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D E C I S I O N
of 14 November 2002

Case Number: T 0139/00 - 3.3.3

Application Number: 86110079.0

Publication Number: 0216065

IPC: C08L 55/02

Language of the proceedings: EN

Title of invention:

Blends based on vinyl-aromatic polymers having high tenacity and impact strength

Patentee:

ECP ENICHEM POLIMERI S.r.l.

Opponent:

THE DOW CHEMICAL COMPANY

Headword:

-

Relevant legal provisions:

EPC Art. 123(2), (3), R. 88

Keyword:

"Amendments - added subject-matter (yes)"
"Amendments - opposition proceedings"

Decisions cited:

G 0003/89, G 0004/92, T 0153/85, T 0108/91, T 0133/92

Catchword:

-



Case Number: T 0139/00 - 3.3.3

D E C I S I O N
of the Technical Board of Appeal 3.3.3
of 14 November 2002

Appellant: ECP ENICHEM POLIMERI S.r.l.
(Proprietor of the patent) 16 Piazza della Repubblica
I-20124 Milano (IT)

Representative: Winter, Brandl, Fürniss, Hübner, Röss,
Kaiser, Polte
Partnerschaft
Patent- und Rechtsanwaltskanzlei
Alois-Steinecker-Strasse 22
D-85354 Freising (DE)

Respondent: THE DOW CHEMICAL COMPANY
(Opponent) 2030 Abbott Road
Dow Center
Midland, Michigan 48640 (US)

Representative: Kremer, Robert A. M.
BUREAU D.A. CASALONGA - JOSSE
Paul-Heyse-Strasse 33
D-80336 München (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 22 November 1999
revoking European patent No. 0 216 065 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: R. Young
Members: W. Sieber
J. De Preter

Summary of Facts and Submissions

I. The mention of the grant of European patent No. 0 216 065, with 9 claims, in respect of European patent application No. 86 110 079.0, filed on 22 July 1986 and claiming an IT priority of 26 July 1985 (IT 2173385) was published on 2 February 1994 (Bulletin 1994/05). Claim 1 read as follows:

"1. Polymer blends having a high tenacity and impact strength based on

- (a) a vinyl-aromatic copolymer containing an ethylenically unsaturated nitrile and an elastomer, and
- (b) a grafted vinyl-aromatic polymer containing an ethylenically unsaturated nitrile and a synthetic elastomer,

characterized in that the blends comprise

- (a) from 10 to 98% by weight of the vinyl-aromatic copolymer obtained by a polymerization process in suspension, mass-suspension or continuous mass and containing from 2 to 25% by weight of the ethylenically unsaturated nitrile and a rubber in an amount not exceeding 15% by weight and
- (b) from 90 to 2% by weight of the grafted vinyl-aromatic polymer consisting of a three-step polymer having as a first step a rubber core based on butadiene, a second step polymerized from styrene and a final step, or shell, polymerized from methylmethacrylate, the elastomer content of said grafted polymer being higher than 35% and up to 95% by weight."

The remaining Claims 2 to 8 were dependent claims. Claim 9 was an independent claim directed to composites prepared by co-extruding the blends of the preceding claims with other polymers or engineering polymers.

II. A Notice of Opposition was filed on 2 November 1994 by The Dow Chemical Company, on the grounds of Article 100(a) EPC (lack of novelty and lack of inventive step) and Article 100(b) EPC (insufficiency of disclosure). The documents cited during the opposition procedure were *inter alia*:

D1: GB-A-2 143 242; and

D11: Acryloid[®] KM-653 information sheet (no date).

III. By a decision which was given at the end of the oral proceedings held on 10 November 1999 and issued in writing on 22 November 1999 the opposition division revoked the patent. The decision was based on three sets of claims forming a main request (Claims 1 to 9), an auxiliary request I (Claims 1 to 8) and an auxiliary request II (Claims 1 to 8).

- (i) Claim 1 of the main request differed from Claim 1 as granted in that the grafted vinyl-aromatic polymer (later termed (B)) was defined in the preamble (b) as "a grafted vinyl-aromatic polymer containing a synthetic elastomer", ie the mandatory presence of an ethylenically unsaturated nitrile had been deleted.
- (ii) Claim 1 of auxiliary request I differed from Claim 1 of the main request in that, apart from minor amendments of an editorial nature, it defined a vinyl-aromatic copolymer (A) as specified in granted Claim 3, and the grafted vinyl-aromatic polymer (B) was defined in the preamble (b) as "a grafted vinyl-aromatic polymer (B) containing vinyl monomers and a synthetic elastomer".

- (iii) Claim 1 of auxiliary request II differed from Claim 1 of auxiliary request I in that it contained the additional requirement that the vinyl-aromatic copolymer (A) was "no ABS".

The decision held that the cancellation of the term "an ethylenically unsaturated nitrile" in the definition of the grafted vinyl-aromatic copolymer (B) in the respective Claim 1 of the main request and auxiliary requests I and II was not allowable under Article 123(3) since it extended the protection conferred by the European patent as granted.

Auxiliary requests III and IV, filed at the oral proceedings, were not admitted into the proceedings because the objections against the main request and auxiliary requests I and II under Article 123(3) EPC would have applied to these requests analogously.

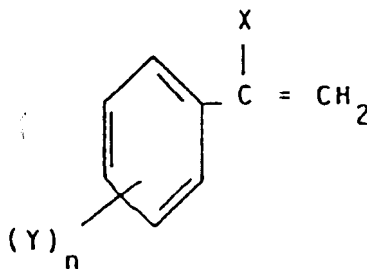
- IV. On 1 February 2000, a Notice of Appeal against the above decision was filed by the proprietor (hereinafter referred to as the appellant), the prescribed fee being recorded as paid on the same day.

In the Statement of Grounds of Appeal, filed on 3 April 2000, the appellant filed various sets of amended claims, ie a main request and auxiliary requests I to III. In a further letter filed on 12 June 2001, the appellant filed auxiliary requests IV to IX.

- (i) Claim 1 of the main request read as follows:

"1. Polymer blends having a high tenacity and impact strength based on

- (a) a vinyl-aromatic copolymer (A) containing at least 50% by weight of one or more vinyl-aromatic compounds of formula:



in which X is hydrogen or an alkyl radical containing 1 to 4 carbon atoms; n is zero or an integer ranging from 1 to 5 and Y is a halogen or an alkyl radical having 1 to 4 carbon atoms, an ethylenically unsaturated nitrile and an elastomer, and

- (b) a grafted vinyl-aromatic polymer (B) containing derivatives of (meth)acrylic acid and a synthetic elastomer,

characterized in that the blends comprise

- (a) from 10 to 98% by weight of the vinyl-aromatic copolymer (A) which is obtained by a polymerization process in suspension, mass-suspension or continuous mass and containing a vinyl-aromatic monomer, from 2 to 25% by weight of the ethylenically unsaturated nitrile and a rubber in an amount of about 8% by weight and
- (b) from 90 to 2% by weight of the grafted vinyl-aromatic polymer (B) consisting of a three-step polymer having as a first step a rubber core based on butadiene, a second step polymerized from styrene and a final step, or shell, polymerized from methyl-methacrylate, the elastomer content of said grafted polymer being higher than 35% and up to 95% by weight."

- (ii) Claim 1 of auxiliary request I differed from Claim 1 of the main request in that, in the preamble (b), the grafted vinyl-aromatic polymer (B) was defined as

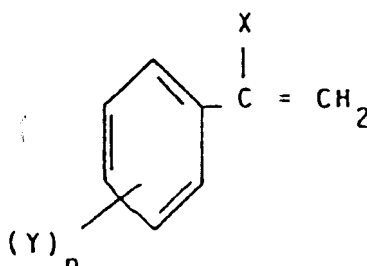
"containing alkyl esters of (meth)acrylic acid, R = C₁₋₁₆, and a synthetic elastomer".

(iii) Claim 1 of auxiliary request II differed from Claim 1 of the main request in that, in the preamble (b), the grafted vinyl-aromatic polymer (B) was defined as "containing methylmethacrylate and a synthetic elastomer".

(iv) Claim 1 of auxiliary request III, drafted in the one part form, read as follows:

"1. Polymer blends having a high tenacity and impact strength comprising

(a) from 10 to 98% by weight of a vinyl-aromatic copolymer (A) containing at least 50% by weight of one or more vinyl-aromatic compounds of the formula:



in which X is hydrogen or an alkyl radical containing 1 to 4 carbon atoms; n is zero or an integer ranging from 1 to 5 and Y is a halogen or an alkyl radical having 1 to 4 carbon atoms, an ethylenically unsaturated nitrile and an elastomer, and which is obtained by a polymerization process in suspension, mass-suspension or continuous mass and containing a vinyl-aromatic monomer, from 2 to 25% by weight of the ethylenically unsaturated nitrile and a rubber in an amount of about 8% by weight, and

(b) from 90 to 2% by weight of a grafted vinyl-aromatic polymer (B) consisting of a three-step polymer having as a first step a rubber core based

on butadiene, a second step polymerized from styrene and a final step, or shell, polymerized from methyl-methacrylate, the elastomer content of said grafted polymer being higher than 35% and up to 95% by weight."

- (v) Claim 1 of auxiliary request IV corresponded to granted Claim 1 with the exception that the amount of rubber in copolymer (A) was restricted to *about 8% by weight*.
- (vi) Claim 1 of auxiliary requests V to IX corresponded to Claim 1 of the main request and auxiliary requests I to IV, respectively, with the exception that the word "about" had been deleted, at each occurrence, from the term "a rubber content of about 8% by weight".

The appellant's arguments, as far as they are relevant for this decision, were as follows:

The amended claims met the requirements of Article 123(3) EPC because they were restricted as compared to the granted claims. Furthermore, it was obvious to a person skilled in the art that granted Claim 1, according to which the grafted vinyl-aromatic polymer (B) contained an ethylenically unsaturated nitrile, comprised an obvious error (Rule 88 EPC) which had to be corrected according to the originally disclosed subject-matter.

- V. According to the opponent (hereinafter referred to as the respondent), which commented only on the main request and auxiliary requests I to III in the letter filed on 27 September 2000, the amendments to Claim 1 of these requests were neither allowable under Article 123(3) EPC nor could they be considered as corrections under Rule 88 EPC.

VI. In response to a summons, dated 2 May 2002, to oral proceedings, the respondent informed the board in a letter filed on 18 September 2002 that it would not be represented at the oral proceedings, but that it took it also for granted that the appellant would not change the requests on file.

VII. In a communication dated 6 November 2002, the board informed the parties that there was no legal or procedural basis for taking it "for granted" that the proprietor would not change the requests on file. In that respect, the respondent's attention was drawn to T 133/92 (18 October 1994; not published in the OJ EPO) according to which an opponent which failed to appear at the oral proceedings could not be taken by surprise when the proprietor filed new claims during that oral proceedings to overcome objections arising within the scope of the proceedings. According to that decision, the submission of auxiliary requests was, clearly, not a "fact" within the meaning of G 4/92 (OJ EPO 1994, 149). However, this observation was made without prejudice to the normal exercise of the discretion of the board to allow or not allow, in its conduct of the proceedings, the consideration of further requests.

VIII. On 14 November 2002, oral proceedings were held before the board at which the appellant but not the respondent was represented. Because the latter had been duly summoned, however, the oral proceedings were continued in its absence in accordance with Rule 71(2) EPC.

In the discussion, the representative of the appellant elucidated the written submissions with regard to the allowability of the amendments in Claim 1 of the requests on file. Furthermore, auxiliary requests X and XI were filed to overcome the board's reservation, under Article 123(2) EPC, against the amendment in Claim 1 of auxiliary request IV.

- (i) Claim 1 of auxiliary request X corresponded to Claim 1 of auxiliary request IV with the exception that the amount of rubber in copolymer (A) was *from 2 to 12% by weight*.
- (ii) Claim 1 of auxiliary request XI corresponded to Claim 1 of auxiliary request X where, in addition, the term "an ethylenically unsaturated nitrile and" was deleted from the preamble for the grafted vinyl-aromatic polymer (B).

IX. The appellant requested that the decision under appeal be set aside and the patent be maintained:

- on the basis of the main request or auxiliary requests I, II or III, all filed on 3 April 2000; or
- on the basis of auxiliary requests IV, V, VI, VII, VIII or IX, all filed on 12 June 2001; or
- on the basis of auxiliary requests X or XI filed at the oral proceedings on 14 November 2002.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. The key issue in the present case is related to the grafted vinyl-aromatic polymer (B). In the preamble of Claim 1 as granted, the grafted vinyl-aromatic polymer is defined as "containing **an ethylenically unsaturated nitrile** (emphasis added by the board) and a synthetic elastomer", whereas the grafted vinyl-aromatic polymer

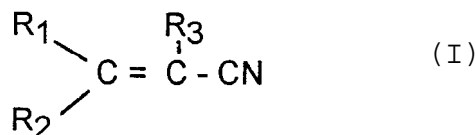
is defined in the characterizing portion of the claim as "consisting of a three-step polymer having as a first step a rubber core based on butadiene, a second step polymerized from styrene and a final step, or shell, polymerized from methacrylate", ie the ethylenically unsaturated nitrile is not mentioned any more in the characterizing portion of the claim. Since it became apparent during the opposition procedure that none of the examples in the patent in suit used a grafted vinyl-aromatic polymer (B) comprising an ethylenically unsaturated nitrile, the appellant tried to substitute or to delete the term "containing an ethylenically unsaturated nitrile" with respect to the grafted vinyl-aromatic polymer (B) in Claim 1.

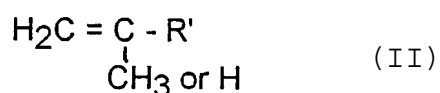
3. *Main request*

3.1 Article 123(2) and (3) EPC

3.1.1 In Claim 1 of the main request, the term "ethylenically unsaturated nitrile" with respect to the grafted vinyl-aromatic polymer (B) is substituted by the term "derivatives of (meth)acrylic acid" which is disclosed in the application as originally filed on page 7, line 6. Thus, the requirements of Article 123(2) EPC are met.

3.1.2 According to the appellant, the amendment in Claim 1 met also the requirements of Article 123(3) EPC because this amendment was a restriction over granted Claim 1. As could be seen from a comparison of the general formulae for an ethylenically unsaturated nitrile (I) and a derivative of (meth)acrylic acid (II),





the number of substituents R in formula (II) was more restricted than in formula (I). Although the restriction to derivatives of (meth)acrylic acid may be in fact narrower from a certain point of view to the extent that the number of substituents R in formula (II) is smaller than in formula (I), amended Claim 1 does not require the presence of an ethylenically unsaturated nitrile in polymer (B) any more, and to that extent is inevitably broader than Claim 1 as granted.

3.1.3 A further argument of the appellant to justify the amendment was based on T 108/91 (OJ EPO, 1994, 228). In this case, an amendment of a granted Claim to replace an inaccurate technical statement, which offended against the requirement of Article 123(2) EPC and was evidently inconsistent with the totality of the disclosure of the patent, by an accurate statement of the technical features involved, was considered allowable under Article 123(3) EPC. The board took the view that, on a fair interpretation of the claim in the totality of the disclosure of the patent, the protection conferred by it had not in fact been extended.

3.1.3.1 The appellant argued that the reference to an ethylenically unsaturated nitrile in polymer (B) in the preamble of granted Claim 1 of the present case was an obvious error because the statement was in clear contradiction to the examples in the patent in suit where a polymer (B) having no unsaturated nitrile had been used. Therefore, in analogy to T 108/91, the incorrect reference to an ethylenically unsaturated nitrile could be replaced by another, originally disclosed feature without violating Article 123(3) EPC.

3.1.3.2 The board cannot accept this argument because the present case differs from T 108/91, mainly, because Claim 1 as granted is not inconsistent with the **totality** of the disclosure of the patent. Even if it were assumed, in favour of the appellant, that the reference to an ethylenically unsaturated nitrile in polymer (B) was an incorrect technical statement, it is nevertheless consistent with page 2, lines 33 to 45 and page 3, lines 40 to 42 of the patent specification. The first passage is the exact counterpart of granted Claim 1 whereas the latter describes the elastomeric core (backbone) of the grafted vinyl-aromatic polymer (B) which can be *-inter alia -* "polybutadiene copolymers of butadiene with styrene and/or with acrylonitrile". Thus, a polymer (B) containing acrylonitrile, ie an ethylenically unsaturated nitrile, in the elastomeric core would be clearly within the scope of Claim 1 as granted. Hence, in contrast to T 108/91, it is not immediately apparent from the description of the patent specification that what is defined in granted Claim 1 could not be that for which protection is sought and that the intended meaning must have been the equivalent of what is stated in this respect in amended Claim 1.

3.1.4 Thus, the amendment in Claim 1 of the main request does not meet the requirements of Article 123(3) EPC.

3.2 Rule 88 EPC

3.2.1 When trying to justify the replacement of the wrong technical statement "ethylenically unsaturated nitrile" with respect to polymer (B) in Claim 1 as granted, the appellant relied also on the argument that this statement was an obvious error (Rule 88 EPC) which had to be corrected according to the originally disclosed subject-matter.

3.2.2 In general, corrections and amendments (other than corrections) originate from two different situations: (a) a correction brings an application or patent document into its originally intended form corresponding to the original intention of the applicant or the proprietor; (b) an amendment represents usually a change of opinion of the applicant or the proprietor which wishes to put the application or patent in a different, improved form. Nevertheless, corrections and amendments (other than corrections) have something in common, namely the idea of a modification being made to the document, in the present case to Claim 1. In fact, a correction is a special case involving an amendment within the meaning of Article 123 EPC (G 3/89, OJ EPO, 1993, 117, point 1 of the reasons for the Opinion).

3.2.3 As pointed out in G 3/89 (point 5 and 6 of the reasons for the Opinion), a correction under Rule 88, second sentence, EPC is allowable when:

(i) there is such an **obvious** error that a skilled person is in no doubt that this information is not correct and - considered objectively - cannot be meant to read as such; and

(ii) it is immediately evident that nothing else would have been intended than what is offered as the correction.

3.2.4 Although the person skilled in the art may discover in the present case a certain discrepancy between Claim 1 as granted (and a part of the description) on the one hand and the examples on the other (see point 3.1.3.1 above), an inconsistency in the granted patent is not necessarily an indication for an error in Claim 1. It may well be that the error occurred in the examples and not in Claim 1. Furthermore, the preamble of Claim 1 is

not inconsistent with the characterizing portion of the claim, and a skilled person even finds at page 3, line 40 a passage which has an affinity with the subject-matter of Claim 1, and in particular with the reference to an ethylenically unsaturated nitrile in polymer (B): the possible presence of acrylonitrile in the elastomeric core of polymer (B). The point of view that Claim 1 does not contain an obvious error is also supported by the fact that the desire to remove the reference to an ethylenically unsaturated nitrile with respect to polymer (B) did not come from a discrepancy on the face of the patent itself, but arose only when further information on the compositions of the polymers used in the examples was provided by the opponent.

Thus, it is doubtful whether Claim 1 contains any incorrect information at all, let alone an obvious error, and for this reason alone a correction is ruled out.

3.3 Summing up, the amendment of Claim 1 of the main request contravenes Article 123(3) EPC. Even when considered as a correction under Rule 88 EPC, ie a special case of an amendment, the correction of Claim 1 is not allowable. Hence, the main request as a whole is not allowable.

4. *Auxiliary requests I to III*

4.1 In Claim 1 of auxiliary requests I to III, the term "ethylenically unsaturated nitrile" with respect to polymer (B) is substituted by definitions which include even fewer compounds than the term "derivatives of (meth)acrylic acid" in the main request: "*alkyl esters of (meth)acrylic acid, R = C₁₋₁₆*" (auxiliary request I) and "*methylemethacrylate*" (auxiliary requests II and III).

4.2 Nevertheless, these amendments are not suitable to overcome the objections raised against Claim 1 of the main request. On the contrary, all the reasons to refuse the main request apply equally to auxiliary requests I to III because, however narrowly the acrylates are defined in their respective claims, Claim 1 of these requests does not require the presence of an ethylenically unsaturated nitrile in polymer (B), and, to that extent, is still broader than granted Claim 1. Hence, Claim 1 of auxiliary requests I to III does not meet the requirements of Article 123(3) EPC, and auxiliary requests I to III as a whole are not allowable.

5. *Auxiliary request IV*

5.1 In auxiliary request IV, the term "ethylenically unsaturated nitrile" with respect to polymer (B) is retained in Claim 1 but the amount of rubber in polymer (A) is restricted to *about 8% by weight*. According to the appellant, the basis for this amendment can be found in the examples of the patent in suit where a polymer (A) comprising 8% by weight of butadiene rubber is used.

5.2 Although a rubber content of 8% by weight for polymer (A) is explicitly disclosed in Examples 1 to 8 of the patent in suit, polymer (B) in these blends admittedly does not contain an ethylenically unsaturated nitrile, the presence of which is a mandatory feature in Claim 1. In other words, all the examples are outside the scope of Claim 1 of auxiliary request IV. It is not permissible to isolate an individual item from a specific embodiment (in this case: a rubber content of 8% by weight for polymer (A) from the examples) and to combine it with items belonging to different embodiments (in this case: combination of the isolated rubber content with the

polymer (B) from Claim 1), unless of course such a combination of features is clearly and unambiguously derivable from the application itself. In the present case, a rubber content of 8% by weight for polymer (A) is disclosed only in the context of a polymer blend where the polymer (B) does **not** comprise an ethylenically unsaturated nitrile. The combination with a polymer (B) comprising an ethylenically unsaturated nitrile is, however, nowhere suggested in the application as originally filed or the patent specification, respectively. Thus, the specific combination of polymers (A) and (B) as presented in Claim 1 of auxiliary request IV does not meet the requirements of Article 123(2) EPC, and therefore auxiliary request IV as a whole is not allowable.

6. *Auxiliary requests V to IX*

Claim 1 of auxiliary requests V to IX differs from Claim 1 of the main request and auxiliary requests I to IV only in that the word "about" has been deleted from the term "a rubber content of about 8% by weight". Thus, the objections under Article 123(3) and Article 123(2) EPC, respectively, apply equally to Claim 1 of auxiliary requests V to IX. Claim 1 of each of these requests being not allowable, the requests as a whole are not allowable.

7. *Auxiliary requests X and XI*

7.1 Emerging from the discussion of the allowability of the amendment in Claim 1 of auxiliary request IV during oral proceedings, the appellant filed auxiliary requests X and XI.

- 7.2 In principle, admission of new requests put forward by a proprietor at a late stage in the opposition appeal proceedings is a matter of discretion of the appeal board. Furthermore, according to established case law, when deciding an appeal during oral proceedings, a board of appeal may refuse to consider alternative claims which have been submitted at a late stage, eg during the oral proceedings, if such claims are not clearly allowable (T 153/85, OJ EPO 1988, 001).
- 7.2.1 In the present case, Claim 1 of auxiliary request X, if admitted, would imply that the subject-matter of the claim was in contradiction to all the examples, thus revealing a lack of clarity in the sense of Article 84 EPC. Alternatively, if the examples were to be deleted to remove this contradiction, the amended claim would then be unsupported by any example. This would in turn imply a *prima facie* contravention of Article 83 EPC. Even if, as submitted by the appellant during the oral proceedings, the presence of examples is not a prerequisite under Article 83 EPC, nevertheless, such examples were quite evidently considered necessary at least by the appellant itself at the relevant filing date. They have, furthermore, implicitly been regarded, in the proceedings up to the date of the oral proceedings, as representing, as argued by the appellant in favour of the amendment of Claim 1 as granted, the "core" of "the invention". It is not credible that some "other invention" could be shown to exist at this late stage of the proceedings which would enable such a claim to be regarded as meeting simultaneously the requirements of Article 83 and Article 84 EPC. Nor would it be an appropriate exercise of the board's discretion, at such a late stage of the proceedings, to commence *ex officio* an investigation as to whether such an invention could be discovered.

7.2.2 The deletion of the term "ethylenically unsaturated nitrile" in the context of polymer (B) in Claim 1 of auxiliary request XI contravenes Article 123(3) EPC because Claim 1 does not require the presence of an ethylenically unsaturated nitrile in polymer (B) any more, and to that extent is inevitably broader than Claim 1 as granted.

7.3 Consequently, auxiliary requests X and XI were not admitted to the proceedings because Claim 1 of each of these requests was, for the reasons given, *prima facie* not clearly allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

E. Görgmaier

R. Young