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**Datasheet for the decision  
of 21 January 2022**

**Case Number:** T 2185/19 - 3.2.05

**Application Number:** 14182267.6

**Publication Number:** 2813338

**IPC:** B29C39/14, B29B15/12,  
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B01J13/00, F16L59/02

**Language of the proceedings:** EN

**Title of invention:**  
Methods to produce gel sheets

**Patent Proprietor:**  
Aspen Aerogels Inc.

**Opponents:**  
Guangdong Alison Hi-Tech Co., Ltd.  
Nano Tech Co., Ltd

**Relevant legal provisions:**  
EPC Art. 76(1), 84, 111(1), 123(2), 123(3)  
RPBA 2020 Art. 11, 13(2), 25  
RPBA Art. 12(2), 12(4)

**Keyword:**

Admittance of auxiliary requests (auxiliary requests 17 to 36, 38 to 40: no, auxiliary requests 37, 41: yes)

Admittance of late-filed objection (no)

Clarity (auxiliary request 37: no, auxiliary request 41: yes)

Compliance with Article 76(1) EPC (main request and auxiliary requests 1 to 16: no, auxiliary request 41: yes)

Extension of protection (auxiliary request 41: no)

Remittal to the department of first instance (yes)

**Decisions cited:**

G 0001/06, G 0002/10, G 0003/14, T 0023/10, T 0971/11



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Case Number: T 2185/19 - 3.2.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 21 January 2022**

**Appellant:** Aspen Aerogels Inc.  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 24 May 2019**

revoking European patent No. 2813338 pursuant to  
Article 101(3) (b) EPC.

**Composition of the Board:**

<b>Chairman</b>	P. Lanz
<b>Members:</b>	B. Spitzer
	C. Brandt

## **Summary of Facts and Submissions**

- I. The patent proprietor lodged an appeal against the decision of the opposition division to revoke European patent No. 2 813 338.
- II. Oppositions had been filed against the patent as a whole on the basis of the grounds for opposition under Article 100(a) EPC (lack of novelty and lack of inventive step), Article 100(b) EPC (insufficiency of disclosure) and Article 100(c) EPC (added subject-matter).
- III. In the decision under appeal, the opposition division found that neither the main request nor any of auxiliary requests 1 to 17 fulfilled the requirements of the EPC because the subject-matter of claim 1 contained subject-matter that extended beyond the content of the earlier (grandparent) application as filed (Article 76(1) EPC). Auxiliary request 18 had not been admitted.
- IV. Oral proceedings before the board were held on 21 January 2022. Duly summoned opponent 2 was not present as announced with its letter of 10 January 2022.
- V. *Requests*

The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained in amended form according to the main request or, in the alternative, on the basis of the claims of one of the auxiliary requests 1 to 41, all filed with the statement of grounds of appeal.

Respondents I and II (opponents 1 and 2) requested that the appeal be dismissed.

VI. The following documents are cited in this decision:

- N4: WO 2005/003476 A2 (earlier "grandparent" application)
- N5: EP 2 422 950 A2 (earlier "parent" application)
- N6: EP 2 813 338 A1 (application underlying the patent in suit)
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- TM1: Wikipedia entry for "Sol-gel process"
- TM2: Excerpt from the book "Sol-Gel Science and Technology", Sakka, Kluwer Academic Publishers, 2004, vol. 1, preface and pp. 514-515 and volume II, p. 66
- TM3: Excerpt from the book "Sol-Gel Science", Brinker et al., Academic Press, Inc., 1990, pp. 250-251
- TM4: Excerpt from the encyclopaedia "Römpp Chemie Lexikon", 9th edition, Georg Thieme Verlag, 1992
- TM5: Decision regarding EP 2 422 950 B1 of the German Federal Patent Court (5 Ni 14/17 (EP) and 5 Ni27/17 (EP))
- 
- BB3/C&F3: Wiktionary excerpt for "Colloid"
- BB4/C&F4: Wiktionary excerpt for "Sol"
- 
- D30: Excerpt from the book "Sol-Gel Science" by C.F. Brinker and G.W. Scherer, Academic Press, Inc., San Diego, 1990, pp. 97-234

VII. Claim 1 of the main request corresponds to claim 14 as granted and has the following wording:

"A process comprising the steps of:

dispensing a sol solution (25) comprising a gel precursor and a solvent onto a moving element as a sheet (27);  
gelling the sol to form a gelled sheet;  
rolling the gelled sheet into a plurality of layers;  
and  
removing the solvent from the gelled sheet."

Claim 1 of auxiliary requests 1 to 16 is also directed to a "process comprising the steps of [...] rolling the gelled sheet [...] and removing the solvent from the gelled sheet [...]".

Compared with the main request, claim 1 of auxiliary requests 17 to 40 is amended, *inter alia*, by adding "catalyzed" to the sol or sol solution in the dispensing step and by specifying that in the removing step the solvent is removed "from the gelled rolled sheet". Claim 1 of auxiliary requests 33 to 40 contains the additional limitation that "the solvent is removed using supercritical fluid".

