein as suitable compositions for the frame member when exercising his ordinary tasks. The moulding material of E1, for example, is said to be readily mouldable and to provide moulded articles having good mechanical properties (column 2, lines 1-14; figure 3), which makes this material a *prima facie* suitable candidate for a frame member material. He would therefore arrive at the subject-matter of claim 1 without applying any any inventive activity.

5. In view of the above, the subject-matter of claim 1 lacks an inventive step and the main request is not allowable.

Auxiliary request I

6. Admissibility

The appellant requested for the first time at the oral proceedings before the board that auxiliary request I not be admitted into the proceedings, because the respondent had not submitted any arguments in the appeal proceedings regarding its patentability.

However, this request had already been filed before the opposition division (see letter of 23 October 2012) and was re-filed with the observations of the respondent on the appeal (see letter of 7 October 2013). During the opposition proceedings, the opponent had commented on the patentability of this request and, in addition, had even filed document E18 in order to support its argument of lack of inventive step against this request (see letter of 23 November 2012). The argument was simply not pursued in the opposition proceedings, because the opposition division found the main request to meet the requirements of the EPC. Furthermore, no objection to this request had been made in the written appeal proceedings. Therefore, the board admits this request into the appeal proceedings by virtue of Article 114(1) EPC and Article 12(2) RPBA.

7. Article 123(2) EPC

7.1 Claim 1 of auxiliary request I differs from claim 1 of the main request in that the following feature has been added at the end of the claim:

"and wherein the rubber-like buffer layer (C) is laminated on the frame member (B) via a primer layer".

7.2 The appellant argued that the claims of auxiliary request 1 did not the fulfil the requirements of Article 123(2) EPC. The appellant based its reasoning on the allegation that claim 1 resulted from the combination of granted claims 1 and 12, claim 12 depending only on claim 1. The alleged consequence was that dependent claims 2-11 of auxiliary request I comprised combinations of features which extended beyond the content of the application as filed.

7.3 The respondent requested that this objection should not be admitted at this stage of the proceedings.

7.4 However, during the written appeal procedure both parties had said very little concerning the patentability of auxiliary request I. Under these circumstances, it appeared appropriate to allow the appellant to pursue its objection (Article 12(2) RPBA). Furthermore, boards of appeal have decided previously that conformity of claims with the requirements of Article 123(2) EPC can be examined for the first time even at the oral proceedings.

7.5 Nevertheless, regarding the substantive part of this objection, the board, in agreement with the respondent, considers that the claims of auxiliary request I fulfil the requirements of Article 123(2) EPC.

In fact, claim 12 as granted is not the sole basis for the contested feature. Page 41, lines 26-29 of the application as filed states:

"In the present invention, a primer is very preferably applied on the surface of the frame member (B) so that the performance of the above the rubber-like buffer layer (C) is fully exhibited".

This passage describes a preferred embodiment of the invention in rather general terms without any restrictions as regards other features. Thus, the skilled person would understand from this passage that the preferred presence of a primer applies to all aspects of the invention, i.e. also to the embodiments referred to in granted claims 2-11. The fact that the presence of a primer is indeed a preferred embodiment

of the invention is corroborated by the examples, which all contain a primer, namely *BETAPRIME 5404*® (see experiment 1, page 60, lines 8-9; experiment 2, page 62, lines 4-8).

Therefore the claims of auxiliary request I comply with the requirements of Article 123(2) EPC and the appellant's objection in this respect is rejected.

8. Sufficiency of disclosure

The considerations set out in the context of the main request apply likewise to auxiliary request I regarding the rubber-like buffer layer (C) of claim 1, the Young's modulus of the rubber-like buffer layer (C) of claim 6 and the lap shear strength of the rubber-like buffer layer (C) of claim 8. Consequently, the invention underlying auxiliary request I is also sufficiently disclosed.

9. Inventive step

9.1 Closest prior art

E5 is also considered to represent the closest prior art for auxiliary request I. In addition to what has been set out above in section 4.1, E5 also discloses the possibility of using a primer directly on the window sheet before the application of the adhesive material (example 1, column 9, lines 37-38; example 2, column 10, lines 19-20; example 3, column 10, lines 58-59; example 4, column 11, lines 42-43).

Thus, the sheet window member of claim 1 of auxiliary request I differs from the disclosure of E5 in the use

of a specific composition for the formation of frame member (B), which requires the participation of constituents (i), (ii) and optionally (iii), in combination with a primer layer between the frame member (B) and the rubber-like buffer layer (C).

9.2 The technical problem

9.2.1 In contrast to the main request, the technical problem underlying the invention of auxiliary request I in view of E5 is no longer seen in the provision of an alternative sheet window member. For the reasons set out below, the board accepts that the technical problem cited in the patent in suit (paragraphs [0001], [0007] to [0009], [0013], and [0145]) is indeed the objective problem, namely the provision of a window member which makes it possible to bond a sheet material comprising an aromatic polycarbonate resin more firmly to a member having a lower linear expansion coefficient than that of the aromatic polycarbonate resin, for example a metal frame, by improving the wet heat resistance of the bonding between the frame member (B) and the rubber-like buffer layer (C).

9.2.2 As a solution to this problem, auxiliary request I proposes a sheet window member according to claim 1 which combines a specific composition for the formation of frame member (B) with a primer layer to be used in the lamination of the rubber-like buffer layer (C) on the frame member (B).

9.2.3 The experimental part of the patent in suit (tables 1 and 2) provides the technical evidence that the technical problem has indeed been solved. Thus, examples 1 to 7 (see table 1), which correspond to a sheet window member according to claim 1 of auxiliary

request I, provide peel test results ranging between 75% and 100%. This is understood to mean that the adhesive of the test sample has undergone a cohesive failure but not an adhesive failure. These results are better than the peel test results obtained by comparative examples 1-5 (see table 2), ranging between 5% and 67%, which comparative examples do not combine a primer layer between the frame member (B) and the rubber-like buffer layer (C) with the specific composition of frame member (B). In fact, the comparative examples are carried out using a primer layer between (B) and (C) but without any PET resin in the composition of (B).

9.2.4 Furthermore, the technical evidence of E19 filed by the appellant corroborates the results of the patent in suit. Reference is made to tests 7, 8, 12, 13, 17, and 18, which fall within the scope of claim 1 of auxiliary request I and provide excellent peel test results, namely 95% and 100%.

The technical evidence of E19 also stresses the importance of the primer, since its absence from "comparative" tests 6, 9-11, 14-16, 19 and 20 leads to peel test results which range from very bad to insufficient, namely from 0% to 65%.

9.2.5 The appellant argued that the technical problem was not solved across the entire breadth of claim 1 because technical evidence was provided only for two adhesive blends, *BETAPRIME 5404®* and *BETAPRIME 5500®*, acting as primers. In order to support this argument, the appellant made reference to E18 (see second page, right column, under the heading "Primer"), which discloses that the skilled person would know that not every adhesive blend was appropriate to perform as a primer.

The board does not dispute the fact that the skilled person would be aware that not each and every adhesive blend is compatible with every rubber-like buffer layer (C) and every resin composition (B). However, as the respondent correctly remarked, the skilled person would understand that the primer layer in claim 1 has a functional meaning, namely that it acts as a primer between frame member (B) and buffer layer (C). Thus, the skilled person would select an appropriate adhesive blend, e.g. by following the instructions of the manufacturer, which indeed would provide the desired function of a "primer". Consequently, this objection of the appellant is rejected.

9.2.6 In view of the above, the board has come to the conclusion that the objective technical problem has been solved.

9.3 Obviousness

The question which remains to be answered is whether the skilled person starting from the sheet window member of E5 and aiming at improving the wet heat resistance of the bonding between the glazing sheet material comprising an aromatic polycarbonate resin and the rubber-like buffer layer would find in the prior art the motivation to combine a frame member comprising

(i) 50 to 90 parts by weight of aromatic polycarbonate resin (B-1),
(ii) 10 to 50 parts by weight of polyethylene terephthalate resin (B-2), and optionally
(iii) 0 to 50 parts by weight of fibrous filler (B-3) based on 100 parts by weight of the total of the (B-1) and the (B-2),

with a primer layer used for the lamination of the rubber-like layer (C) on the frame member (B).

Neither E5 nor any of E1, E2 or E3 provides the skilled person with the motivation for such a combination. In particular with regard to E1 to E3, these relate to resin blends which provide moulded articles with excellent mechanical properties. E1 to E3 contain no hint in relation to the wet heat resistance of the bonding formed upon use of these articles.
It is therefore concluded that the solution offered by the combination of features in claim 1 of auxiliary request I is not obvious and that this claim involves an inventive step.

10. Amended description

The respondent submitted an amended version of the description, namely pages 2 to 22, adapted to the claims of auxiliary request I. The appellant did not raise any objection to the amended description and the board is satisfied that the amended description fulfils the corresponding requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent on the basis of the following documents:
   - claims 1-19 filed as auxiliary request I with letter dated 7 October 2013;
   - description pages 2-22, as amended during the oral proceedings before the Board;
   - figure 1, as granted.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated