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**Datasheet for the decision
of 9 March 2021**

Case Number: T 0144/16 - 3.3.10

Application Number: 02707060.6

Publication Number: 1427790

IPC: C09J4/06, C09J175/16,
C08F290/06

Language of the proceedings: EN

Title of invention:

EASY TO MANUFACTURE METH(ACRYLIC) ADHESIVE COMPOSITIONS

Patent Proprietor:

Sika Schweiz AG

Opponent:

Scott Bader Company Ltd.

Headword:

METH(ACRYLIC) ADHESIVE COMPOSITIONS/Sika Schweiz

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - obvious alternative

Decisions cited:

Catchword:



Beschwerdekammern

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Chambres de recours

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Case Number: T 0144/16 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 9 March 2021

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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
18 November 2015 concerning maintenance of the
European Patent No. 1427790 in amended form.**

Composition of the Board:

Chairman P. Gryczka
Members: J.-C. Schmid
F. Blumer

Summary of Facts and Submissions

I. The Appellant (Proprietor of the patent) lodged an appeal against the decision of the opposition division maintaining European patent No. 1 427 790 on the basis of claim 1 to 11 of the sixth auxiliary request, filed as fifth auxiliary request on 18 August 2015.

Claim 1 of the patent as granted reads as follows:

"1. An adhesive compositions comprising

(i) at least one reactive monomer (A) selected from ethylenically unsaturated carboxylic acid derivatives and mixtures of such derivatives, said at least one ethylenically unsaturated carboxylic acid derivative is an ester or a mixture of esters,

(ii) at least one liquid elastomer in a molar weight range of 1000 - 9000 which is functionalized with ethylenically unsaturated groups (B),

(iii) at least one impact modifier (C) that is a core shell polymer that does not dissolve but swells in the monomer (i), and

(iv) at least one free radical initiator and at least one catalyst,

whereby the amount of B based on the total [a]mount of A+B is 15 to 60 % by weight, and whereby optionally either said initiator, or said catalyst is present separately, in a further component or paste, respectively."

II. A notice of Opposition had been filed by the Respondent (Opponent) requesting the revocation of the patent in suit in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC) and insufficiency disclosure of the invention (Article 100(b) EPC). *Inter alia* following documents were cited in the opposition proceedings

(1) WO-A- 98/23658,

(2) EP-A-0 357 304,

(12) Extracts from Cray Valley/Total Product Catalogue, Photocure resins and specialty monomers dated January 1996, and

(13) Extracts from Cray Valley, Photocure resins product guide, dated October 2003.

The Opposition Division held that the subject-matter of claim 1 as granted lacked novelty over example 1 of document (1) which disclosed an adhesive composition comprising hydroxy propyl methacrylate, ethyl hexyl methacrylate, propylene glycol monomethacrylate and triethylene glycol dimethacrylate (ester monomers (A)), Hycar VTBNX (liquid elastomer (B)), Paraloid EXL2655 (impact modifier (C)), an initiator and catalyst, wherein the amount of B based on the total of A+B was 18%.

The commercial product Hycar VTBNX present in the examples of document (1) designated VTBNX 1300 X 33, since it was the sole Hycar VTBNX product disclosed in document (1). As Hycar VTBNX 1300 x 33 was used in the

examples of the patent in suit, it had a molecular weight in the claimed range.

According to the paragraph bridging pages 10 and 11 of document (1), Paraloid EXL 2655 was a core shell polymer that does not dissolve in the composition. As the composition of example 1 of document (1) comprised about 50 % of non-polar monomers, Paraloid EXL 2655 would swell, at least to a certain extent, in presence of these non-polar monomers.

Example 2 of document (1) which disclosed a composition in which the ratio of Hycar VTNBX based on the total elastomer B and monomers A was 17,5%, was also novelty destroying for claim 1 of the patent as granted.

Hence, the subject-matter of claim 1 of the patent as granted lacked novelty with respect to examples 1 and 2 of document (1).

Claim 1 of the first to fourth auxiliary requests extended the scope of protection conferred by the patent as granted and hence infringed Article 123(3) EPC, whereas claim 1 of auxiliary request 5 also lacked novelty over example 2 of document (1).

The claims of auxiliary request 6 met the requirements of Article 84 and 123 EPC. The composition of claim 1 of auxiliary request 6 comprised tetrahydrofurfurylmethacrylate (THFMA). Document 1 represented the closest prior art to the invention. The claimed compositions differed from those disclosed in document (1) by the presence of THFMA. The technical problem to be solved was the provision of an alternative adhesive composition having good impact strength at low temperature. THFMA was not mentioned as

possible monomer in document (1). THFMA was cited in document (4) as preferred monomer. However, the adhesive compositions of document (4) did not comprise any core shell polymer. Furthermore document (4) provided adhesive compositions having improved tack and open time, but impact strength was not mentioned. Therefore, the skilled person aiming at providing an alternative composition having good impact strength would not find any motivation in the cited prior art to use THFMA. The subject-matter of claim 1 of the sixth auxiliary request involved therefore an inventive step. The patent could therefore be maintained on the basis of the sixth auxiliary request.

III. During the oral proceedings held on 9 March 2021 before the Board, the Appellant defended its patent on the basis of the claims as granted and on the basis the first to seventh auxiliary requests filed with letter dated 18 March 2016.

Claim 1 of the first auxiliary request differs from claim 1 of the patent as granted in that the at least one liquid elastomer is a PU(meth)acrylate obtainable through the syntheses of a polyethylene polyol or polypropylene polyol, a diisocyanate and a hydroxy functionalized ethylenically unsaturated monomer.

Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that the amount of liquid elastomers in a molar weight range of 1000 - 9000 which are functionalized with ethylenically unsaturated groups in the composition based on the total amount of A + the amount of liquid elastomers in a molar weight range of 1000 - 9000 which are functionalized with ethylenically unsaturated groups in the composition is 15 to 60 % by weight.

Claim 1 of the third and fourth auxiliary requests differs from claim 1 of the first and second auxiliary requests, respectively, in that the ester in the at least one reactive monomer is a (meth)acrylic ester in the form of a linear or branched or cyclic C₁-C₆-alkyl ester or heterocyclic or aromatic ester.

Claim 1 of the fifth and sixth auxiliary request differs from claim 1 of the third and fourth auxiliary requests respectively, in that the ester in the at least one reactive monomer is selected from methylmethacrylate (MMA), tetrahydrofurfurylmethacrylate (THFMA), cyclohexylmethacrylate (CHMA), cyclic trimethylolpropane formal acrylate (CTFA), isobornylmethacrylate (IBMA), benzylmethacrylate (BMA), dicyclopentadienyloxyethylmethacrylate (DCPOEMA), t-butylmethacrylate (tBMA), isobornylacrylate (IBH) and dihydrodicyclopentadienylacrylate (DH-DCPA).

Claim 1 of the seventh auxiliary request differs from claim 1 of the patent as granted in that the reactive monomer comprises at least 50% of tetrahydrofurfuryl methacrylate or methyl methacrylate or mixtures thereof.

- IV. According to the Appellant, it was not directly and unambiguously derivable from document (1) that product Hycar VTBNX used in the examples was Hycar VTBNX 1300 X 33 and had a molecular weight falling within the claimed range. There was also no certainty that Craynor 965 product used in the example 4 of document (1) had the same specification as the CN 965 product used in the composition of the invention.

There was no proof that Paraloid EXL 2655 was a core shell polymer that swells in the monomers which are present in compositions 1, 2 or 4 of document (1), since monomer mixtures comprising polar monomers forming hydrogen bond prevented non-polar monomers from causing the polymer to swell.

The subject matter of claim 1 of the patent as granted thus differed from the compositions of examples 1, 2 and 4 of document (1) by the choice of a molecular weight of 1000 to 9000 for the oligomer functionalized with ethylenically unsaturated groups and by the selection of a suitable pair core shell polymer / monomer(s), wherein the polymer swells in the monomer(s).

The subject-matter of claim 1 of the patent as granted was therefore novel with respect to document (1).

The technical problem underlying the invention was the provision of an adhesive composition providing improved flexibility and impact resistance at low temperature.

Table 1 of the contested patent showed that comparative compositions 6 and 7 lacking either a liquid elastomer with the required molecular range or a core shell polymer that swells in the monomers had poor impact resistance at -20°C, compared to that of compositions 1 to 4 according to the invention. Furthermore, the presence of a liquid elastomer in the adhesive composition also increased the flexibility.

It was shown in table 1 of the contested patent that the combination of high flexibility and high impact resistance at low temperatures was the result of the combination of features (i), (ii) and (iii) of claim 1

of the patent as granted. Therefore, the technical problem of improving the adhesive properties of compositions was solved by the claimed compositions. Document (1) did not describe the properties of the compositions at low temperatures. Document (1) did not encourage the person skilled in the art to choose a non-polar monomer required for polymer swelling, since the preferred monomers in document (1) had polar groups. Hence, there was no teaching in document (1) that suggested that the claimed compositions had favourable properties in terms of flexibility and impact resistance at low temperature. The subject-matter of claim 1 as granted (main request) and of auxiliary requests 1 to 7 involved therefore an inventive step.

- V. According to the Respondent, Hycar VTBNX used in the examples of document (1) was identified on page 15, lines 25-26 as Hycar VTBNX 1300x33. Since Hycar VTBNX 1300x33 was a single product there was no doubt that Hycar VTBNX used in the examples of document (1) had a molecular weight between 1000-9000 as defined in granted claim 1.

The Appellant did not provide any evidence that the product CN 965 used in the composition of the invention and the product Craynor 965, ex Cray Valley present in the composition 4 of document (1), had not the same specification.

The compositions of the examples of document (1) comprised Paraloid EXL 2655, which was a MBS core shell polymer. The Appellant's assertion that the polar nature of hydroxy propyl methacrylate and the other polar monomers used in the examples of document (1) would have prevented swelling of the core shell polymer

by non-polar monomers was unfounded. Thus, the presence of ethyl hexyl methacrylate in example 1 or methyl methacrylate in example 2 would have resulted to some extent in the swelling of Paraloid EXL 2655. Furthermore, given that claim 1 as granted encompassed core shell polymers showing only a minimal swelling after an extended time period, it was clear that Paraloid EXL 2655 would fulfil this requirement if left for a sufficient time in any acrylate monomer.

Accordingly, claim 1 of the patent as granted was not novel over examples 1,2 and 4 of document (1).

As respect inventive step, the patent did not provide any comparative examples showing the effect of the molecular weight of the liquid elastomer nor any advantage linked to the use of a core shell polymer that swells in the reactive monomer as opposed to a core shell polymer that does not swell in the monomer. The technical problem solved by the invention was therefore the provision of further adhesive compositions. The compositions of claim 1 of the granted patent and of the auxiliary requests merely represented an arbitrary choice operated within the compositions generically disclosed of document (1) and thus lacked an inventive step.

VI. The Appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or on the basis of any one of the first to seventh auxiliary requests, all requests as filed with letter dated 18 March 2016.

The Respondent (opponent) requested that the appeal be dismissed.

VII. At the end of the oral proceedings the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

Main request: patent as granted

2. *Document (1)*

Document (1) relates to compositions suitable for use as an adhesive which overcome the problems of formulation and application of the adhesive compositions of document (2) comprising a methacrylate ester monomer, a core/shell polymer which swells in the monomer but does not dissolve therein and an elastomeric polymer having a Tg below about -25°C (see claim 4). Document (1) identifies the cause of these problems as being the presence of high molecular weight elastomeric polymer. Hence, the adhesive composition proposed by document (1) comprises: (a) a polymerizable monomer; (b) a core/shell polymer; and (c) a liquid polymerizable oligomer capable of imparting toughness on the polymerisation thereof (see claim 3).

The polymerizable monomer component (a) includes *inter alia* ethylenically unsaturated carboxylic acid esters, such as alkyl (meth)acrylates methyl (meth)acrylate, ethyl (meth)acrylate, butyl (meth)acrylate, 2-ethylhexyl (meth)acrylate, decyl (meth)acrylate, cyclohexyl (meth)acrylate, dodecyl (meth)acrylate, pentadecyl (meth)acrylate, cetyl (meth)acrylate, stearyl (meth)acrylate, eicosyl (meth)acrylate, isodecyl (meth)acrylate); alkoxy (polyethyleneoxide) (meth)acrylates; alkylphenoxy (polyethyleneoxide)

(meth)acrylates; vinyl esters of alkyl carboxylic acids; hydroxy alkyl (meth)acrylates; other hydroxy (meth)acrylates; (meth)acrylic acid esters with C₁ to C₁₈ alcohols; vinyl esters; vinyl stearate; vinyl acetate; poly(meth)acrylate esters (e. g ethylene glycol di (meth)acrylate, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, neopentyl di (meth)acrylate and 1,1,1-trimethylol propane tri (meth)acrylate); basic substituted (meth)acrylates (e.g. amine substituted acrylates - such as dimethylaminoethyl (meth) acrylate, tertiarybutyl-aminoethyl (meth) acrylate); isobornyl (meth)acrylate; dicyclopentadienyl (meth)acrylate; dicyclopentadienyl oxyethyl (meth)acrylate (see page 8, line 29 to page 9, line 25).

Preferred methacrylate monomers includes hydroxypropyl methacrylate, ethylhexylmethacrylate, polypropylene glycolmonomethacrylate, tetraethylene glycol dimethacrylate, methacrylic acid and methacrylate functional silane (page 10, line 11 to 14)

The monomer mixture of the composition of example 1 of document (1) comprises hydroxy propyl methacrylate, ethylhexyl methacrylate, polypropylene glycol monomethacrylate and triethylene glycol dimethacrylate.

The monomer mixture of the composition of example 2 of document (1) comprises methyl methacrylate, hydroxy propyl methacrylate, triethylene glycol dimethacrylate and propylene glycol monomethacrylate.

The monomer mixture of the composition of example 4 of document (1) comprises hydroxy propyl methacrylate,

propoxylated neopentyl glycol diacrylate and triethylene glycol dimethacrylate

The liquid polymerizable oligomer has preferably a number average molecular weight of less than 10,000, preferably less than 8000 (see page 11, lines 26 to 30). It includes polymerizable compounds having methacrylate functionality and a butadiene group and an acrylonitrile group, such as the commercial product HYCAR™ VTBNX (see page 17, lines 5 to 12; examples 1, 2 and 4). The oligomer HYCAR™ VTBNX is specified at the preceding pages as being the product HYCAR VTBNX 1300 x 33 (see page 15, lines 24 to 26). Other suitable oligomers (c) include acrylate and methacrylate functional urethane oligomers, such as those supplied by Cray Valley (page 16, lines 10 and 11). In the composition of example 4, an aliphatic urethane acrylate oligomer named Craynor 965 is used. According to the Respondent's submissions this product is now available under the commercial name CN965 (see document 13).

The core/shell polymer component (b) of the compositions of document (1) does not dissolve in the composition formulation. Typically, the core is a polymer of butadiene or ethyl acrylate and the shell is a polymer of methylmethacrylate or styrene. A preferred core is a methacrylate - butadiene - styrene core. A preferred shell is a polymethacrylate shell. A preferred core/shell polymer is PARALOID™ EXL 2655, supplied by Rohm and Haas Company. The compositions of the examples comprise this core shell polymer.

Preferably from 15% to 65% of the polymerizable monomer and from 10% to 30% liquid polymerizable oligomer are present in the adhesive composition. The ratio of the

liquid polymerizable oligomer based on the total reactive monomer + polymerizable oligomer is comprised in the ranges of 15 to 60% for the compositions of examples 1, 2 and 4 of document (1).

The compositions of examples 1,2 and 4 of document (1) comprised also t-butyl perbenzoate or t-butyl hydroperoxide (free radical initiators) and N-phenyl-2-propyl-3,5-diethyl-1,2-dihydropyridine (PDHP) as a catalyst.

The adhesive composition of example 1 has better impact resistance than the compositions lacking either the polymerizable oligomer Hycar VTBNX or else the core shell polymer Paraloid EXL 2655 (see TEST 1; page 23, line 27 to page 25, line 9).

3. According to the Appellant, there was no proof that the products Hycar VTBNX and CN 965 used in the compositions of examples 1, 2 and 4 of document (1) had a molecular weight comprised between 1000 and 9000 and that Paraloid EXL 2655 core shell polymer swelled in the monomers present in compositions 1, 2 and 4 of document (1). Hence, according to the Appellant, the subject matter of claim 1 of the patent as granted differed from the compositions of Examples 1, 2 and 4 of document (1) by the choice of a molecular weight of 1000 to 9000 for the oligomer functionalized with ethylenically unsaturated groups and by the selection of a suitable pair core shell polymer /monomer(s), wherein the polymer swells in the monomer(s).

4. Even if it were accepted, in favour of the Appellant, that the subject matter of claim 1 of the patent as granted was novel with respect to examples 1, 2 and 4 of document (1) because of uncertainties about the

molecular weight of the Hycar VTBNX or Craynor 965 oligomers and/or the ability of the core shell polymer Paraloid EXL 2655 not to swell in presence of certain monomers, it would in any event lack an inventive step, since document (1) also represents the closest state of the art to the invention. Therefore, the Board, as a measure of efficiency, deals with the issue of inventive step first.

5. *Technical problem underlying the invention*

The Appellant defined the problem to be solved as the provision of an adhesive composition having improved impact resistance at low temperature and improved flexibility.

6. *Proposed solution*

The solution is the composition of claim 1 of the granted patent characterized by the choice of a molecular weight of 1000 to 9000 for the oligomer functionalized with ethylenically unsaturated groups and by the selection of a suitable pair core shell polymer /monomer(s) wherein the polymer swells in the monomer(s).

7. *Success*

The Appellant relied on the results of table 1 of the contested patent comparing the properties of compositions 1 to 4 according to the invention with comparative compositions 6 and 7 to show that the problem of improving the properties has been solved by the claimed compositions.

In the case where comparative tests are chosen to demonstrate an inventive step with an improved effect over a claimed area, the nature of the comparison with the closest state of the art must be such that the effect is convincingly shown to have its origin in the distinguishing feature of the invention, i.e. the choice of a molecular weight of 1000 to 9000 for the oligomer functionalized with ethylenically unsaturated groups and the selection of a suitable pair core shell polymer / monomer(s) wherein the polymer swells in the monomer(s).

Neither composition 6 lacking a liquid oligomer nor composition 7 lacking a core/shell polymer reflects a composition of document (1), which requires both a core/shell polymer and a polymerizable liquid oligomer (see claims 1 and 3; also see TEST 1; page 23, line 27 to page 25, line 9).

The Appellant's comparison thus cannot reflect the impact of the technical feature distinguishing the claimed composition from the closest prior art, and consequently, does not demonstrate the purported improvement of the claimed compositions over those disclosed in document (1).

The Appellant argued that it was the migration of the polymerizable monomers in the shell core polymer causing its swelling which was the origin of the improved adhesive properties, however, without providing any evidence in support of its argumentation. Hence, in the absence of any substantiating facts and corroborating evidence, the Board considers the Appellant's allegation as a mere speculation, all the more because the Appellant has even not proved that

Paraloid EXL 2655 did not swell in the monomers present in the compositions 1, 2 and 4 of document (1).

Since the required evidence is missing to support an improvement of the flexibility and impact resistance at low temperatures of the claimed compositions compared to the compositions of document (1), the technical problem as defined above needs to be reformulated in a less ambitious way, and in view of the teaching of document (1), as the provision of alternative adhesive compositions.

8. *Obviousness*

Finally, it remains to be decided whether or not the proposed solution to this objective technical problem is obvious in view of the cited state of the art, namely whether the composition according to claim 1 of the patent in suit, is an obvious alternative composition in view of the state of the art.

8.1 The composition of document (1) requires a polymerizable monomer, a core/shell polymer and a liquid polymerizable oligomer (see claim 3).

Suitable polymerizable monomers include alkyl(meth)acrylates such as methyl methacrylate (MMA) (see page 8, lines 29 to 31), suitable oligomers include VTBNX 1300 X 33 (page 15, line 24-25), suitable core shell polymers includes those having a polymethacrylate shell (see page 10, lines 28 to 31).

Suitable oligomers include methacrylate functional butadiene-acrylonitrile oligomers, such as Hycar VTBNX 1300 X 33 which is also used in the exemplified composition of the contested patent. The Appellant did

not contest that a core shell polymer having a polymethacrylate shell will swell in the presence of methyl methacrylic esters.

The choice of a particular pair monomer/core shell polymer within the ambit envisaged by the general teaching of document (1), i.e. one as required in claim 1, is neither critical nor purposive for solving the objective problem underlying the patent in suit, but is an arbitrary restriction. Thus, this choice is seen as lying within the routine activity of the skilled person faced with the objective problem of providing alternative adhesive compositions and thus does not involve an inventive step.

For these reasons, the subject-matter of claim 1 the granted patent is obvious in the light of document (1).

8.2 The Appellant argued in support of inventive step that document (1) did not prompt the skilled person to select a non-polar monomer necessary for the swelling, since the preferred monomers of document (1) had polar groups.

However, when looking for alternative compositions, the skilled person does not restrict the teaching of document (1) to its preferred embodiments, but takes into consideration all features taught in that document, among them, that the polymerizable monomer may be methyl methacrylic esters (see page.....).

8.3 According to the Appellant, document (1) does not describe the properties of the compositions at low temperatures. Hence, there is nothing to suggest that the claimed compositions have favourable properties in

terms of flexibility and impact resistance at low temperature. The combination of good flexibility and high impact resistance of the claimed composition was therefore unexpected from the teaching of document (1).

However, the adhesive compositions of document (1) are deemed to have good adhesive properties, especially as the Appellant has not demonstrated that a core shell polymer having a polymethyl methacrylate shell does not swell in polar monomers, such as hydroxypropyl methacrylate, and/or that polar monomers prevent the core shell polymer from swelling in non-polar monomer esters such as methyl methacrylate ester, which is present in the composition of example 2 of document (1).

The Appellant's argument related to the unexpected good adhesive properties of the claimed compositions must therefore be rejected.

- 8.4 Therefore, the subject-matter of claim 1 represents an obvious solution to the problem underlying the present invention. Hence, the subject-matter claim 1 of the patent as granted does not involve an inventive step (Article 56 EPC).

First auxiliary request

9. In claim 1 of auxiliary request 1, the liquid elastomer is a PU(meth)acrylate obtainable by the reaction of a polyethylene polyol or polypropylene polyol, a diisocyanate and a hydroxy functionalized ethylenically unsaturated monomer. This liquid elastomer is, for example, the CN 965 aliphatic polyurethane-acrylate

with a Mw 5600 from Cray Valley (see page 5, line 4 of the contested patent)

However, document (1) also contemplates that the oligomer may be acrylate or methacrylate functional urethane oligomers, such as those supplied by Cray Valley, for instance Craynor 965, which is an aliphatic urethane acrylate oligomer (see page 16, lines 10-11; example 4).

According to the Appellant, there is no proof that the product Craynor 965 was the same as the CN 965 product, especially as regards to the molecular weight of the compound. However, an obvious option for the skilled person looking for an alternative adhesive composition is to consider other aliphatic urethane diacrylates from the Cray Valley catalogue (see document (13)), i.e. for instance by CN 965, having a molecular weight average of 5600, all the more if product Craynor 965 ex Cray Valley is no longer available. The skilled person would therefore arrive at the subject-matter of claim of the first auxiliary request without the exercise of inventive step.

Hence, the subject-matter of claim 1 of auxiliary request 1 also lacks an inventive step.

Second auxiliary request

10. In claim 1 of the second auxiliary request the ratio of the component B to A+B present in claim 1 of the patent as granted has been reintroduced in order to avoid non-compliance with Article 123(3) EPC. However, as respects inventive step, the same reasoning and conclusion as for the first auxiliary request apply.

Accordingly this request must also be rejected for lack of inventive step.

Third to seventh auxiliary requests

11. The composition of claim 1 of third to sixth auxiliary requests differs from that of the first and second auxiliary request in that the reactive monomer is a (meth)acrylic ester in the form of a linear or branched or cyclic C₁-C₆-alkyl ester or heterocyclic or aromatic ester (third and fourth auxiliary requests), or is selected from methylmethacrylate (MMA), tetrahydrofurfurylmethacrylate (THFMA), cyclohexylmethacrylate (CHMA), cyclic trimethylolpropane formal acrylate (CTFA), isobornylmethacrylate (IBMA), benzylmethacrylate (BMA), dicyclopentadienyloxyethylmethacrylate (DCPOEMA), t-butylmethacrylate (tBMA), isobornylacrylate (IBH) and dihydrodicyclopentadienylacrylate (DH-DCPA) (fifth and sixth auxiliary request).

The composition of claim 1 of the seventh auxiliary request differs from that of claim 1 of the main request in that the reactive monomer comprises at least 50% of tetrahydrofurfuryl methacrylate or methyl methacrylate or mixtures thereof.

Document (1) specifically mentions methyl methacrylate as a suitable polymerizable monomer. Methyl methacrylate is also present in the composition of example 2 of document (1).

The Appellant argued that the choice of only non-polar monomers provided better properties and therefore was a purposive choice.

The Appellant, however, did not provide any evidence showing that the use of only non-polar monomers, such as methyl methacrylate provided better properties compared to the use of the monomers present in the examples of document (1). Accordingly, in the absence of any substantiating facts and corroborating evidence, the Board considers the Appellant's allegation as a mere speculation.

The choice of for instance methyl methacrylate as the polymerizable monomer is therefore neither critical nor purposive for solving the problem of providing alternative adhesive compositions. The act of arbitrarily picking out polymerizable monomers listed in document (1) without providing a particular technical effect lies within the routine activity of the skilled person.

Accordingly, the third to seventh auxiliary requests should also be rejected for lack of inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Rodríguez Rodríguez

P. Gryczka

Decision electronically authenticated