Claim 1 of the auxiliary request 41 reads as follows:

"A process comprising the steps of:

dispensing a sol solution (25) comprising a gel precursor and a solvent, catalyzed to induce gelation, onto a moving element as a continuous sheet (27);  
gelling the sol to form a gelled sheet;

rolling the gelled sheet into a plurality of layers;  
and  
removing the solvent from the rolled gelled sheet,  
wherein the catalyzed sol solution is dispensed onto a  
fibrous batting material on the moving element as a  
continuous sheet,  
wherein the solvent is removed using supercritical  
fluid, and  
wherein a spacer layer (20) is provided between any two  
layers of the continuous sheet."

VIII. The parties' submissions may be summarised as follows.

*Main request - amendments in view of the earlier  
"grandparent" application N4*

- *Appellant (patent proprietor)*

The appellant contested that the subject-matter of claim 1 went beyond the content of the earlier applications (documents N4 and N5) and beyond the content of the application as originally filed (document N6). Concerning the order of process steps, this being one objection under Article 76(1) EPC, the following arguments were submitted. The order of process steps was clear from claim 1; first, due to the term "*gelled sheet*"; second, because of the chronological order of the process steps; third, in view of the gist of the invention.

First, a gelled sheet still contained the solvent, while after the solvent removal step, a gelled sheet would not be called a gelled sheet but an aerogel or xerogel. Hence, the order of steps was clear from claim 1 of the main request. The gelled sheet was rolled and subsequently dried. Second, as the first two steps were



in chronological order, this also applied for the remaining process steps. Third, the gist of the invention was the drying of the rolled sheet. This was described as a novel and effective way of producing gel sheets (see e.g. page 4, lines 23 to 26 of document N4). This was not in contradiction to claim 41 of document N4, which did not mention the steps of gelling and drying and, thus, left the order of these steps open. The disclosed examples (see e.g. Example 2, page 16, lines 22 to 23 of document N4, "*The roll is then ready for further chemical processing and can be transferred using the mandrel as a load-bearing instrument.*") were in line with drying the sheet after the rolling step. Thus, rolling and then drying the gelled sheets was directly and unambiguously disclosed and was mandatory. Reversing the steps would be technically implausible.

Even if the claim was interpreted in such a way, there was a basis for removing the solvent without defining the order of steps on page 6, line 5 of document N4. The omission of the supercritical drying was a permissible intermediate generalisation.

- *Respondents (opponents)*

The subject-matter of claim 1 went beyond the content of the earlier (parent and grandparent) applications (documents N4 and N5) and beyond the content of the application as originally filed (document N6). The added matter objections in view of grandparent application N4 applied *mutatis mutandis* for the parent application and the application as originally filed (documents N5 and N6). Several objections in this respect were raised, among them, that there was no support in the grandparent application (document N4)

for the claimed order of steps.

As confirmed in the decision under appeal (see point 3.4 of the Reasons), claim 1 did not specify the order of the process steps, especially whether the gelled sheet was first rolled and then the solvent was removed or *vice versa*. The wording "*comprising*" used in claim 1 did not specify an order of steps. The term "*gelled sheet*" could also not establish an order of the process steps with regard to the removal of the solvent because a gelled sheet referred to a sheet before and after solvent removal. Reference was made to claim 28 of the patent according to which the product comprised a gelled sheet, i.e. a sheet without solvent. A gelled sheet was a sheet where a solid gel network had been formed with this network remaining intact even after solvent removal. This explanation was supported by the patent proprietor (here the appellant) in parallel infringement proceedings and was the normal understanding of the person skilled in the art. The whole disclosure of the grandparent application (document N4) and the gist of the invention was that the gelled sheet was rolled and then solvent was removed. However, the description could not be relied on to allege that the order of the process steps was defined in claim 1 because the description could not be used to read additional limitations into the claims (see Case Law of the Boards of Appeal of the European Patent Office, "Case Law", 9th edition, 2019, II.A. 6.3.4). The passage on page 6, line 5 of document N4 did not support an undefined order of process steps as it was not related to solvent removal in general but to supercritical fluid drying. Furthermore, first removing the solvent and then rolling the sheet would confront the skilled person with new teaching not originally

disclosed.

*Auxiliary requests 1 to 16*

The appellant and respondent I confirmed that the arguments brought forward with respect to Article 76(1) EPC regarding the main request equally applied to auxiliary requests 1 to 16. In its reply to the statement of grounds of appeal, respondent II also raised the objection concerning the order of process steps for auxiliary requests 1 to 16.

*Admittance of auxiliary requests 17 to 36 and 38 to 40*

- *Appellant (patent proprietor)*

Auxiliary requests 17 to 36 and 38 to 40 were filed for the first time with the statement of grounds of appeal and hence at the earliest point in time. Therefore, these requests should be admitted into the appeal proceedings under Article 12(4) RPBA 2007. They had not been filed during the first-instance oral proceedings because the opposition division would have considered them *prima facie* not allowable and thus inadmissible, such as former auxiliary request 18 (now auxiliary request 41). In view of the opinion of the opposition division regarding auxiliary requests 10 and 18, auxiliary requests 17 to 24 and 33 to 36 would not have been considered compliant with Article 123(3) EPC due to the feature "*catalyzed sol*", and auxiliary requests 25 to 32 and 38 to 40 would not have complied with the requirements of Article 76(1) EPC due to the feature "*catalyzed sol solution*". Therefore, it was not reasonable to file them earlier. As there were several objections under Article 76(1) EPC, it was difficult to deal with all of them. Furthermore, these requests

should be admitted as they contained only simple amendments that addressed the objections under Article 76(1) EPC and Article 123(3) EPC as discussed during oral proceedings in opposition. Account should be taken that the opposition division changed its preliminary opinion. A further reason for not filing them earlier resided in the special situation and the delay at the beginning because the chairwoman had to take over the case at short notice. For procedural economy, these requests had not been filed earlier.

- *Respondent I (opponent 1)*

Auxiliary requests 17 to 36 and 38 to 40 were late-filed and should not be admitted into the appeal proceedings under Article 12(4) RPBA 2007. During oral proceedings before the opposition division, the patent proprietor (now the appellant) had been informed about the key issues and had been asked how it wanted to proceed. It was the patent proprietor's choice to proceed step by step, filing one additional auxiliary request at a time (see points 5.17 and 5.18 of the minutes of the oral proceedings before the opposition division). The decision under appeal contained no new aspects. As all issues had been on the table during oral proceedings before the opposition division, there was no reason to file new auxiliary requests.

*Admittance of auxiliary request 37*

- *Appellant (patent proprietor)*

Auxiliary request 37 was identical to former auxiliary request 10 as filed during oral proceedings before the opposition division. The article "*the*" in the last feature had been inserted to address the respondents'

objection that the feature "*removing solvent*" did not specify the solvent or included a partial removal of the solvent (see point 8 of respondent II's letter of 1 October 2018). By inserting the definite article, it was clear which solvent was removed and that the complete solvent was removed. This amendment did not change the subject-matter. Dependent claim 3 of the main request also used the definite article, namely "*removing the solvent from the gelled sheet*". Consequently, this amendment only served to bring this feature of claim 1 of auxiliary request 37 in line with claim 3.

- *Respondent I (opponent 1)*

Auxiliary request 37 was not identical to former auxiliary request 10 as filed in opposition proceedings. The article "*the*" had been inserted in the last feature, reading "*wherein the solvent is removed using supercritical fluid*". This changed the subject-matter of the claim as there might be an additional process step. Therefore, the decision under appeal was not based on auxiliary request 37, which hence should not be admitted under Article 12(4) RPBA 2007.

*Auxiliary request 37 - admittance of the objection under Article 84 EPC*

- *Appellant (patent proprietor)*

The objection that the term "*catalyzed sol solution*" was not clear had been expressed for the first time in the reply to the statement of grounds of appeal. It could and should have been raised earlier. This objection should not be admitted under Article 12(4)

RPBA 2007.

- *Respondent I (opponent 1)*

The clarity objection concerning the term "*catalyzed sol solution*" had been filed in opposition proceedings for auxiliary request 10, on which auxiliary request 37 was based. This was apparent from point 6.9 of the minutes of the oral proceedings before the opposition division. This objection had been repeated in points IV.2.2 and IV.13 of the reply to the statement of grounds of appeal. Thus, the admittance is not at issue.

*Auxiliary request 37 - Article 84 EPC*

- *Appellant (patent proprietor)*

It was clear that a "*catalyzed sol solution*" was a sol where gelation had been induced. This was explicitly mentioned in the patent. Reference was made to paragraphs [0010] and [0025] of the patent. For the general understanding of the skilled person, especially with respect to thermal treatment, page 2 of document TM1 was cited. Regarding respondent I's three possible interpretations of a catalyzed sol in its letter of 19 January 2022, the skilled person would not consider a catalyzed sol to be a sol obtained by a process involving catalysts or a colloidal suspension in which the particles grew but which did not form a gel. These purposes of a catalyst were not disclosed in the patent. The skilled person would choose a reasonable interpretation of the term "*catalyzed sol*", namely respondent I's second interpretation that it was a colloidal suspension on the way to forming a gel. Thus,

this expression was clear.

- *Respondents (opponents)*

The term "*catalyzed sol solution*" was not clear. The adjective "*catalyzed*" rendered it unclear. In paragraph [0010] of the patent, the nature of the "*catalyzed sol*" was not defined, and it was not unambiguously equated with the "*solution of a sol and an agent*". From this passage, it was unclear how a sol became a catalyzed sol. Paragraph [0025] of the patent disclosed that "*[s]ols can be catalyzed to induce gelation by methods known to those trained in the art: examples include adjusting the pH and/or temperature of a dilute metal oxide sol to a point where gelation occurs*". However, this did not teach the skilled person what a "*catalyzed sol*" was; at what point in time it was a catalyzed sol, for instance, in the case of a heat catalyst; and where and to what extent gelation occurred. Reference was made to the definition of "*Kieselso*" in document TM4 which could remain unchanged for several years. According to document TM4, a "*Kieselso*" was a "*[w]äss. Lsg. von annähernd kugelförmigen, kolloidal gelösten Polykieselsäure-Mol. mit 30% bis max. 60% SiO<sub>2</sub>-Gehalt, die sich jahrelang unverändert lagern lassen*". There were several possibilities for interpreting a "*catalyzed sol*". It might be a colloidal suspension in which the particles grew but which did not form a gel, or it might be a colloidal suspension on the way to forming a gel. Additionally, a "*catalyzed sol*" might mean a sol obtained by a process involving catalysts. Thus, claim 1 was not clear, by itself or even when taking into account the description.

- *Respondent I (opponent 1)*

The requirements of Article 123(3) EPC were violated. In granted claim 14, "*a sol solution (25) comprising a gel precursor and a solvent*" were claimed, while in claim 1 of auxiliary request 37, it was "*a catalyzed sol solution (25) comprising a gel precursor and a solvent*". This was a different process as a different starting material with a catalyst was used. Thus, the scope of protection was extended.

*Auxiliary request 37 - Article 76(1) EPC*

- *Appellant (patent proprietor)*

The respondents' argument that page 9, line 21 of document N4 was the only basis for a "*catalyzed sol solution*" was not correct because "*sol*" and "*sol solution*" were synonyms.

"*Sol*" described a sol solution or a colloidal solution. The term "*sol solution*" was sometimes used in the literature to explicitly indicate that the sol had a liquid solvent component. Figure 3 of document D30 used the term "*solution*", although the particles were from 1 to 100 nm. Document TM1, a (post-published) Wikipedia entry for the sol-gel process, described a sol to be a colloidal solution. Also, (post-published) document TM2 used the terms "*sol*" and "*solution*" interchangeably. On page 514 of volume I of document TM2, the term "*sol solution*" was used. Document TM3 used the term "*solution*" in the context of the structure of sols (see page 251 of document TM3). Finally, document TM4, which was an excerpt from the Römpp encyclopaedia, defined a silica sol as an aqueous solution. It also referred to



document TM5, a decision by the German Federal Patent Court finding that the term "*solution*" was a synonym for dispersion in the context of sols (see page 10, third paragraph and page 23, last paragraph of document TM5). "*Sol*" and "*sol solution*" were also used as synonyms in document N4. On page 3, lines 5 to 9 of document N4, "*a low viscosity solution of a sol and an agent*" was referred to by "*the catalyzed sol*". On page 10, line 25 to page 11, line 5 of document N4, metal oxide sols in alcohol solutions were mentioned. Even if the opposition division's artificial definition was accepted, a sol was always a sol solution due to dissolved gas molecules.

As "*sol*" and "*sol solution*" were synonyms, there was a basis for the combination of the features "*dispensing a catalyzed sol solution*", "*rolling the gelled sheet*" and "*solvent is removed using supercritical fluid*". The steps of claim 1 of auxiliary request 37 were disclosed in combination in document N4. Reference was made to claim 41; page 3, lines 23 to 24; page 4, lines 23 to 26 and page 6, lines 2 to 8 as general disclosure and to page 9, line 21 and pages 13 to 14, where the different embodiments shown in Figures 1 to 6 were described. Although page 9, line 21 of document N4 mentioned a catalyzed sol solution in the context of the Figure 3 embodiment not forming part of the current invention, it was clear from the figures and the description on pages 13 to 14 of document N4 that a stable sol precursor solution and a catalyst were common to all these embodiments (e.g. see reference signs 11 and 12 in line 8 of page 13 for Figure 1, reference signs 21 and 22 in line 19 of page 13 for Figure 2, reference signs 30 and 31 in line 29 of page 13 for Figure 3, reference signs 40 and 41 in lines 5 to 6 of page 14, and reference signs 70 and 71 in lines

23 to 24 of page 14 for Figure 7). Reference signs 21 and 22 were equally used in the embodiment shown in Figure 8 of document N4.

All these cited passages of document N4 formed a basis for the amendments in claim 1 of auxiliary request 37, whose subject-matter was not extended beyond the content of the grandparent application as originally filed.

- *Respondents (opponents)*

There was no basis for the combination of the features "*dispensing a catalyzed sol solution*", "*rolling the gelled sheet*" and "*solvent is removed using supercritical fluid*". The only disclosure of a "*catalyzed sol solution*" was on page 9, lines 19 to 21 of document N4. This passage, however, related to the embodiment of Figure 3 showing monolithic gel sheets which were cut and not rolled.

There was no other support for a "*catalyzed sol solution*" because a (catalyzed) sol was not the same as a (catalyzed) sol solution. Page 3, lines 5 to 9 of document N4 did not prove the appellant's allegation that sol and sol solution were synonyms as it did not define how much time passed between the combination of the agent with the solution and the dispensing of the catalyzed sol, and thus it was not apparent whether the catalyzed sol was still a solution. From page 9, lines 1 to 29 of document N4, where "*catalyzed sol solution*" was used in line 21, it was clear that the terms "*sol*" and "*sol solution*" were not used interchangeably. Nor could this be evidenced by the documents cited by the appellant. Document D30 did not mention the term "*sol solution*". Documents TM1 to TM4 taught what a colloidal

solution was but did not teach that a sol was always a sol solution. Document TM2 merely disclosed a colloidal solution. Documents TM3 and TM4 referred to silica sols. Document TM5 set out that colloidal solution and colloidal dispersion were synonyms but did not refer to a sol solution. The respondents filed Wikipedia excerpts defining the terms "*colloid*" and "*sol*" (see documents BB3/C&F3 and BB4/C&F4). It was not a question of whether a sol always comprised dissolved gas molecules as alleged by the appellant but whether it always comprised solved molecules of the components that made up the colloid particles.

For these reasons, there was no embodiment which supported the process steps of claim 1 of auxiliary request 37 as a whole. Page 6 of document N4 disclosed a subsequent supercritical fluid extraction either for monolithic gel sheets which were cut (first method) or rolled composite articles (second method). In the latter, a low viscosity catalyzed sol was used which was not the same as a catalyzed sol solution according to claim 1. The third method disclosed on page 6 of document N4 related to the Figure 6 embodiment - first rolling and then infusing the sol - which was not covered by claim 1. In claim 41 of document N4, the order of steps was left open. No rolling and subsequent solvent removal step were disclosed in this claim. Page 4, lines 23 to 25 of document N4 did not disclose a subsequent drying by supercritical solvent extraction. Thus, the passages cited by the appellant did not support claim 1 of auxiliary request 37, which consequently did not fulfil the requirements of Article 76(1) EPC.

*Admittance of auxiliary request 41*

- *Appellant (patent proprietor)*

The term "*catalyzed sol*" as used in claim 41 of document N4 was merely rephrased as "*sol solution ... catalyzed to induce gelation*" to overcome the clarity objection. Claim 1 of auxiliary request 41 was as close as possible to the embodiment shown in Figure 8 of document N4. Claim 1 was concerned with the dispensing of a sol solution and thus started at arrow 25 of Figure 8 of document N4. Thus, auxiliary request 41 *prima facie* fulfilled the requirements of Article 76(1) EPC and should be admitted under Article 12(4) RPBA 2007.

- *Respondent I (opponent 1)*

Auxiliary request 41 clearly violated Article 76(1) EPC because in the embodiment according to Figure 8 of document N4, a sol precursor solution was used (see reference sign 21 of Figure 8 and page 13, line 19 of document N4), while in claim 1 of auxiliary request 41, the solution comprised a gel precursor and a solvent. Therefore, this request should not be admitted under Article 12(4) RPBA 2007.

*Admittance of a new objection under Article 76(1) EPC for auxiliary request 41*

- *Appellant (patent proprietor)*

Respondent I's objection that Figure 8 and page 15, lines 1 to 15 of document N4 did not form a basis for claim 1 because a sol precursor solution was different

to a gel precursor solution was submitted for the first time in oral proceedings before the board. Thus, it should not be admitted under Article 13(2) RPBA 2020 as there were no exceptional circumstances and because the late submission was not justified with cogent reasons. In any case, support for claim 1 could be found in claim 41; page 4, lines 23 to 25 and in the embodiment of Figure 8 together with page 15, lines 1 to 15 of document N4. Figure 8 starting at the arrow 25 disclosed the process according to claim 1.

- *Respondent I (opponent 1)*

The embodiment disclosed in Figure 8 and on page 15, lines 1 to 15 of document N4 was related to a stable sol precursor solution. Consequently, this passage could not form a basis for a gel precursor according to claim 1. This objection under Article 76(1) EPC was not a new objection. It had been raised under points 139 and 140 on page 22 of respondent II's reply to the statement of grounds of appeal. The starting material for the embodiment of Figure 8 of document N4 was different and thus did not support claim 1. The same held true for the embodiment shown in Figure 3, in which monolithic gel sheets were formed from a polymer sol, this being the only disclosure of a catalyzed sol solution (see page 9, line 21 of document N4). In this embodiment, a stable precursor solution was also used (see page 13, line 19 of document N4).

*Auxiliary request 41 - Articles 84, 123(3) and 76(1)  
EPC*

- *Appellant (patent proprietor)*

The term "*sol solution ... catalyzed to induce gelation*" was clear. The function of the catalyst was clarified.

Claim 14 as granted referred to "*a sol solution (25) comprising a gel precursor and a solvent*". In claim 1 of auxiliary request 41, a catalyst was added. The addition of a catalyst did not extend but limit the scope of protection. The requirements of Article 123(3) EPC were met.

The expression "*sol solution comprising a gel precursor and a solvent, catalyzed to induce gelation*" in claim 1 of auxiliary request 41 was merely a rewording of the corresponding feature of claim 1 of auxiliary request 37 "*catalyzed sol solution comprising a gel precursor and a solvent*". Therefore, the appellant referred to its arguments for claim 1 of auxiliary request 37. A basis for the amendments could be found in document N4, especially in the embodiment of Figure 8 and the corresponding description on page 15, lines 1 to 15. In Figure 8, the dispensed sol was a mixture of the sol precursor solution 21 and the catalyst 22. The reference signs were explained for the Figure 2 embodiment on page 13, line 19 of document N4. A "*catalyzed sol solution*" (see page 9, line 21 of document N4) was a mixture of a stable sol precursor solution and a catalyst (see page 13, lines 18 to 25 of N4). The process claim started at position 25 of Figure 8 where the sol had been thoroughly mixed with the

catalyst (see page 13, line 21 to 22 of document N4). Additionally, claim 41 and page 4, lines 23 to 25 of document N4 were referred to.

- Respondent I (opponent 1)

Claim 1 of auxiliary request 41 was still not clear. The term "*catalyzed sol solution*" was merely rephrased as "*sol solution ..., catalyzed to induce gelation*". It still remained unclear where and to what extent gelation occurred.

The requirements of Article 123(3) EPC were violated. In granted claim 14, "*a sol solution (25) comprising a gel precursor and a solvent*" was claimed, while in claim 1 of auxiliary request 41 it was "*a sol solution (25) comprising a gel precursor and a solvent, catalyzed to induce gelation*". This was a different process as a different starting material with a catalyst was used. Thus, the scope of protection was extended.

There was no basis for the term "*sol solution ..., catalyzed to induce gelation*" for the same reasons as for the term "*catalyzed sol solution*" for auxiliary request 37. As a sol was not the same as a sol solution, page 9, line 21 of document N4 was the only passage which disclosed a "*catalyzed sol solution*". But this passage related to a different embodiment, namely the embodiments shown in Figures 3 and 4. These embodiments described the manufacture of monolithic gel sheets formed from a polymer sol. No rolling or solvent removal took place.

There was no embodiment which supported the process steps of claim 1 of auxiliary request 41 as a whole. Thus, auxiliary request 41 did not fulfil the

requirements of Article 76(1) EPC.

- *Respondent II (opponent 2)*

In its written submissions, respondent II raised objections under Article 76(1) EPC. As the expression "*catalyzed sol solution*" was merely rephrased as "*sol solution ..., catalyzed to induce gelation*", the same objections under Article 76(1) EPC applied as for claim 1 of auxiliary request 37.

*Remittal*

During oral proceedings before the board, the appellant and respondent I stated that they had no objections against a remittal of the case to the opposition division for further prosecution. Respondent II remained silent on this topic in its written submissions.

## **Reasons for the Decision**

1. Main request - added subject-matter - Articles 100(c), 123(2) and 76(1) EPC
- 1.1 The contested patent is based on divisional application EP 2 813 338 (document N6) from earlier ("parent") application EP 2 422 950 (document N5), which, in turn, is a divisional application of EP 1 638 750 ("grandparent" application). The latter is a European patent application filed as international patent application WO 2005/003476 (document N4).
- 1.2 The parent application (document N5) as originally filed differs from the grandparent application



(document N4) only in that new claims and 15 clauses (see paragraph [0015]) corresponding largely to claims 27 to 46 of the grandparent application (document N4) have been added. The originally filed divisional application (document N6) underlying the patent in suit differs from the grandparent application (document N4) in the claims and in that 15 clauses have been added in paragraph [0015]. These clauses correspond to the 15 clauses of paragraph [0015] of the parent application (document N5). Paragraph [0016] of divisional application (document N6) additionally contains 17 clauses corresponding to the claims of the parent application (document N5). The remaining descriptions of documents N4, N5 and N6 are identical. Thus, the requirements of Article 76(1) EPC and Article 123(2) EPC will be discussed with reference only to the grandparent application (document N4).

### 1.3 General principles

For evaluating whether subject-matter extends beyond the content of the earlier application (Article 76(1) EPC), exactly the same principles are to be applied as for Article 123(2) EPC (see Case Law of the Boards of Appeal ("Case Law"), 9th edition, 2019, II.F.2.1). In the case of a sequence of divisional applications, anything disclosed in a divisional application must be directly and unambiguously derivable from what is disclosed in each of the preceding applications as filed (see Case Law, II.F.2.1.2, in particular G 1/06, OJ EPO 2008, 307).

For assessing compliance with Article 123(2) EPC, the gold standard applies (see G 2/10, OJ EPO 2012, 376), i.e. whether the amendment is within the limits of what is explicitly or implicitly, directly and unambiguously

disclosed to the skilled person using common general knowledge, in the whole of the application as filed.

- 1.4 One contentious issue was whether claim 1 of the main request specified the order of the process steps and, if not, whether this conflicted with the disclosure of document N4.
  - 1.4.1 Claim 1 of the main request is concerned with a process comprising different steps, namely: dispensing a sol on a sheet, gelling the sol to form a gelled sheet, rolling the gelled sheet and removing the solvent from the gelled sheet. The term "*comprising*" does not restrict the process steps to a special order. From a technical point of view, it is clear that first a sol is dispensed and afterwards the sol is gelled to form a gelled sheet. The reverse order would technically not make any sense. This is not disputed.
  - 1.4.2 However, the order of the process steps "*rolling the gelled sheet*" and "*removing the solvent from the gelled sheet*" raises two questions. First, what order is defined in claim 1 of the main request for these process steps? In this regard, the meaning of a "*gelled sheet*" has to be established. Second, is the order of process steps of claim 1 of the main request disclosed in document N4?
  - 1.4.3 The board cannot find evidence in document N4 for the appellant's assertion that a "*gelled sheet*" necessarily still contained the solvent while a sheet after solvent removal was only referred to as aerogel or xerogel. The board endorses the opposition division's opinion that a gelled sheet refers to a sheet that has been gelled, i.e. encompasses solid gel network structures, whether or not it contains a solvent. Consequently, no order of

process steps can be derived from the term "*gelled sheet*".

- 1.4.4 The wording of claim 1 "*a process comprising the steps of*" does not imply an order of process steps (see point 1.4.1 above). The fact that the first two steps "*dispensing a sol solution*" and "*gelling the sol to form a gelled sheet*" are listed in chronological order does not necessarily imply that all process steps are listed chronologically.
- 1.4.5 The board cannot accept the appellant's argument that first removing the solvent and then rolling the gelled sheet would be technically implausible. In fact, depending on the circumstances, both orders could make sense.
- 1.4.6 The board concurs with the appellant that the gist of the invention of document N4 was the drying of the rolled sheet as disclosed on page 4, line 23 to 26 of document N4. This is presented as "*a novel and effective way of producing gel sheets for efficient drying operations*". However, in accordance with the case law (see Case Law, II.A.6.3.4), it is a well-established principle that the description must not be used to read additional limitations into the claims. Thus, claim 1 of the main request is interpreted in its broadest technically meaningful sense.
- 1.4.7 It is not disputed that rolling and then drying the gelled sheets is directly and unambiguously disclosed. However, the board does not agree with the appellant that there was also a basis in document N4 for the reverse order. The appellant itself pointed out that the drying of the rolled sheet was the gist of the invention. Consequently, reversing the order of the

steps would be contradictory to the teaching of document N4. The passage on page 6, line 5 of document N4 cited by the appellant is solely directed to solvent extraction and remains silent on the rolling of the gelled sheet. This passage cannot support the order of first removing the solvent and then rolling the sheet.

- 1.4.8 For these reasons, the board concurs with point 3.4 of the decision under appeal that the steps of "*rolling the gelled sheet into a plurality of layers; and removing the solvent from the gelled sheet*" of claim 1 of the main request do not define the order of these steps. Document N4 supports rolling the gelled sheet and then removing the solvent but not the reverse.

1.5 Conclusion on added subject-matter

The subject-matter of claim 1 of the main request goes beyond the content of the grandparent application as originally filed (Article 76(1) EPC).

2. Auxiliary requests 1 to 16 - added subject-matter - Article 76(1) EPC

The arguments under Article 76(1) EPC for the main request discussed under point 1.4 above equally apply for auxiliary requests 1 to 16. Thus, the subject-matter of claim 1 of these requests goes beyond the content of the grandparent application as originally filed (Article 76(1) EPC).

3. Non-admittance of auxiliary requests 17 to 36 and 38 to 40
  - 3.1 Auxiliary requests 17 to 36 and 38 to 40 were filed for the first time with the statement of grounds of appeal.
  - 3.2 Admittance of these requests is governed by Article 12(4) RPBA 2007, which applies in this case under Article 25(2) RPBA 2020. Under the provisions of Article 12(4) RPBA 2007, the board has to take into account everything presented by the parties, *inter alia*, in the notice of appeal, the statement of grounds of appeal and any written reply of the other party or parties, if and to the extent that they relate to the case under appeal and meet the requirements set out in Article 12(2) RPBA 2007. The board, however, has the power to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first-instance proceedings. This discretionary power serves the purpose of ensuring a fair and reliable conduct of judicial proceedings (see point 2.4 of the Reasons for decision T 23/10).
    - 3.2.1 As explicitly stated in point 3.2 of the Reasons for the decision under appeal, auxiliary request 1 was discussed with respect to both requirements, namely Article 76(1) EPC and Article 123(3) EPC, to allow the patent proprietor (now appellant) to carry out amendments in response to both objections. The opposition division expressed its view on Article 76(1) EPC with respect to the order of steps and to the feature "*removing the solvent*" and on Article 123(3) EPC with respect to the feature "*catalyzed sol*". That the parties were informed about the opposition division's opinion and their reasoning

is apparent from points 5.7 and 5.17 of the minutes of the oral proceedings before the opposition division:

- 5.7 The proceedings were interrupted between 12:07 and 13:02 for deliberation. The chairwoman then communicated to the parties that the opposition division had come to the conclusion that at least the requirements of Art. 76(1) EPC are not fulfilled in view of the amendments regarding the order of the steps "rolling the gelled sheet" and "removing the solvent", as well as the latter step in itself. This in itself would be enough to move on to the next auxiliary request, but the opposition division considered it important to also come to a conclusion regarding Art. 123(3) EPC, since this could have an impact on any subsequent auxiliary requests filed by the proprietor.
- 5.17 The proceedings were interrupted between 14:39 and 14:50 for deliberation. The chairwoman then communicated to the parties that the opposition division had come to the conclusion that at least the requirements of Art. 76(1) and 123(3) EPC are not fulfilled by the auxiliary request 1. She also shared the provisional opinion of the opposition division that none of the auxiliary requests on file appeared to solve the main issues that had been identified. The proprietor was asked by the chairwoman how he wanted to proceed.

The patent proprietor was asked "*how he wanted to proceed*" and was given time from 14:52 to 15:10 to file auxiliary request 10 (see points 5.18 to 6.1 of the minutes of the oral proceedings before the opposition division).

