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**Datasheet for the decision  
of 16 March 2022**

**Case Number:** T 0655/19 - 3.3.03

**Application Number:** 11708770.0

**Publication Number:** 2542624

**IPC:** C08L83/04, H01L31/042,  
H01L31/048, C09K3/10

**Language of the proceedings:** EN

**Title of invention:**

USE OF A CURABLE POLYORGANOSILOXANE COMPOSITION AS AN  
ENCAPSULANT FOR A SOLAR CELL MODULE

**Patent Proprietor:**

Momentive Performance Materials GmbH

**Opponent:**

The Dow Chemical Company

**Relevant legal provisions:**

RPBA 2020 Art. 13(2)

EPC Art. 123(2), 83, 54, 56

**Keyword:**

Amendment after summons - exceptional circumstances (yes)

Amendments - allowable (yes)

Sufficiency of disclosure - (yes)

Novelty - (yes)

Inventive step - (yes)



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 0655/19 - 3.3.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.03**  
**of 16 March 2022**

**Appellant:** Momentive Performance Materials GmbH  
(Patent Proprietor) Kaiser-Wilhelm-Allee  
Gebäude V 7  
51368 Leverkusen (DE)

**Representative:** Gille Hrabal Partnerschaftsgesellschaft mbB  
Patentanwälte  
Brucknerstraße 20  
40593 Düsseldorf (DE)

**Respondent:** The Dow Chemical Company  
(Opponent) 2030 Dow Center  
Midland, MI 48674 (US)

**Representative:** Elkington and Fife LLP  
Prospect House  
8 Pembroke Road  
Sevenoaks, Kent TN13 1XR (GB)

**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
2 January 2019 concerning maintenance of the  
European Patent No. 2542624 in amended form.**

**Composition of the Board:**

**Chairman** D. Semino  
**Members:** M. Barrère  
C. Brandt

## Summary of Facts and Submissions

I. The appeal of the patent proprietor lies from the interlocutory decision of the opposition division posted on 2 January 2019 concerning maintenance of European Patent number 2 542 624 in amended form on the basis of the claims of the first auxiliary request filed with letter of 5 March 2018 and an amended description. The contested decision was also based on the patent as granted as the main request.

II. Granted claim 1 read as follows:

"1. Use of a curable polyorganosiloxane composition as an encapsulant for a photovoltaic module, said composition comprising:

(A) at least one polyorganosiloxane having at least two unsaturated hydrocarbyl residues,

(B) at least one polyorganohydrogensiloxane having at least seven Si atoms, wherein the molar ratio of SiH-groups to all Si-atoms is more than 0.55,

(C) at least one hydrosilylation catalyst,

(D) optionally at least one adhesion promoter,

(E) optionally at least one reinforcing filler,

wherein the molar ratio of the total of SiH groups in component (B) to the total of the unsaturated hydrocarbyl residues in component (A) in the formulation is between 1.2 and 4."

In the first auxiliary request claim 1 was amended with respect to granted claim 1 in that the component (B) was selected from

"polysiloxanes that have only methyl or phenyl groups as organic residues".

The remaining claims of these requests are not relevant to the present decision.

III. The following document was *inter alia* cited in the decision under appeal:

D7: WO 2005/006451 A1

IV. The contested decision, as far as it is relevant to the present appeal, can be summarized as follows:

(a) The subject-matter of granted claim 1 extended beyond the content of the application as filed (Article 100(c) EPC). In particular, there was no basis for a molar ratio of between 1.2 and 4 as in granted claim 1 calculated only on the basis of the unsaturated hydrocarbyl groups of component (A). Instead the originally filed description stated that the said ratio was calculated on the basis of the unsaturated hydrocarbyl groups of the two components (A) and (B).

(b) The amended claims according to the first auxiliary request fulfilled the requirements of Article 123(2) and (3) EPC. Specifically, since component (B) of claim 1 was limited to silicone structures without unsaturated residues, the deficiency of granted claim 1 had been overcome. The objections

raised under Article 100(b) EPC did not prejudice maintenance of the opposed patent. Finally the subject-matter of the claims of the first auxiliary request was novel and involved an inventive step over D7 as the closest prior art.

- V. With the statement setting out the grounds of appeal the patent proprietor (appellant) requested that the decision under appeal be set aside and the opposition be rejected. In the alternative maintenance of the patent in amended form on the basis of one of the auxiliary requests 1-12 (all filed with the statement of grounds) was requested.

Claim 1 of auxiliary request 1 was amended with respect to granted claim 1 in that it was specified at the end of the claim that

"the unsaturated hydrocarbyl residues are not present in component (B)".

The claims of auxiliary requests 2-12 are not relevant for the present decision.

- VI. Although the opponent (respondent) initially filed a notice of appeal against the contested decision, they withdrew their appeal against the patent with letter of 10 May 2019 and did not actively participate thereafter, but only informed the Board that they would not be represented at the oral proceedings.
- VII. In preparation of the oral proceedings scheduled for 14 June 2022, the Board issued a communication informing the parties that it agreed with the opposition division's conclusion in respect of granted claim 1. Concerning auxiliary request 1, the Board

raised a new objection of lack of clarity. Apart from the clarity objection, it was held that none of the grounds of opposition prejudiced maintenance of the opposed patent on the basis of auxiliary request 1.

The nature of the clarity objection is not relevant for the present decision.

- VIII. With letter of 7 March 2022 the appellant filed a new main request addressing the clarity objection raised against auxiliary request 1.

Claim 1 of the main request was amended with respect to granted claim 1 in that it was specified at the end of the claim that

"no unsaturated hydrocarbyl residues are present in component (B)".

The main request further included dependent claims 2 to 13 and independent claim 14 covering a "Photovoltaic module comprising the cured polyorganosiloxane composition as defined according to any of claims 1 to 12".

- IX. Oral proceedings were thereafter cancelled by the Board.

- X. The appellant's arguments, as far as they are relevant for the present decision, may be summarised as follows:

(a) Main request

(i) Article 123(2) EPC

The amendment of claim 1 found a direct and unambiguous basis in page 17, lines 12-17 of the application as filed.

- (ii) Sufficiency of disclosure, novelty and inventive step

The findings of the opposition division with regard to the first auxiliary request (as dealt with in the contested decision) applied *mutatis mutandis* to the main request.

- XI. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the claims of the main request as filed with letter of 7 March 2022 or on the claims of auxiliary requests 1 to 12 filed with the statement of grounds of appeal.

The respondent had no pending requests.

## **Reasons for the Decision**

- 1. Procedural aspects

The respondent did not file a request or raise an objection to the appellant's requests, but only informed the Board that they would not be represented at the oral proceedings. The respondent's right to be heard is respected, since the respondent had the opportunity to take position on all the issues on which this decision is based and did not request oral proceedings thereby waiving the opportunity to present their case orally. As the Board is in the position to decide according to the main request of the appellant,



the decision can be taken in writing and the oral proceedings were cancelled, as not deemed necessary.

2. Main request (as filed with letter of 7 March 2022)

2.1 Admittance

The admittance of the amendment to the appellant's case in the form of the main request (filed on 7 March 2022) is subject to the provisions of Article 13(2) RPBA 2020, which provide that amendments to a party's case made after notification of oral proceedings are not to be taken into account unless exceptional circumstances, justified by cogent reasons, exist.

In a communication sent in preparation of the oral proceedings, the Board held that none of the grounds of opposition prejudiced the maintenance of the patent on the basis of auxiliary request 1, however, it raised for the first time a clarity objection against claim 1 of said request. The respondent submitted with their letter of 7 March 2022 a new main request overcoming the clarity objection without changing the conclusion of the Board with regard to auxiliary request 1. Indeed claim 1 of the new main request has essentially the same scope than claim 1 of auxiliary request 1 but merely clarifies a feature. The purpose and the effect of the amendment performed in the main request are to address a new objection of lack of clarity without creating new issues. That new main request therefore contributes to the procedural economy of the case since it simplifies the questions to be dealt with and does not change the factual and legal framework of the case. The admittance of the main request was also not contested by the respondent.

