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D E C I S I O N
of 3 May 2006

Case Number: T 0431/03 - 3.3.03

Application Number: 95117874.8

Publication Number: 0712893

IPC: C08L 25/12

Language of the proceedings: EN

Title of invention:

Plastic compositions and plastic cards made thereof

Appellant (opponent):

BASF Aktiengesellschaft, Ludwigshafen

Respondent (proprietor):

MITSUBISHI PLASTICS INC.

Headword:

-

Relevant legal provisions:

EPC Art. 83, 54, 56

Keyword:

"Interpretation of claims"

"Novelty (no) (main request)"

"Inventive step (yes) (auxiliary request I)"

Decisions cited:

G 0009/91, G 0010/91, T 0301/87, T 0381/02

Catchword:

-



Case Number: T 0431/03 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 3 May 2006

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 24 October 2002
and posted 20 December 2002 rejecting the
opposition filed against European patent
No. 0712893 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: R. Young
Members: W. Sieber
E. Dufrasne

Summary of Facts and Submissions

- I. The mention of the grant of European patent No. 0 712 893, in respect of European patent application no. 95 117 874.8 in the name of Mitsubishi Plastics Inc., filed on 13 November 1995 and claiming priorities from Japanese applications filed on 14 November 1994 (JP 27942594) and 19 July 1995 (JP 18275495), was published on 11 August 1999 (Bulletin 1999/32). The granted patent contained 9 claims, whereby Claims 1, 2 and 9 read as follows:
- "1. A plastic composition which comprises a copolymer comprising an acrylonitrile component, a butadiene component and a styrene component, wherein the content of the butadiene component is from 5 to 15 mol%, the content of the acrylonitrile component is from 40 to 50 mol% and the content of the styrene component is from 40 to 50 mol%, said composition having a melt flow index of at least 5 g/10 min (as measured at 260°C with a force of 2.16 kg in accordance with JIS K7210).
 2. A plastic composition which comprises a copolymer comprising an acrylonitrile component, an acrylic rubber component and a styrene component, wherein the content of the acrylic rubber component is from 3 to 15 mol%, the content of the acrylonitrile component is from 40 to 55 mol%, and the content of the styrene component is from 40 to 50 mol%, said composition having a melt flow index of at least 5 g/10 min (as measured at 260°C with a force of 2.16 kg in accordance with JIS K7210).

9. A plastic card molded by injection molding a plastic composition as defined in any one of Claims 1 to 8."

II. A notice of opposition was filed on 4 May 2000 by BASF AG requesting revocation of the patent in its entirety on the grounds of Article 100(a) EPC (lack of novelty and lack of inventive step). With letter dated 20 July 2001, an objection under Article 100(b) EPC was raised.

The following documents were cited (*inter alia*) in the opposition procedure:

D1: DE-A-29 27 572;

D2: DE-A-34 22 919;

D7: JP-A-59168016 (English translation);

D8a: US-A-5 030 309;

D12: Experimental Report 1 filed on 4 May 2000 (numbering different from the numbering in the decision under appeal);

D13: Experimental Report 2 filed on 4 May 2000 (numbering different from the numbering in the decision under appeal); and

D18: Luran[®] S monomer recipe filed on 23 August 2002 (numbering different from the numbering in the decision under appeal).

III. By a decision which was announced orally on 24 October 2002 and issued in writing on 20 December 2002, the opposition division rejected the opposition.

- (a) According to the decision, it was clear, when interpreting the claims in light of the description and more in particular the examples, that the molar amounts of each component related to "said copolymer" and not to the composition claimed, ie the antecedent for the term "wherein" in Claims 1 and 2 was the copolymer and not the composition. Furthermore, a person skilled in the art would understand that the molar amounts of the components related to the monomer mixture which resulted in the copolymer upon polymerization. Following this interpretation of the claims, the conditions laid down in Article 83 EPC were met.

- (b) The subject-matter of Claim 2 was not anticipated by prior use occurring with the sale of Luran[®] S KR 2855 and Luran[®] S KR 2856, since the monomer recipe for these products (D18) did not disclose the polymerization process. On the other hand, Claim 2 required, according to the decision, that the acrylic rubber was produced by polymerization of the corresponding monomer prior to the polymerization of the acrylonitrile and the styrene component. Therefore, it could not be established that Luran[®] S KR 2855 and Luran[®] S KR 2856 were identical with the subject-matter of Claim 2.

- (c) The opposition division was also satisfied that the claimed subject-matter was novel over the other cited prior art documents.
- (d) The problem to be solved by the patent in suit was to provide a plastic composition useful for forming plastic cards in which cracking of embossed letters was avoided.

The closest prior art was considered to be D8a which disclosed cards where the card body was made of an acrylonitrile butadiene styrene (ABS) resin. As demonstrated by the examples and comparative examples in the patent in suit, the distinguishing features of the patent in suit over the disclosure of D8a, namely the composition of the polymer and the melt index, solved the technical problem. Only the claimed compositions were superior in the prevention of cracking of embossed letters and had good mouldability. This solution was not obvious from D8a in combination with any other documents cited during the opposition procedure.

IV. On 24 January 2003, the appellant (opponent) filed a notice of appeal against the above decision with simultaneous payment of the prescribed fee.

The appellant's arguments filed with the statement of grounds of appeal on 16 April 2003 and with the letter dated 17 March 2004 may be summarized as follows:

- (a) There were doubts as to whether or not the invention was disclosed in a manner sufficiently clear and complete for it to be carried out by a

person skilled in the art because the wording of Claims 1 and 2 did not allow to clearly ascertain the claimed subject-matter. Thus, the antecedent for the term "wherein" in Claims 1 and 2 could be either the copolymer (as argued in the decision under appeal) or the composition. In support for the latter interpretation of the claims, the appellant referred to Examples 1-4 and Comparative Examples 1-2 in the patent in suit and filed a declaration of Mr B. Byrt, translator of the German and English languages (D23).

D23: Declaration of B. Byrt (27 August 2002).

- (b) As to the question whether or not the term "copolymer" included acrylonitrile butadiene styrene resins (ABS) or acrylonitrile styrene acrylic rubber resins (ASA), the following documents were filed:

D24: Kunststofflexikon, 9th Edition, 1998, Carl Hanser Verlag München·Wien, page 29; and

D26: Ullmann's Encyclopedia of Industrial Chemistry, 5th edition, vol. A 21, 1992, VCH, pages 639-641 and 654-655.

- (c) The subject-matter of Claim 1 lacked novelty over Example 2 of D1 in combination with pages 2, 4 and 15-17 of D1 as demonstrated by experimental report D12.
- (d) The subject-matter of Claim 2 lacked novelty in view of the prior use occurring with the sale of

Luran[®] S KR 2855 and Luran[®] S KR 2856 which were commercially available ASA resins. As regards the criticized lack of information regarding the process of preparing these products, it was pointed out that the claim wording did not require a specific polymerization process.

Furthermore, the subject-matter of Claim 2 lacked novelty over Comparative Example 1 of D2 as demonstrated by experimental report D13.

- (e) Regarding inventive step of the subject-matter of Claim 1 as granted, D8a was considered to represent the closest prior art. Based on the argument that it had not been shown that the melt flow index (not disclosed in D8a) had any technical relevance, an inventive step of the subject-matter of Claim 1 was denied.

As regards inventive step of the subject-matter of Claim 2 as granted, D7 was considered to represent the closest prior art. Since the compositions of D7 had excellent weather, impact and thermal resistance, good dimensional stability at high temperature and could be moulded, a person skilled in the art would have used the compositions of D7 in order to solve the problems mentioned in the patent in suit arising in making plastic cards.

- V. The submissions of the respondent (proprietor) presented in its letter dated 13 October 2003 may be summarized as follows:

- (a) The molar amounts of each component related to the copolymer and not to the composition. Particular attention was drawn to the fact that in accordance with Claim 1 the copolymerization had to be carried out simultaneously, while in accordance with Claim 2, the acrylic rubber component had to be polymerized prior to the polymerization of the acrylonitrile and styrene components. Consequently, no difficulties with respect to lack of sufficiency arose.
- (b) Furthermore, the granted claims excluded physical mixtures of polymers, such as ABS or ASA resins. In order to support this view, a further document D25 was submitted.

D25: Römpf Chemie Lexikon, 9th Edition, 1989,
Georg Thieme Verlag Stuttgart·New York,
page 262.

- (c) Since the granted claims excluded physical mixtures, D1, D2 and the alleged prior use were not relevant to the claimed subject matter. In fact, the subject-matter of the granted claims was not only novel but also involved an inventive step over the cited prior art. With respect to the latter, reference was made to the examples in the patent in suit, in particular to Comparative Examples 1, 2, 12 and 13.
- (d) The respondent requested that the appeal be dismissed or, in the alternative, that the patent be maintained on the basis of auxiliary request I

which had already been filed on 29 December 2000 before the opposition division.

- (e) Claims 1-8 of auxiliary request I corresponded to Claims 1 and 3-9 as granted.

Claim 9 read as follows:

"A plastic card molded by injection molding a plastic composition which comprises a copolymer comprising an acrylonitrile component, an acrylic rubber component and a styrene component, wherein the content of the acrylic rubber component is from 3 to 15 mol%, the content of the acrylonitrile component is from 40 to 55 mol%, and the content of the styrene component is from 40 to 50 mol%, said composition having a melt flow index of at least 5 g/10 min (as measured at 260°C with a force of 2.16 kg in accordance with JIS K7210)."

Claims 10-15 were dependent claims directed to elaborations of the subject-matter of Claim 9.

- VI. In a communication dated 10 March 2006, the board expressed the preliminary, provisional opinion that the term "wherein" in granted Claims 1 and 2 related to the copolymer and that the term "copolymer", in the context of the patent in suit, encompassed ABS and ASA resins. In this context, document D27 was annexed to the communication:

D27: Römpf Chemie Lexikon, 9th edition, 1989, Georg Thieme Verlag Stuttgart·New York, page 42.

VII. With letter dated 27 March 2006, the respondent filed auxiliary requests II-V. However, these requests are not of importance for this decision and consequently they will not be considered in further detail.

VIII. With letter dated 3 April 2006, the appellant elucidated on its previously presented arguments and filed a further document D28 relating to a component of the monomer recipe for Luran[®] S products.

D28: Data sheet for Laromer[®] DCPA.

IX. The appellant filed a copy of a sworn statement of Dr B. Rosenau concerning the monomer composition of Luran[®] S KR 2855 and Luran[®] S KR 2856 with letter dated 2 May 2006. The original thereof was presented at the oral proceedings before the board.

D29: Sworn statement of Dr B. Rosenau (2 May 2006).

X. On 3 May 2006, oral proceedings were held before the board.

(a) As regards the antecedent for the term "wherein" and the interpretation of the term "copolymer" in granted Claims 1 and 2, both parties pursued their diverging lines of argumentation already presented in the written procedure. In particular, the respondent pointed out that the claims excluded physical mixtures such as ABS resins.

(b) The appellant withdrew its objection with respect to Article 100(b) EPC.

- (c) The appellant pointed out that the term "copolymer" in granted Claims 1 and 2 was not supported by the application as originally filed. Since Article 100(c) EPC was not a ground of opposition and the objected term was part of the granted claims, the chairman asked the respondent whether it agreed that this fresh ground of opposition was to be considered. The respondent did not agree to the introduction of the fresh ground for opposition.
- (d) With respect to novelty over D1 and D2, both parties basically relied on their written submissions. In addition, the respondent raised doubts with respect to D13, ie the repetition of Comparative Example 1 of D2. According to its own calculations, the content of the monomers in this example was different from the figures in D13, in particular the acrylonitrile content was with 39.8 mol% outside the range required in Claim 2 as granted.
- (e) Since the claims of auxiliary request I had been amended, the appellant considered it admissible to raise an objection under Article 123(2) EPC against the term "copolymer" in the claims of auxiliary request I.

