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**Datasheet for the decision of 13 December 2023**

**Case Number:** T 0089/21 - 3.3.03

**Application Number:** 06731718.0

**Publication Number:** 1873208

**IPC:** C08L71/02, C08G59/50, C08K5/17, C08G65/336, C08K5/57, C08L33/06, C08L33/04, C08L43/04

**Language of the proceedings:** EN

**Title of invention:**
CURABLE COMPOSITION AND CURED ARTICLE EXCELLENT IN TRANSPARENCY

**Patent Proprietor:**
KANEKA CORPORATION

**Opponent:**
Henkel AG & Co. KGaA

**Relevant legal provisions:**
RPBA 2020 Art. 12(4)
EPC Art. 56

**Keyword:**
Amendment to case - amendment within meaning of Art. 12(4) RPBA 2020
Inventive step - Main request (yes)

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**Case Number: T 0089/21 - 3.3.03**

# D E C I S I O N
## of Technical Board of Appeal 3.3.03
## of 13 December 2023

| | |
|---|---|
| **Appellant:**<br>(Opponent) | Henkel AG & Co. KGaA<br>Henkelstrasse 67<br>40589 Düsseldorf (DE) |
| **Representative:** | Viering, Jentschura & Partner mbB<br>Patent- und Rechtsanwälte<br>Hamborner Straße 53<br>40472 Düsseldorf (DE) |
| **Respondent:**<br>(Patent Proprietor) | KANEKA CORPORATION<br>2-3-18, Nakanoshima,<br>Kita-ku<br>Osaka (JP) |
| **Representative:** | Cabinet Beau de Loménie<br>158, rue de l'Université<br>75340 Paris Cedex 07 (FR) |
| **Decision under appeal:** | **Interlocutory decision of the Opposition Division of the European Patent Office posted on 23 December 2020 concerning maintenance of the European Patent No. 1873208 in amended form.** |

**Composition of the Board:**

| | |
|---|---|
| **Chairman** | D. Semino |
| **Members:** | D. Marquis |
| | W. Ungler |

## Summary of Facts and Submissions

I. The appeal lies against the decision of the opposition division concerning maintenance of European patent No. 1 873 208 in amended form on the basis of the claims of the main request filed with letter of 4 August 2020 and an adapted description.

II. Claim 1 of the main request read as follows:

"1. A transparent cured article obtained by curing a humid curable composition comprising:
(A) an organic polymer having reactive silicon group(s);
(B) a bivalent tin carboxylate;
(C) an amine compound having no reactive silicon group; and
(D) silica,
wherein the main chain of the component (A) is at least one polymer selected from the group consisting of polyoxyalkylene polymers and (meth)acrylic acid ester polymers and the transmittance of all light rays is 70% or more when the curable compositions are each stretched to give a thickness of 5 mm, thereby forming test pieces each having a flat and smooth surface, at 23°C and 50%R.H., the test pieces are cured for 10 days to produce cured articles, and for the cured articles, a chromaticity and turbidity meter is used to measure the transmittance thereof to all light rays, and the transmittance to all light rays is a value obtained by dividing the amount of all light rays passing through any one of the test pieces by the amount of rays radiated thereinto".

III. The decision under appeal was *inter alia* based on the following documents:
D1: EP 0 532 049 A1
D2: CA 2 515 825 A1
D7: English translation of JP 2002-020458
D10: Further experimental data, August 2020
D16: Experimental data, July 2016

IV. The decision under appeal concluded that the claims of the main request found a basis in the application as filed. Moreover, the subject-matter of claim 1 of the main request was found to involve an inventive step in view of either D1 or D7 as the closest prior art.

V. The opponent (appellant) lodged an appeal against the decision of the opposition division and submitted document D17 (internet page www.kaneka.be/products/liquid-polymers/kaneka-ms-polymer/history) with their statement of grounds of appeal.

VI. With the rejoinder to that statement of grounds the patent proprietor (respondent) submitted a set of claims as third auxiliary request, Annex 2 containing further experimental data, D18 (Gypsum & Lime No. 79 (1965), pages 515-519) and D18a (Translation of the 10th to 13th lines of the right paragraph on the second page of D18). Reference was made therein to the first and second auxiliary requests filed in opposition with letter of 4 August 2020.

VII. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA 2020 indicating specific issues to be discussed at the oral proceedings was sent to the parties.

VIII. Oral proceedings were held on 13 December 2023 in the presence of both parties.

IX. The final requests of the parties were as follows:

- The appellant requested that the decision of the opposition division be set aside and that the patent be revoked.

- The respondent requested that the appeal be dismissed (main request), or that the patent be maintained on the basis of any of the first to third auxiliary requests, whereby the first and second auxiliary requests were filed with letter of 4 August 2020 and the third auxiliary request was filed with the rejoinder to the statement of grounds of appeal.

X. The arguments of the appellant and of the respondent relevant to the present decision can be found in the reasons for the decision. The disputed issues essentially concerned:

- The admittance of D17, Annex 2, D18 and D18a into the proceedings.

- The question of inventive step of the subject-matter of claim 1 of the main request starting from D1 or D7 as the document representing the closest prior art.

## Reasons for the Decision

1. Admittance

1.1 D17 was filed by the appellant with the statement of grounds of appeal. It was used in the discussion of inventive step in combination with document D7 representing the closest prior art. No justification was provided in writing for the submission of D17 in appeal. The appellant briefly argued at the oral proceedings before the Board that D17 was filed in reaction to the conclusion in the decision of the opposition division acknowledging an inventive step starting from D7. It was, however, not further explained how that conclusion from the opposition division could justify the admittance of D17 into the proceedings in appeal, nor does the Board see from such a general argument any reason in favour of its admittance. Under these circumstances, the Board finds it appropriate to make use of its discretion under Article 12(4) RPBA not to admit D17 into the appeal proceedings.

1.2 Annex 2 is a table reporting new experimental data filed by the respondent with their rejoinder. It can be derived from the argument of the respondent on page 4 of the rejoinder that Annex 2 was filed in reaction to the objection of the appellant made in the statement of grounds of appeal (page 2) concerning the relevance of D16 in view of the fact that in that document the type of calcium carbonate used was not specified. Annex 2 provides several examples of compositions for which the list of commercially available products used in the composition is given, including the type of calcium carbonate present in the composition. Since the filing of Annex 2 is a legitimate reaction to the objection raised by the appellant in appeal, the Board finds it appropriate to exercise its discretion under Article 12(4) RPBA in admitting Annex 2 into the proceedings.

1.3 D18/D18a were cited by the respondent in the rejoinder to provide additional information on the surface treatment of the calcium carbonate particles shown in Annex 2 and in D1. While these documents were admitted into the proceedings at the oral proceedings before the Board, there is no need to provide any further reasoning since these documents were in the end not necessary for the decision on inventive step.

Main request

2. The decision under appeal on inventive step was based on D1 and D7 as alternative documents representing the closest prior art (sections 5.2.3 and 5.2.4). As both documents were also used by the parties in appeal as alternative starting points for the analysis of inventive step, the Board needs to consider both objections.

3. Inventive step starting from D1

3.1 The decision under appeal identified two differences between the subject-matter of claim 1 of the main request and D1, namely the presence of silica and the transmittance of all light rays as defined in the claim being 70% or more (section 5.2.3.1). The same differences were considered by the parties in appeal and the Board sees no reasons to take a different view.

3.2 In view of the combination of features found to be disclosed in D1, the starting point that was considered to be the most relevant was any one of the compositions disclosed in examples 1-3 or 4-6 which comprised a polyoxypropylene polymer having reactive silicon groups (polymer A or B), tin octylate as a catalyst, laurylamine, "collidal calcium carbonate (particle size 0.08 µm)" and titanium oxide (page 5, lines 25-42, page 7, lines 53-58 and Tables 1 and 2).

3.3 The opposition division concluded that while neither the patent in suit, nor D10 established the presence of an effect over the compositions of D1, the comparison of the compositions reported in D16 showed that compositions according to claim 1 of the main request led to an improved transparency over the closest prior art D1 (points 5.2.3.2 and 5.2.3.3).

3.4 The appellant contested that conclusion in appeal on the grounds that the calcium carbonate was not identified in D16.

3.4.1 Annex 2 provides a comparison of compositions comprising alternatively a silica according to claim 1 of the main request or a "collidal calcium carbonate (particle size 0.08 µm)" as is used in the examples of D1 (and had been used in the experimental report D10). Within Annex 2 the compositions according to example 2 and example 7 appear to be the most relevant. It was not in dispute between the parties that the composition according to example 2 of Annex 2, which contains silica and has a transmittance to all light rays of 81%, was according to operative claim 1 while the composition according to example 7, which differs therefrom only in that it contains 10 parts of "Collidal calcium carbonate (particle size 0.08 µm)

Surface-treated with higher fatty acid" instead of the same amount of silica, represented the composition of the examples of the closest prior art D1, in particular that of example 1 of that document.

3.4.2 The composition according to example 7 of Annex 2 does not contain titanium oxide, which is present in the examples of D1, but, given the antagonistic effect of titanium oxide on the transparency of the composition, its absence in example 7 of Annex 2 is not only legitimate, but it also renders the comparison of examples 2 and 7 more relevant to the present question of inventive step.

3.4.3 The results of the measurement of transmittance (%) to all light rays reported in the table of Annex 2 for examples 2 and 7 show that the composition of example 2 according to operative claim 1 has an improved transparency (81%) compared to the composition of example 7 (0%) representing the closest prior art. In view of these results reported in Annex 2, the Board finds that the problem formulated in the decision under appeal over D1 can be maintained, namely the provision of a cured article having improved transparency.

3.4.4 The appellant expressed doubts as to whether the examples contained in Annex 2 established that the purported effect was actually present over the whole breadth of operative claim 1. Since, however, these doubts were first raised at the oral proceedings before the Board and were not supported by evidence and also in view of the fact that a condition on the transmittance is present in claim 1, the Board does not find that the doubts of the appellant justify a reformulation of the problem solved over the closest prior art.

3.5 The closest prior art D1 concerns the preparation of curable compositions containing a reactive silicon containing organic polymer as the main component, said compositions having a good storage stability and giving a cured product having excellent surface characteristics (D1, page 2, lines 27-29). Since D1 does not mention transparency, even if the skilled person had considered the removal of titanium oxide in the composition of example 1, it is unclear why they would have considered replacing the "collidal calcium carbonate (particle size 0.08 µm)" used in such a high amount in D1 (120 parts by weight for 100 parts by weight of polymer) by silica and still expect to obtain composition within the ambit of D1, i.e. compositions with good storage stability and giving a cured product having excellent surface characteristics while improving transparency.

3.6 The appellant additionally relied on the passages pertaining to the definition of fillers for cured articles in D2. The passage on pages 103, line 23 to page 104, line 16 of D2, however, identifies silica as a reinforcing filler (page 103, line 26). The passage on page 104, line 21 to page 105, line 5 concerns the use of fillers for the production of "cured objects having high transparency or high strength" and mentions fumed silica or precipitated silica and surface-treated fine calcium carbonate. According to the appellant, this would provide the hint to the use of silica to provide improved transparency in cured articles. The Board, however, finds that the passage in question is ambiguous as it does not specify whether a silica filler is used for providing improved transparency or improved strength or both. Considering that the first passage on pages 103 and 104 mentions silica as a reinforcing filler and this is confirmed on page 105, lines 10-11, it cannot be concluded that D2 discloses the use of silica to provide improved transparency. The passage on page 105, lines 2 to 5 does not provide more information. It discloses that ultrafine silica powder having a specific surface area is a preferred filler but it does not clearly suggest its use for improved transparency. There is therefore in D2 no hint towards the use of a silica to impart improved transparency to polymer compositions, even less so to provide compositions having an improved transmittance of all light rays of 70% or more over the use of calcium carbonate as in D1.

3.7 The Board therefore finds that the solution of the problem posed is not obvious in view of the disclosure of documents D1 and D2. Claim 1 of the main request therefore involves an inventive step over D1 as the closest prior art.

4. Inventive step starting from D7

4.1 D7 is a prior art document relating to room temperature-setting compositions comprising an organic polymer which has at least one silicon group which can be cross-bridged by forming a siloxane bond (paragraph 4).

4.2 The opposition division identified three distinguishing features between the subject-matter of claim 1 of the main request and D7, namely, the presence of (i) an organic polymer having reactive silicon group(s), wherein the main chain of the organic polymer is at least one polymer selected from the group consisting of polyoxyalkylene polymers and (meth)acrylic acid ester polymers and (ii) silica and (iii) the transmittance as defined in claim 1 of at least 70%. That was also acknowledged by the appellant (statement of grounds of appeal, page 5, section 2.2) and is confirmed by the Board.

4.3 The object of D7 was "to provide the room-temperature-curing constituent which reveals sufficient adhesive property also to the cured product of sealant, such as a steel plate in which acrylic electropainting, fluoride coating, etc. were performed, and silicone series sealant" (paragraph 3). D7 does not mention the transparency of its compositions, nor the need for a transparent composition.

4.4 In view of the fact that operative claim 1 differs from D7 for the same distinguishing features as identified for D1 plus an additional one (the polymer) and considering the clear difference in scope of the document with respect to the patent in suit, the disclosure of D7 is further away from the claimed subject-matter with respect to D1 and the conclusion reached starting from D1 as the closest prior art equally applies when starting from D7 for even stronger reasons.

4.5 Claim 1 of the main request is therefore also inventive over D7 as the document representing the closest prior art.

## Order

### For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe D. Semino

Decision electronically authenticated