The Board was able to deal with the amended main request without undue delay. In view of the fact that a new clarity objection had been raised against auxiliary request 1 with the Board's communication and considering the simplification of the case, the absence of new issues and the lack of objection on the side of the respondent, the Board considers that "exceptional circumstances" within the meaning of Article 13(2) RPBA 2020 are present that justify admittance of the main request into the proceedings.

## 2.2 Allowability

The present main request was neither addressed in the contested decision nor discussed by the respondent during the appeal proceedings. It follows that the opposition division's conclusions apply only in part to the main request.

In what follows, the Board therefore explains to what extent the various findings of the opposition division apply to the main request and why it considers that the objections which were dealt with in the contested decision do not prejudice maintenance of the opposed patent on the basis of the main request.

### 2.2.1 Article 123(2) EPC

The opposition division considered that granted claim 1 found no basis in the application as filed because the molar ratio of between 1.2 and 4 as in granted claim 1 was calculated on the basis of the unsaturated groups in component (A) only while the application as filed disclosed that range when said ratio was calculated on the basis of the unsaturated groups in components (A) and (B) (see page 17, lines 12-15).

Claim 1 of the main request differs from grant claim 1 in that "no unsaturated groups are present in component (B)". Consequently the deficiency identified by the opposition division is no longer relevant for claim 1 of the main request. Indeed, the absence of unsaturated groups in component (B) means that the above molar ratio is the same when it is calculated on the basis of the unsaturated groups in component (A) only or in components (A) and (B).

Furthermore, the Board considers that claim 1 of the main request finds a clear and unambiguous basis in original claims 1, 2 and 14 in combination with page 17, lines 12-17 of the description as filed.

Specifically, the description as filed (see page 17, lines 12-15) makes it clear that:

"The molar ratio of the total of SiH groups in component (B) to the total of the unsaturated hydrocarbyl residues  $R^1$  in component (A) and if present in (B) in the formulation is between 0.7 and 4, preferably 1 to 4, more preferably 0.8 to 2,5, more preferably 1.0 to 2.1, still more preferably 1.2 to 2" (emphasis added by the Board).

The wording "if present in (B)" clearly covers the two options that unsaturated groups are or are not present in (B) and therefore gives a basis for the case in which component (B) is devoid of "unsaturated hydrocarbyl residues" as according to the new feature of claim 1.

Therefore the claims of the main request do not infringe the requirements of Article 123(2) EPC.

### 2.2.2 Sufficiency of disclosure

The opposition division came to the conclusion that the ground of opposition under Article 100(b) EPC did not prejudice maintenance of the patent on the basis of the first auxiliary request filed with letter of 5 March 2018.

The Board notes that the conclusion of the opposition division applies *mutatis mutandis* to the present main request (see point 20.2-20.2.4 of the contested decision). That conclusion was not disputed by the respondent and the Board does not see any reason to depart therefrom.

Therefore the ground of opposition under Article 100(b) EPC does not prejudice maintenance of the patent on the basis of the main request.

### 2.2.3 Novelty and inventive step

In the contested decision the opposition division concluded that claim 1 of the first auxiliary request was novel and inventive over D7 as the closest prior art. In particular the following distinguishing features were identified:

- (i) the component B comprised at least seven Si atoms with a molar ratio of SiH-groups to all Si-atoms of more than 0.55
- (ii) the molar ratio of the total of SiH groups in component (B) to the total of the unsaturated hydrocarbyl residues in component (A) in the formulation was

between 1.2 and 4 (see contested decision, points 20.3.1 and 20.4.4).

The distinguishing features (i) and (ii) are limiting features of the present set of claims. The findings of the opposition division therefore fully apply to the present main request, which was not contested by the respondent.

The Board sees no reason to deviate from the conclusions of the opposition division (see contested decision, points 20.3 to 20.4.12).

3. The main request of the appellant being allowable, there is no need for the Board to consider any of auxiliary requests 1-12. The decision is to be set aside and the patent is to be maintained on the basis of the claims of the main request.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the claims of the main request (claims 1-14) filed with letter of 7 March 2022 and after any necessary consequential amendment of the description.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated