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Datasheet for the decision of 13 July 2017

Case Number: T 1376/14 - 3.3.03

Application Number: 06798487.2

Publication Number: 1939234

IPC: C08F283/10, C08F290/14, C08G59/24, G03F7/00, G03F7/027, G03F7/038, C08G65/18

Language of the proceedings: EN

Title of invention:
RESIN COMPOSITION FOR OPTICAL THREE-DIMENSIONAL MOLDED OBJECT

Patent Proprietor:
Cmet Inc.

Opponent:
DSM IP Assets B.V.

Relevant legal provisions:
EPC Art. 100(b), 56
RPBA Art. 13(1), 13(3)

Keyword:
Grounds for opposition - insufficiency of disclosure (no)
Inventive step - (yes)
Late-filed argument - admitted (no)

Decisions cited:
G 0003/14

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Case Number: T 1376/14 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 13 July 2017

Appellant: (Opponent)	DSM IP Assets B.V. Het Overloon 1 6411 TE Heerlen (NL)
Representative:	V.O. P.O. Box 87930 2508 DH Den Haag (NL)
Respondent: (Patent Proprietor)	Cmet Inc. 5-5, Shinyokohama 2-chome, Kohoku-ku Yokohama-shi, Kanagawa 222-0033 (JP)
Representative:	Grünecker Patent- und Rechtsanwälte PartG mbB Leopoldstraße 4 80802 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 14 April 2014 concerning maintenance of the European Patent No. 1939234 in amended form.**

Composition of the Board:

Chairman	F. Rousseau
Members:	O. Dury
	C. Brandt

Summary of Facts and Submissions

I. The appeal by the opponent lies from the decision of the opposition division posted on 14 April 2014 concerning maintenance of the European Patent No. 1 939 234 in amended form according to the 14th auxiliary request filed during the oral proceedings of 11 February 2014 before the opposition division.

II. A notice of opposition to the patent was filed requesting revocation of the patent in its entirety on the grounds pursuant to Article 100(a) EPC (lack of novelty and lack of an inventive step) and Article 100(b) EPC.

III. Claim 1 of the 14th auxiliary request (3 claims), which was allowed by the opposition division, read as follows:

"1. A resin composition for stereolithography, (i) comprising:

an epoxy compound (A);

an ethylenic unsaturated compound (B);

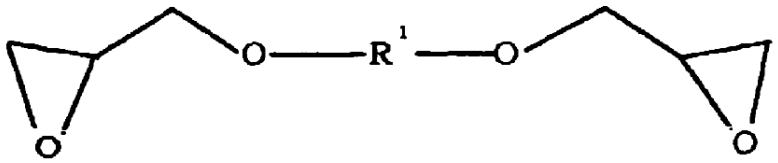
a photo initiator for cationic polymerization (C);

a photo initiator for radical polymerization (D); and

an oxetane compound (E),

(ii) wherein an epoxy compound containing an alicyclic diglycidyl ether compound is included as the epoxy compound (A) in a proportion of 20 to 100 weight% with

respect to a total weight of the epoxy compound (A), the alicyclic diglycidyl ether compound being represented by formula (I):



(I)

wherein R^1 represents a hydrogenated bisphenol A residue, a hydrogenated bisphenol F residue, a hydrogenated bisphenol Z residue, a cyclohexanedimethanol residue, or a tricyclodecanedimethanol residue, and

(iii) wherein an oxetane compound containing: a monooxetane compound (E1) having one oxetane group in a molecule thereof; and a polyoxetane compound (E2) having two or more oxetane groups in a molecule thereof is included as the oxetane compound (E) in a weight ratio of the monooxetane compound (E1) to the polyoxetane compound (E2) of 95:5 to 5:95, wherein the oxetane compound (E) is included in a proportion of 5 to 60 weight parts with respect to 100 weight parts of the epoxy compound (A),

wherein the ethylenic unsaturated compounds (B) compounds (sic) are selected among (meth)acrylic esters of alcohols, polyester(meth)acrylates and polyether(meth)acrylates."

Claims 2 and 3 were dependent on claim 1.

IV. In the contested decision the following documents were *inter alia* cited:

E1: WO 2004/113056 A1
E2a: English translation of WO 2004/113396 A1
E3: WO 03/093901 A1
E4a: H. Sasaki, "Curing Properties of Oxetane Derivatives: 3-Ethyl-3-hydroxymethyl oxetane Formulated with Epoxides, RadTech Europe 2003 Conference Proceedings, 2003, ISBN 3-87870-152-7, Vol. II, pages 651-658
E7: GB 2 305 919 A

In that decision the opposition division held with respect to the 14th auxiliary request filed during the oral proceedings, *inter alia*, that an inventive step over E3 in combination with E2a and/or E4a could be acknowledged.

V. The opponent (appellant) lodged an appeal against the above decision and requested that the decision of the opposition division be set aside and the patent be revoked. Together with its statement of grounds of appeal the following document was filed:

D10: US 3 280 153

VI. In the rejoinder to the statement of grounds of appeal the patent proprietor (respondent) requested that the appeal be dismissed (main request) or, alternatively, that the patent be maintained in amended form according to any of the 1st to the 3rd auxiliary requests filed therewith.

It was further requested that D10 be not admitted to the proceedings.

Also, additional experimental data were simultaneously filed (Attachment 3: cases (i)-(iii)) and further data were announced in the rejoinder, which were eventually submitted with letter of 16 April 2015 (cases (iv) and (v)).

VII. In a communication issued by the Board on 5 April 2017, issues to be discussed at the oral proceedings were specified. Regarding inventive step it was in particular indicated that, considering that different epoxy resins appeared to be used in examples 2-7 of E3 and in E4a, it seemed questionable if the combination of those documents was obvious (section 7.5.2.b).

VIII. Further arguments were submitted by the appellant with letter of 13 June 2017.

IX. During the oral proceedings, which were held on 13 July 2017 in the presence of both parties, the appellant withdrew its objections of lack of clarity submitted in writing.

X. The appellant's arguments, as far as relevant to the present decision, were essentially as follows:

Main request

Sufficiency of disclosure

(a) Considering the overlap in the definitions of components (A) and (E) according to operative claim 1, the skilled person would not know whether compounds comprising both epoxy and oxetane rests, such as those disclosed in D7 or D10, belonged either to component (A) or to component (E) as

defined in claim 1 and, thus, would not be able to prepare a composition with a compound (E) in a proportion of 5-60 pbw per 100 parts (A) according to claim 1. Therefore, the requirements of sufficiency of disclosure were not satisfied. In that respect, the line of argumentation was identical to that which had led the opposition division to conclude that the main request dealt with in the contested decision lacked sufficiency because of the overlap between the definition of components (A) and (B).

(b) Considering the open formulation of claim 1 ("comprising"), other components different from components (A) to (E) could additionally be present in the compositions according to claim 1. In particular, should further components comprising epoxy group(s) be present in addition to components (A) (epoxy containing compound of formula (I)) and (E), e.g. glycidyl methacrylate, the skilled person would not be in a position to determine unambiguously the proportion of compound of formula (I) and/or of oxetane (E) as defined in claim 1. Therefore, also for that reason, the requirements of sufficiency of disclosure were not met.

Inventive step

(c) The line of argumentation of lack of inventive step starting from example 16 of E3 as closest prior art was submitted for the first time during the oral proceedings in order to take into account the concerns indicated in section 7.5.2.b of the Board's communication. Therefore, it should be

admitted to the proceedings.

(d) Alternatively, the closest prior art was represented by E3, in particular, by any of the compositions prepared in examples 2-7 thereof.

The subject-matter of operative claim 1 differed therefrom in that component (E) comprised a combination of a monooxetane (E1) and a polyoxetane (E2) in a weight ratio of 95:5 to 5:95, whereas a single monooxetane compound was used in examples 2-7 of E3.

The sole problem which was effectively solved was that of reducing the water uptake after a certain period of time, as shown in the patent in suit. In that respect, the experimental data of cases (i) to (v) did not show that any improvement in terms of water uptake was achieved if one compared the relative variation and not the absolute values of water uptake. Besides, the curing properties were assessed both in the patent in suit and in cases (i) to (v) using a very subjective test and, thus, that effect was meaningless. Therefore the problem effectively solved resided in the provision of resin compositions for stereolithography which exhibited reduced water uptake before curing after a certain period of time under high humidity.

E2a showed that the combination of a monooxetane and a polyoxetane was usual in the art. Considering that it was indicated in E4a that polyoxetanes were more hydrophobic than monooxetane and that monooxetane led to specific reactions which were important for 3D printing, the skilled person would combine a monooxetane with a polyoxetane in order

to obtain the most beneficial composition. Therefore, it was obvious to solve the above problem by combining the teachings of E3 with that of either E2a or E4a.

(e) The further objection based on the combination of E3 with E1, which was submitted for the first time during the oral proceedings, could not take by surprise the respondent because E1 had been used in the first instance proceedings in support of novelty objections. Therefore, that additional line of argumentation should be admitted to the proceedings.

XI. The respondent's arguments, as far as relevant to the present decision, may be summarised as follows:

Main request

Sufficiency of disclosure

(a) The skilled person was in a position adequately to select suitable components (A) and (E) on the basis of the information provided in the patent in suit. Besides, based on its technical understanding the skilled person was in a position to determine unambiguously whether a component was a suitable epoxy compound or an oxetane compound, which was in line with the information provided in the patent in suit for those components. In that respect, the appellant's objection was at most an issue of clarity, not sufficiency.

(b) Considering that component (B) according to claim 1 was specifically limited to those components listed at the end of the claim, no ambiguity was possible

regarding which compounds could suitably be used, as already concluded by the opposition division.

(c) The appellant's objection was further purely speculative and there was no evidence that the invention as claimed could not be reworked.

Inventive step

(d) The line of argumentation starting from example 16 of E3 as closest prior art was submitted for the first time during the oral proceedings before the Board. The respondent was not prepared to deal with that issue, which was not discussed by the representative and his client. Therefore, that line of argumentation should be not admitted to the proceedings.

(e) The features distinguishing the subject-matter of claim 1 from the closest prior art, represented by any of examples 2 to 7 of E3, were correctly identified by the appellant.

However in view of the comparison of the data provided in example 1 with those of comparative example 1 of the patent in suit and of the data provided for case (iv) with those for cases (i), (ii), (iii) and (v), the problem effectively solved was to provide resin compositions for stereolithography which allow sufficient and good curing properties even after a prolonged period under high humidity. In that respect the assessment of the curing indicated in the patent in suit provided a reliable mean for evaluating that property. Besides, the good curing properties were

also demonstrated by the mechanical properties indicated in the patent in suit.

(f) None of the documents on file taught that water uptake was important for the curing properties. Besides, neither E2a nor E4a was related to the effect of curing properties under high humidity. Also, it was derivable from E4a that water uptake was not a problem when using a monooxetane. Therefore, E4a failed to provide a hint to use a polyoxetane in combination with a monooxetane.

In view of the above, the combination of E3 with either E2a or E4a was not obvious, in particular not in view of solving the problem identified above.

(g) The line of argumentation based on the combination of E3 with E1 was submitted for the first time during the oral proceedings before the Board and took the respondent by surprise. Therefore, that line of argumentation should be not admitted to the proceedings.

XII. The appellant requested that the decision under appeal be set aside and that the European patent No. 1 939 234 be revoked.

The respondent requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained on the basis of any of the 1st to the 3rd auxiliary requests, filed with the reply to the statement setting out the grounds of appeal.

Reasons for the Decision

Main request

1. Sufficiency of disclosure

1.1 In order to meet the requirement of sufficiency, an invention has to be disclosed in a manner sufficiently clear and complete for it to be carried out by the skilled person in the whole area claimed without undue burden, on the basis of the information provided in the patent specification and, if necessary, using common general knowledge. This means in the present case that the skilled person should in particular be capable to prepare a resin composition for stereolithography according to independent claim 1, which was disputed by the appellant.

1.2 Regarding the preparation of those compositions, information is provided in the patent in suit regarding components (A), (B), (C), (D) and (E) (see paragraphs 20-32, 33-42, 43-45, 46-54 and 56-73, respectively). Such compositions are further prepared in the examples of the patent in suit by thoroughly blending components according to operative claim 1 and were found to be suitable for stereolithography (paragraphs 90, 93, 95, 96 and 98).

1.3 The appellant’s first objection is based on the overlap in the definitions of components (A) and (E).

1.3.1 However, as explained above, the patent in suit provides specific indications as to which compounds may be used as components (A) to (E) mentioned in claim 1,

in particular in paragraphs 26-32 for component (A) and in paragraphs 61-73 for component (E). Therefore, the skilled person is provided with some guidance as to how to select components (A) to (E) in order to prepare compositions according to claim 1.

1.3.2 Besides, there is no evidence on file that because of said overlap in the definitions of components (A) and (E), the skilled person is not in a position to prepare a composition as defined in operative claims 1-3 which is suitable for stereolithography. Nor was it shown that compositions according to operative claim 1 and comprising an ester comprising both epoxide and oxetane groups, either as component (A) or component (E), would not be suitable for stereolithography.

In that respect, an objection of insufficient disclosure presupposes that there are serious doubts, substantiated by verifiable facts and the burden of proof is primarily on the opponent, here the appellant (Case Law of the Boards of Appeal of the EPO, 8th. edition, 2016, II.C.8). In the present case, it was not shown that those conditions were satisfied. Rather, in view of the evidence on file, the objection based on the overlap in the definition of components (A) and (E) amounts to the question whether the skilled person knows if he is working within or outside the scope of the claims, which, in the circumstances of the present case, is at most an issue of clarity, not of sufficiency of disclosure. However, this alleged lack of clarity could not be objected as it would not arise out of any amendment made in opposition or appeal proceedings (G 3/14, OJ EPO 2015, A102: catchword).

1.3.3 The appellant argued that they were adopting the same line of argumentation which had led the opposition division to conclude that the then pending main request lacked sufficiency of disclosure because of an overlap between the definition of components (A) and (B).

However, since the main request dealt with in the contested decision is not defended by the respondent in appeal, it is not required that the Board evaluates whether or not it would have reached the same conclusion than the first instance in that respect (which appears questionable in view of the arguments indicated in sections 1.3.1 and 1.3.2 above).

1.3.4 For those reasons, the appellant's objection did not convince.

1.3.5 Since the above conclusion is reached independently of whether or not components comprising both epoxide and oxetane groups effectively existed before the priority date of the patent in suit, there is no need for the Board to decide whether or not D10 is to be admitted into the proceedings or to deal with the argument that E7 (bottom of page 14) shows that such components indeed existed and had been used in the present technical field.

1.4 The appellant’s second objection is based on the open formulation of claim 1 "comprising" and is directed to the question if the skilled person can carry out the invention when using further components comprising epoxy group(s) in addition to components (A) to (E) mentioned in claim 1.

In that respect, it is derivable from the wording of claim 1, item (ii) ("in a proportion of 20 to 100

weight% with respect to a total weight of the epoxy compound (A)") and further confirmed by paragraph 28 of the patent in suit that the epoxy compound (A) comprises any component comprising an epoxy group which is capable of taking part to cationic polymerisation. Therefore, there is no reason to deviate from the literal wording of claim 1 according to which any compound comprising an epoxy group belongs to component (A).

Besides, there is also no evidence on file that because of said open formulation of claim 1 the skilled person is not in a position to prepare a composition as defined in operative claims 1-3 which is suitable for stereolithography. As explained in section 1.3.2 above, the question whether a composition falls under the scope of the claims or not, e.g. the composition indicated on page 4 of the statement of grounds of appeal, is, in the circumstances of the present case, at most an issue of clarity since it was neither shown that there was an ambiguity in the wording of the claims nor that said ambiguity was so severe that the skilled person was not in a position to prepare, with a good chance of success, compositions according to claim 1 which are suitable for stereolithography. Also, for the same reasons as above (see point 1.3.2) that alleged lack of clarity could not be objected in view of the ruling of G 3/14.

For those reasons, the appellant's objection did not convince.

1.5 In view of the above, the appellant's objections of lack of sufficient disclosure are rejected.

2. Inventive step

2.1 Closest prior art

2.1.1 Both parties considered, as the opposition division, that E3 represented the closest prior art document. The Board sees no reason to depart from that view. In particular, any of the compositions prepared in examples 2-7 of E3 is relevant since they were carried out using an epoxy compound (A), ethylenically unsaturated compound(s) (B), initiators (C) and (D) and an amount of a single monooxetane (E) (here: 3-ethyl-3-(hydroxymethyl)oxetane) in an amount of 33, 6.7, 14, 23, 33 and 45 weight parts per 100 weight parts of the epoxy compound (A), respectively (E3: page 28, lines 20-26; Tables on pages 30 and 32).

2.1.2 During the oral proceedings before the Board, the appellant contemplated starting from example 16 of E3 as closest prior art.

a) It was not contested by the appellant that that line of argumentation was submitted for the first time during the oral proceedings before the Board. Under those circumstances that objection represents an amendment to a party's case and its admission to the proceedings is subject to the Board's discretion (Article 13(1) RPBA) and underlies the additional stipulations of Article 13(3) RPBA.

b) According to the appellant the new line of argumentation was submitted to address the concerns identified in section 7.5.2.b of the Board's communication in respect of inventive step (see section VII above).

However, section 7.5.2.b of the Board's communication merely indicated that the appellant's line of argumentation based on the combination of documents E3 and E4a did not appear convincing and no new issue was raised *ex officio* by the Board which could justify the submission of new objections. In that respect, a preliminary opinion expressed by the Board in its communication and which is based solely on submissions made by the parties is not to be seen as an invitation to submit new requests, objections or lines of argumentation that the parties could have filed earlier.

Besides, said communication was sent to the parties on 10 April 2017 and no justification was provided by the appellant why that new line of argumentation was not submitted earlier.

c) In the present case using a new starting point for the assessment of the inventive step expands the scope of discussion of the appeal proceedings (e.g. because the composition of example 16 of E3 was held by the appellant to contain a resin (ECC) according to the teaching of E4a, which was not the case of the other examples relied upon by the appellant) and constitutes an amendment of the appellant's case leading to a significant change of the inventive step analysis of the appellant having regard to the definition of the problem and obviousness of the solution. Therefore admitting said objection at such a late stage of the proceedings would be unfair to the respondent if it were to be discussed at the oral proceedings, or alternatively, would require postponement of the oral proceedings contrary to the stipulations of Article 13(3) RPBA.

d) Under such circumstances the Board finds it appropriate to exercise its discretion under Article 13(1) RPBA by not admitting into the proceedings the new objection in respect of inventive step starting from example 16 of E3 as closest prior art.

2.2 Distinguishing features

Whereas any of the compositions of examples 2-7 of E3 comprise a single monooxetane compound ("Oxetane 1"), the oxetane compound (E) of operative claim 1 must comprise a combination of a monooxetane (E1) and a polyoxetane (E2) in a weight ratio of 95:5 to 5:95.

2.3 Defining the problem effectively solved in view of the closest prior art

2.3.1 The parties disagreed with respect to the formulation of the technical problems effectively solved, which was considered to reside in the provision of resin compositions for stereolithography which either

- exhibit reduced water uptake before curing, and/or
- have improved curing properties (properties as defined in paragraph 84, item (2) of the patent in suit)
  and/or
- lead to cured products with improved mechanical properties after storing the uncured composition under high humidity for a prolonged period.

For determining which problem is effectively solved by the claimed subject-matter, it is therefore necessary to examine the examples of the patent in suit and the additional experimental data provided by the respondent (cases (i) to (v): see section VI above).

2.3.2 Examples 1 and 2 of the patent in suit illustrate the subject-matter of operative claim 1 and comparative examples 1 and 2, respectively, differ therefrom in that they were carried out using the same amount of a single monooxetane instead of a 1:3 (example 1) or a 1:1 (example 2) mixture of said monooxetane and of a polyoxetane. Therefore, examples 1-2 of the patent in suit may be fairly compared with comparative examples 1-2 of the patent in suit, respectively, since they illustrate the above identified distinguishing features, which was not contested by the appellant.

a) The data contained in Table 1 of the patent in suit show that although the compositions prepared in example 1 and comparative example 1 of the patent in suit exhibited very similar properties just after fabrication, the composition of example 1 showed a decreased water uptake and improved mechanical properties (flexural strength, elastic modulus in flexure, tensile strength, elastic modulus in tension, surface hardness and heat deformation temperature) after 4, 6, 12 and 20 days when stored in a desiccator conditioned at humidity of 60% as compared to the composition of comparative example 1 stored in the same conditions (see paragraphs 86 and 89 of the patent in suit). Besides, whereas the curing performance and the mechanical properties of the composition of example 1 remained almost at the same level than just after fabrication, those of comparative example 1 showed a significant decrease with time. Also, it is noted that for a same level of water uptake of about 8000 ppm the composition of example 1 (after 12 days) also showed improved mechanical properties as compared to the composition of comparative example 1 (after 4 days). Moreover whereas the subsequent water uptake is

marginal in example 1, the water uptake is much higher for comparative example 1.

b) The appellant argued that the method of evaluation of the curing properties used in the patent in suit was very subjective and, thus, meaningless.

However, the appellant's objection is not supported by any evidence and amounts to a mere allegation. There is in particular no evidence that the method of evaluation indicated in paragraph 84 of the patent in suit does not provide a reliable mean for evaluating the curing properties. That said method is at some degree subjective is not unusual in the present technical field, in particular when it is based on constatations made by an operator who is to classify performances using criteria such as "good", "somewhat no good" and "no good" as in the patent in suit. It is further noted that the somewhat subjective criteria of evaluation of the curing performance is in the present case complemented by the evaluation of the mechanical properties of the cured sample, which provides an objective assessment of the curing properties. Therefore, the appellant's objection is rejected.

2.3.3 The comparison of case (iv) (composition according to operative claim 1 with a ratio of monooxetane (E1):polyoxetane (E2) = 25:75) with case (v) (composition only differing from the composition of case (iv) in that the ratio (E1):(E2) was 100:0) further shows that the composition of case (iv) exhibited, as compared to that of case (v)

- a reduced water uptake;
- similar curing properties after 6 days and improved curing properties after 20 and 30 days.

In that respect it is noted that only the comparison of case (iv) with case (v) is here relevant since case (iv) illustrates the subject-matter of operative claim 1 while case (v) illustrates the compositions of the closest prior art (namely examples 2-7 of E3, which were carried out using a single monooxetane i.e. a ratio (E1):(E2) of 100:0). The other cases (i)-(iii) are, thus, not relevant.

2.3.4 In view of the above, the information provided by the examples of the patent in suit and in cases (iv) and (v) allows to conclude that the problem effectively solved by the subject-matter of claim 1 resides in the provision of resin compositions for stereolithography which

- exhibit reduced water uptake before curing,
- have improved curing properties (as defined in paragraph 84, item (2) of the patent in suit) and
- lead to cured products with improved mechanical properties after storing the uncured composition under high humidity for a prolonged period.

2.4 Assessing whether the proposed solution is obvious having regard to the state of the art

2.4.1 The question now remains to be answered if the skilled person, desiring to solve the problem identified as indicated in section 2.3.4 above, would, in view of the closest prior art, possibly in combination with other prior art or with common general knowledge, have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject matter, in particular by using a 95:5 to 5:95 mixture of monooxetane and polyoxetane instead of a single monooxetane.

2.4.2 In that regard, the appellant's argumentation was based on the combination of E3 with either E2a or E4a.

a) However, there is no hint in the prior art cited, in particular in any of E3, E2a or E4a, that the curing properties and/or the mechanical properties of the cured products obtained after having left a resin composition under high humidity are affected by the nature of the oxetane. Therefore, the skilled person would have had no motivation either to consider or to combine those documents with the aim of solving the problem addressed in the patent in suit. Under such circumstances, the line of reasoning proposed by the appellant for analysing inventive step cannot lead to the conclusion that the subject-matter of operative claim 1 is obvious.

In the Board's view, choosing E3 as starting point for judging inventive step in the first place and combining it additionally with either E2a or E4a may only be arrived at with knowledge of the claimed invention (hindsight), which is not allowable.

b) Regarding the combination with E2/E2a

The opposition division’s conclusion (section 2.8.7 of the reasons; top of page 18) according to which the examples of E3 were carried out using as cationic initiator a bisulfonium salt whereas E2/E2a specifically dealt with compositions comprising monosulfonium salts as cationic initiator was not refuted by the appellant. That conclusion further is correct as may be derived from claim 1 and page 6 of E2a (paragraph containing formula (II)) and page 7 (formula (I)) as well as the conclusions on page 27 (below the Table) of E2a. It is also correct that, as

indicated by the opposition division, E2a does not deal with improving the properties of resin compositions for stereolithography after storage under high humidity as in the patent in suit. Therefore, there is also no reason to deviate from the opposition division's conclusion according to which the combination of E3 with E2a in view of solving the above identified problem is not obvious.

c) Regarding the combination with E4a

E4a is directed to specific epoxy components such as 3,4-epoxycyclohexyl-3',4'-epoxy cyclohexane-carboxylate (referred to as ECC: page 653, lines 4 and 5 of the section "Introduction") and it is derivable that the teaching of E4a is related to the fact that said epoxy component specifically contains an ester functionality (see paragraph bridging pages 657-658). Since the epoxy resin used in examples 2-7 of E3 does not contain such ester functionality, it can not be concluded that any effect shown in E4a would also be expected to be obtained with another type of epoxy resin such as that used in examples 2-7 of E3.

Besides, although E4a teaches that a monooxetane ("OXA") is more hydrophilic than another monooxetane ("EHOX") and than a dioxetane ("DOX") (page 653, penultimate paragraph; Figure 4), E4a teaches that improved curing rate is achieved when more water is absorbed (page 657, lines 2-3). Also, E4a teaches that using a monooxetane containing a hydroxy unit improves the curing performance (E4a: see page 653: penultimate paragraph; page 658: section "Conclusion"). In that respect, it is noted that the monooxetane referred to as "OXA" in E4a is identical to that used in examples 2-7 of E3 (referred to as Oxetane 1: see Table

at page 30 of E3). Therefore, the teaching of E4a can not be seen as a motivation to replace the single monooxetane used in examples 2-7 of E3 by a mixture of a monooxetane and polyoxetane, in particular not in order to solve the technical problem identified in section 2.3.4 above. Rather, the teaching of E4a teaches away from the solution provided in operative claim 1.

Therefore, also for those reasons the combination of E3 with E4a in view of solving the above identified problem is not obvious.

2.5 Regarding the combination with E1

During the oral proceedings before the Board, the appellant contemplated combining examples 2-7 of E3 with E1.

It was not contested by the appellant that that line of argumentation was submitted for the first time during the oral proceedings. Under those circumstances its admission to the proceedings is subject to the Board's discretion (as already explained in section 2.1.2.a above).

In that respect, no reason was submitted by the appellant to justify the submissions of that new line of argumentation at such a late stage. Besides, admitting that new objection would both have run counter the need for procedural economy and the obligation of fairness toward the respondent. In particular, it would have required to assess for the first time during the oral proceedings the relationship between the various compounds used in E1 and their influence on the properties of the compositions

obtained therewith in order to determine whether E1 suggested the solution defined in present claim 1. Also, if said line of argumentation had been found to be convincing, it would have required to continue the proceedings in writing and/or to postpone the oral proceedings (contrary to the stipulations of Article 13(3) RPBA) in order to give the respondent a fair chance to reconsider their position. Therefore, the Board finds it appropriate to exercise its discretion under Article 13(1) RPBA by not admitting into the proceedings the new objection in respect of inventive step based on the combination of E3 with E1.

2.6 For those reasons the subject-matter of operative claim 1 is inventive. The same is valid regarding claims 2 and 3 which are dependent on claim 1.

2.7 In view of the above the appellant's objections are not successful and the main request is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe F. Rousseau

Decision electronically authenticated