The appellant also admitted that the amendments as such did not give rise to objections under Articles 84 and 123(2) EPC.

- (f) With respect to inventive step of auxiliary request I, the appellant considered D8a to

represent the closest prior art for the subject-matter of Claim 1. The subject-matter of Claim 1 was obvious over D8a in combination with D1. For the subject-matter of Claim 9, D7 represented the closest prior art. The compositions of D7 had excellent weather, impact and thermal resistance and could be moulded. The compositions of D7 which overlapped with the composition required in Claim 9 would be suitable materials for plastic cards.

XI. The appellant requested that the decision under appeal be set aside and the patent be revoked in its entirety.

XII. The respondent requested that the appeal be dismissed (main request),

or, in the alternative, that the decision under appeal be set aside and the patent be maintained on the basis of

- Claims 1-15 as filed with letter dated 29 December 2000 (auxiliary request I), or
- on the basis of auxiliary request II to V filed with letter dated 27 March 2006.

Reasons for the Decision

1. The appeal complies with Articles 106 and 108 EPC and Rule 64 EPC and is therefore admissible.

2. *Interpretation of Claims 1 and 2 as granted*

2.1 Claims 1 and 2 as granted (point I, above) refer to a plastic composition which comprises a copolymer comprising an acrylonitrile component, a butadiene component (Claim 2: an acrylic rubber component) and a styrene component, wherein the content of the butadiene component is from 5 to 15 mol% (Claim 2: the content of the acrylic rubber component is from 3 to 15 mol%), the content of the acrylonitrile component is from 40 to 50 mol% (Claim 2: 40 to 55 mol%) and the content of the styrene component is from 40 to 50 mol%.

2.2 Both parties agreed that the molar amounts of the components in Claims 1 and 2 related to the monomers as pointed out in the decision under appeal (point III(a), above). However, there was a disagreement between the parties as to the proper antecedent for the term "wherein" in these claims. According to the respondent, the molar amounts for each component related to the copolymer whereas the appellant was of the opinion that the term "wherein" could also relate to the plastic composition.

2.2.1 When analysing the grammatical structure of Claims 1 and 2, it is evident that the copolymer comprises an acrylonitrile component, a butadiene component (or an acrylic rubber component) and a styrene component. Since the immediately following subordinate clause starting with "wherein" gives the amount of components previously referred to in the context of the copolymer, it would be natural in English to construe the claims by referring "wherein" back to the copolymer, contrary to what is stated in the declaration D23.

2.2.2 It might be true, as argued by the appellant, that the patent specification and the application as originally filed do not disclose a copolymer comprising specific components in specified amounts. However, a discrepancy between the claims and the description is not a valid reason to ignore the clear linguistic structure of a claim and to interpret it differently. As to the question whether or not the term "copolymer" in Claims 1 and 2 as granted has a valid basis in the application as originally filed at all, the board is not empowered to examine this issue because Article 100(c) EPC was not a ground of opposition and the respondent did not agree that this fresh ground for opposition was to be considered (G 10/91, OJ EPO 1993, 420, point 18 of the reasons).

2.2.3 Furthermore, the fact that the term "dans laquelle" (= wherein) in the French claims can refer solely to "composition de matière" (= composition) also cannot support the appellant's interpretation of the claims. The text of a European patent in the language of the proceedings is the authentic text in any proceedings before the European Patent Office and in any Contracting State (Article 70(1) EPC). In the present case, the relevant language is therefore English.

2.2.4 Thus, Claims 1 and 2 as granted read on their own refer to a plastic composition comprising a copolymer whereby the copolymer comprises certain components in specified amounts.

2.3 As regards the term "copolymer" in Claims 1 and 2, the respondent associated the term "copolymer" with a

specific type of polymerization and/or a specific polymerization sequence. Furthermore, this term would exclude physical mixtures of polymers, such as acrylonitrile butadiene styrene resins (ABS) and acrylonitrile styrene acrylate resins (ASA).

- 2.3.1 However, the patent in suit and the application as originally filed, respectively, do not define the term "copolymer". Moreover, as pointed out by the appellant, the term "copolymer" appears in the application as originally filed only in the discussion of the prior art (pages 1-3) but not in relation to the invention.

Furthermore, the passages in paragraphs [0019] and [0022] of the patent in suit (page 6, lines 19-25 and page 8, lines 3-9 of the application as originally filed) merely indicate that the components are polymerized, and that the products of these polymerizations have a certain MI. These passages, and in particular the last sentences thereof, by no means hint at a specific type of polymerization, let alone at a copolymerization of a certain monomer mixture (eg the copolymerization of a mixture of acrylonitrile, butadiene and styrene), or at a certain polymerization sequence.

- 2.3.2 As a general rule, any ambiguous text must be construed against the interest of the person responsible for drafting it (in the present case the proprietor), and in favour of the person on whom it is imposed (in the present case the appellant as a member of the public). This means that the term "copolymer" has to be interpreted broadly. Hence, in the context of the patent in suit, the term "copolymer" can only mean that

the components are polymerized in some form. It does not necessarily imply that the all members of a certain monomer mixture are incorporated into the same polymer chain or that a particular polymerization sequence has to be carried out.

- 2.3.3 ABS resins are thermoplastic and elastomeric polymer blends comprising a discontinuous butadiene rubber phase and a continuous thermoplastic styrene acrylonitrile phase (SAN). It is the whole two-phase structure which is generally referred to as ABS resin or ABS **copolymer** as can be seen from document D27 which appears to represent the common general knowledge at the priority date of the patent in suit (1994/1995).

Since the patent in suit does not further define the term "copolymer" and, consequently, this term has to be interpreted broadly (see point 2.3.1 and 2.3.2, above), a two-phase ABS resin, as for example disclosed in D1, is considered to represent a "copolymer" in the sense of Claim 1. The respondent's argument that an ABS resin is a **physical mixture** and, therefore, different from a copolymer according to Claim 1 which is obtained by copolymerizing a certain monomer mixture must fail because Claim 1 does not require copolymerizing a certain monomer mixture.

Thus, in principle, an ABS resin (or an ABS copolymer) is a "copolymer" within the meaning of Claim 1 as granted.

- 2.3.4 As regards ASA resins, there is no doubt that these resins are, as ABS resins, two-phase resins with a continuous SAN matrix and a grafted acrylic rubber

phase (D26). D25, cited by the respondent, which merely defines ASA as an abbreviation for acrylonitrile styrene acrylic ester copolymers cannot throw doubt on this fact. Thus, for the same reasons as to why an ABS resin is a "copolymer" within the meaning of Claim 1, an ASA resin is a "copolymer" within the meaning of Claim 2.

Main request (claims as granted)

3. *Sufficiency of disclosure (main request)*

At the oral proceedings before the board, the appellant withdrew its objection raised under Article 100(b) EPC and no longer challenged the corresponding finding of the opposition division (point X(b), above). Nor does the board see any reason to raise an objection in this respect.

4. *Novelty (main request)*

4.1 D1

4.1.1 D1 is the only document relied upon by the appellant for novelty against a composition as defined in granted Claim 1.

D1 discloses a thermoplastic composition comprising a copolymer A and 10-50 wt.% (based on A and B) of a graft copolymer B. The copolymer A contains 60-80 wt.% styrene or methylstyrene and 20-40 wt.% acrylonitrile, and the graft copolymer B contains 40-80 wt.% (based on B) of a butadiene rubber grafted with 60-20 wt.% styrene and acrylonitrile in a ratio of 80:20 to 65:35

(pages 2-3 of D1). Such a composition is also referred to as an ABS resin (page 1 of D1).

4.1.2 As explained in point 2.3.3, above, an ABS resin can in principle be cited against the subject-matter of Claim 1 as granted. The relevant question is as to whether or not the disclosure of D1 meets all the requirements of Claim 1.

4.1.3 The appellant based its novelty objection against the subject-matter of Claim 1 as granted on a combination of Example 2 of D1 and the general disclosure on pages 2, 4 and 15-17. Thus, in Experimental Report D12, the graft copolymer B of Example 2 of D1 was repeated and mixed on an extruder with 90 or 87,5 wt.% of a copolymer A (70 wt.% styrene and 30 wt.% acrylonitrile). According to D12, these mixtures meet the requirements of Claim 1 as granted.

4.1.4 It is, however, conspicuous to the board that the combination of copolymer A and graft copolymer B exemplified by the appellant in D12 is not disclosed in D1. Although the composition and the amount of copolymer A used in D12 fall within the general ranges indicated in D1, D1 does not disclose this particular copolymer A with 70 wt.% styrene and 30 wt.% acrylonitrile, let alone the combination of 90 or 87,5 wt.% of such a copolymer A with the graft copolymer B of Example 2. According to D1, 42 wt.% of the copolymer B of Example 2 are mixed on an extruder with 58 wt.% of a copolymer A containing 65 wt.% styrene and 35 wt.% acrylonitrile. In other words, the appellant created a novelty destroying embodiment by arbitrarily selecting the graft copolymer B of

Example 2 of D1 and combining it with a copolymer A that is not even explicitly disclosed in D1.

When assessing novelty, the content of a prior art document must not be treated as something in the nature of a reservoir from which it would be permissible to combine different individual features pertaining to the general disclosure and/or the examples in order to create artificially a particular embodiment which would destroy novelty, unless the document itself suggests such a combination of features. In the present case, the combination of copolymer A and graft copolymer B as used in D12 is neither explicitly nor implicitly suggested by the document. Consequently, the experiment carried out in D12 is not novelty destroying to the subject-matter of Claim 1.

4.1.5 Since, furthermore, it has not been shown that any other embodiment disclosed in D1 meets the requirements of Claim 1 as granted, the subject-matter of Claim 1 is novel over the disclosure of D1.

4.2 D2

4.2.1 D2 is directed to a weather and impact resistant resin composition which comprises a graft copolymer (A), a graft copolymer (B) and a copolymer (C). Comparative Example 1 of D2 discloses a graft copolymer (A) obtained by grafting particles of an acrylic rubber with styrene and acrylonitrile. This graft copolymer (A) is mixed with a copolymer (C) made from 70 wt.% styrene and 30 wt.% acrylonitrile.

- 4.2.2 The appellant repeated Comparative Example 1 of D2 (Experimental Report D13) and found that the resin prepared according to Comparative Example 1 of D2 met all the requirements of Claim 2 as granted. The resin was obtained by polymerizing a mixture containing 12.59 mol% butyl acrylate, 41.01 mol% acrylonitrile and 46.33 mol% styrene and had a melt flow index of 12.93 g/10 min ((as measured at 260°C with a force of 2.16 kg in accordance with JIS K7210). Hence, the subject-matter of Claim 2 lacks novelty over Comparative Example 1 of D2.
- 4.2.3 The respondent's argument that the physical mixture of Comparative Example 1 of D2 is different from a copolymer according to Claim 2 which is obtained by polymerizing a certain monomer mixture must fail in view of the interpretation given to the term "copolymer" (point 2.3.1 to 2.3.4, above).
- 4.2.4 At the oral proceedings before the board, the respondent tried to throw doubts on D13. According to its own calculations, the monomer content of the components in Comparative Example 1 of D2 was slightly different from the figures given in D13, and in particular the acrylonitrile content was with 39.8 mol% outside the range required in Claim 2 as granted. However, this argument is not convincing if only for the reason that the respondent did not provide a calculation for its figures. An unsubstantiated allegation raised for the first time at the very latest moment in the proceedings is not enough to raise doubts against an experimental report that has been on file unchallenged for six years (D13 was filed together with the notice of appeal on 4 May 2000).

4.2.5 In summary, the subject-matter of Claim 2 as granted is not novel over Comparative Example 1 of D2 (Article 54 EPC).

4.3 Under these circumstances there was no need to consider the issue of prior use occurring with the sale of Luran® S KR 2855 and Luran® S KR 2856.

5. The subject-matter of Claim 2 as granted being not novel, the respondent's main request has to be refused.

Auxiliary request I

6. *Amendments (auxiliary request I)*

6.1 Claims 1-8 of auxiliary request 1 correspond to Claims 1 and 3-9 as granted whereby the dependencies had been amended accordingly.

6.2 Claim 2 as granted ("a plastic composition which comprises a copolymer comprising an acrylonitrile component, an acrylic rubber component and a styrene component ...") has been deleted from auxiliary request I. Nevertheless, it is in the legitimate interest of the respondent to pursue claims directed to a plastic card moulded by injection moulding such a composition. Thus, no objections under Rule 57a EPC arise against the introduction of new Claims 9-15 directed to such a plastic card.

Since, furthermore, new Claims 9-15 are merely a linguistic reformulation of Claim 9 as granted in

combination with Claims 2-8 as granted, no objections under Article 84 or 123 EPC arise.

6.3 The appellant argued that the claims of auxiliary request I did not meet the requirements of Article 123(2) EPC with respect to the term "copolymer". However, this term was already present in the granted claims. Article 102(3) EPC does not allow objections to be based upon Article 123(2) EPC (or Article 84 EPC), if such objections do not arise out of the amendments made in the course of the opposition or opposition appeal proceedings, respectively (eg T 301/87 (OJ EPO 1990, 335, point 3.8 of the reasons), G 9/91 (OJ EPO 1993, 408, point 19 of the reasons) or T 381/02 of 26 August 2004 (not published in the OJ EPO, points 2.3.2 to 2.3.5 of the reasons)).

7. *Novelty (auxiliary request I)*

7.1 Claims 1-8 of auxiliary request I correspond to Claims 1 and 3-9 as granted. As can be seen from point 4.1.1 to 4.1.5, above, the subject-matter of these claims is novel over the cited prior.

7.2 It may be convenient to recall at this juncture that the appellant only relied on D2 and the alleged prior use for its novelty objection against a composition as defined in granted Claim 2. Since, however, the claim directed to the composition has been deleted and neither D2 nor the alleged prior use disclose a plastic card moulded by injection moulding such a composition, the subject-matter of Claims 9-15 is novel over this prior art.

7.3 Thus, the claimed subject-matter of auxiliary request I is novel over the cited prior art.

8. *Problem and solution (auxiliary request I)*

8.1 Claim 1 of auxiliary request I is directed in general terms to a plastic composition useful for forming plastic cards such as credit cards or IC cards, which are used as embossed (paragraph [001] of the patent in suit). Claim 8 is directed to a plastic card made of such a composition, and Claim 9 is directed to a plastic card made of the composition of Claim 2 as granted.

8.2 D8a discloses a method of making cards, and in particular cards including memory and particularly electronic memory, comprising *inter alia* the step of injecting a thermoplastic material into a mould in order to form the card body (Claim 1). Although styrene butadiene acrylonitrile, ie ABS, is the preferred plastic material (column 2, lines 37-38), other materials could also be used, eg polystyrene, polypropylene and polyamine 11 (presumably polyamide 11) (column 3, lines 31-32). Since ABS resins are copolymers within the meaning of Claim 1 (point 2.3.3, above) and D8a discloses purpose and intended use most similar to the claimed subject-matter, D8a is considered to represent the closest prior art.

8.3 As can be seen from Table 1 in the patent in suit, the plastic composition of Claim 1 is excellent in mouldability and yields a plastic card where deformation or cracking of embossed letters is prevented at the time of the embossing operation

(Examples 1-4). However, this advantageous balance of properties is not achieved with a composition which does not have the required amount of components (Comparative Example 1) or the required melt flow index (Comparative Example 2). The same is true for a plastic card made from the composition required in Claim 9 (Table 11 of the patent in suit; Examples 48-51 versus Comparative Examples 12-13).

- 8.4 Therefore, the objective technical problem to be solved by the claimed subject-matter has to be seen in the provision of a plastic composition that prevents when moulded into a plastic card deformation or cracking of embossed letters and has good mouldability and/or (for the subject-matter of Claim 9) the provision of a plastic card having this balance of properties.

In view of the examples and comparative examples in the patent in suit (point 8.3, above), the board is satisfied that the above identified objective technical problem is solved by the features required in Claims 1 and 9 of auxiliary request I.

9. *Inventive step (auxiliary request I)*

- 9.1 It remains to be decided whether the proposed solution, ie the plastic composition of Claim 1 or the plastic card made from the plastic composition required in Claim 9, is obvious from the available prior art.
- 9.2 In D8a itself, there is only a general reference to ABS resins. There is no hint to a specific ABS resin which would meet the requirements of Claim 1, let alone a hint that such a resin would provide advantageous

effects associated with cracking of embossed letters and mouldability.

There is also no hint in D8a to use a resin as required in Claim 9 having an acrylic rubber component.

9.3 It may be true that, as argued by the appellant, some of the compositions falling within the general disclosure of D1 meet the requirements of Claim 1. However, there is neither an explicit nor an implicit disclosure in D1 of a composition as claimed in Claim 1 nor any suggestion that a composition with these specific parameters would provide the advantageous effects associated with cracking of embossed letters and mouldability. The mere fact that the compositions disclosed in D1 "overlap" with the composition of Claim 1 is not enough to render the subject-matter of Claim 1 obvious. Moreover, a combination of D1 with the closest prior art would be based on hindsight since without the knowledge of the teaching of the patent in suit a person skilled in the art had no incentive whatsoever to focus on the particular composition required in Claim 1 of auxiliary request I in order to solve the stated objective technical problem.

9.4 D7 discloses in Claim 1 a process for the manufacture of thermoplastic resins where a monomer mixture of vinyl cyanide compound (eg acrylonitrile), an aromatic vinyl compound (eg styrene) and a compound having an imide group are copolymerized in the presence of a cross-linked acrylic rubber. The thermoplastic resins have excellent weather, impact and thermal resistance and can be moulded (page 2).

- 9.4.1 According to the appellant, the compositions of D7 "overlap" with the composition required in Claim 9. However, this allegation has never been proven. But even if there is an overlap, there is no explicit nor implicit disclosure in D7 of a composition as required in Claim 9 of auxiliary request I nor any suggestion that a composition with these specific parameters would provide the advantageous effects associated with cracking of embossed letters and mouldability. Again, a combination of D7 and D8a would be based on hindsight.
- 9.4.2 No other conclusion with respect to inventive step of Claim 9 of auxiliary request I can be reached when D7 is chosen as the closest prior art, as proposed by the appellant. Apart from the fact that it has not been demonstrated that the compositions of D7 "overlap" with the composition as required in Claim 9, there is no hint in D7 to select from the general disclosure of D7 a specific composition and to use it for moulding plastic cards, let alone a hint to the composition required in Claim 9 of auxiliary request I leading to the above mentioned advantageous technical effects. It appears that also this approach of the appellant is based on the knowledge of the invention and, therefore, cannot succeed.
- 9.5 A person skilled in the art would also not consider a combination of D8a with the resin disclosed in Comparative Example 1 of D2. Apart from the fact that D2 is not concerned with the moulding of plastic cards at all, there is also no hint that a resin not even belonging to the invention of D2 would provide the advantageous effects referred to in the patent in suit.

9.6 In summary, the solution to the stated problem does not arise in an obvious way from the state of the art. Consequently, the subject-matter of Claims 1 and 9 of auxiliary request I, and, by the same token, the subject-matter of Claims 2-8 and 10-15 involves an inventive step.

10. Because the respondent succeeded on auxiliary request I, there was no need to consider its further auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of Claims 1-15 (auxiliary request I) filed with letter dated 29 December 2000 and after any necessary consequential amendment of the description.

The Registrar:

The Chairman:

E. Görgmaier

R. Young