Auxiliary requests 17 to 36 and 38 to 40 address one or more of these issues discussed during the first-instance proceedings. Table 1 on page 3 of the statement of grounds of appeal clearly lists that auxiliary requests 17 to 32 insert the feature "*rolled*" and that auxiliary requests 33 to 36 and 38 to 40 insert the feature "*rolled*" and "*using supercritical fluid*", thus overcoming one or more of the objections under Article 76(1) EPC.

- 3.2.2 Consequently, these requests could and should have been filed in the first-instance proceedings, and their

admittance is at the discretion of the board.

- 3.2.3 The discretion of the board of appeal pursuant to Article 12(4) RPBA 2007 serves the purpose of ensuring the fair and reliable conduct of judicial proceedings.
- 3.2.4 In the case at hand and regarding the appellant's reasons for not having filed these requests in the first-instance proceedings and in favour of their admittance at the appeal stage under Article 12(4) RPBA 2007, the board notes the following.

Auxiliary requests 17 to 36 and 37 to 40 contain the term "*catalyzed [...] sol*" or "*catalyzed [...] sol solution*". The appellant submits that these requests would probably not have been admitted during first-instance proceedings because the opposition division would have considered them *prima facie* not allowable under either Article 123(3) EPC or Article 76(1) EPC. In the board's view, this argument is void because any uncertainty about the admittance of requests cannot justify holding them back only to present them at a later stage. Otherwise the appellant would not have filed auxiliary request 18 (identical to auxiliary request 41 in appeal proceedings) during the oral proceedings in opposition.

The simplicity of the amendments or any difficulty to deal with several objections under Article 76(1) EPC do also not *per se* justify the admittance of requests under Article 12(4) RPBA 2007. On the contrary, the fact that amendments are simple or that several objections under Article 76(1) EPC were raised is an indication that these requests could and should have been filed in the first-instance proceedings in an attempt to overcome the established deficiencies.

The appellant also brought forward that these requests were not filed earlier due to the circumstances of the case at hand and for reasons of procedural economy. Reference was made to the fact that the chairwoman of the opposition division had to take over the case at short notice and that she had interrupted the oral proceedings from 9:24 to 10:37 to familiarise herself with the case (see points 1.2 and 2.1 of the minutes of the oral proceedings before the opposition division). The board cannot see any reason in these circumstances for not filing appropriate auxiliary requests in the first-instance oral proceedings.

In the current case, nor is the change of the opposition division's preliminary and non-binding opinion regarding Article 76(1) EPC (see points 2.1.1.6 and 2.1.1.7 of the communication dated 8 March 2018) a reason for not filing auxiliary requests in the first-instance oral proceedings. In fact, the patent proprietor had been informed by the chairwoman about the opposition division's conclusions regarding relevant issues and had then been given the opportunity to react. According to the minutes, the chairwoman had asked the proprietor "*how he wanted to proceed*" and had interrupted the oral proceedings "*to allow for the proprietor to draft a new auxiliary request*" (see points 5.17 to 5.19 and 6.15 to 7.1 of the minutes of the oral proceedings before the opposition division). Thus, the appellant had sufficient opportunity and time to file new auxiliary requests 17 to 36 and 38 to 40 in the first-instance proceedings in response to the opposition division's conclusions on the various objections raised under Articles 76(1) and 123(3) EPC. There is no good reason apparent for postponing the filing of these auxiliary requests to the appeal



proceedings.

3.3 Conclusion on non-admittance of auxiliary requests 17 to 36 and 38 to 40

In view of this, the board exercised its discretion and did not admit auxiliary requests 17 to 36 and 38 to 40 into the appeal proceedings under Article 12(4) RPBA 2007.

4. Auxiliary request 37

4.1 Admittance of auxiliary request 37

4.1.1 Auxiliary request 37, filed with the statement of grounds of appeal, differs from former auxiliary request 10, filed during the oral proceedings before the opposition division, in that the definite article "*the*" was inserted in the last feature: "*wherein the solvent is removed using supercritical fluid*". Thus, auxiliary request 37 was amended in substance compared to former auxiliary request 10 as filed in the proceedings before the opposition division.

4.1.2 The admittance of this request is governed by Article 12(4) RPBA 2007, which applies in this case under Article 25(2) RPBA 2020 (see point 3.2 above).

4.1.3 From the minutes of the oral proceedings before the opposition division, it is apparent that the issue of which solvent is removed or whether the complete solvent is removed had not been discussed. The missing definite article "*the*" had not been identified as being problematic. Therefore, the patent proprietor (now the appellant) had no reason to file this request in the

proceedings before the opposition division.

#### 4.1.4 Conclusion on admittance of auxiliary request 37

Consequently, this request could not have been filed during the oral proceedings before the opposition division, and the board exercised its discretion under Article 12(4) RPBA 2007 to admit it into the appeal proceedings.

#### 4.2 Admittance of the clarity objection

The objection that the term "*catalyzed sol solution*" used in claim 1 of auxiliary request 37 was not clear had been raised in the opposition proceedings as recorded in point 6.9 of the minutes of the oral proceedings before the opposition division:

- 6.9 The opponent 1 indicated that he had objections under Art. 76(1) and 123(2) EPC, but also under Art. 84 EPC. Regarding Art. 76(1) and 123(2) EPC, he argued with reference to the passages on page 2, line 8; on page 3, lines 4 and 6; on page 4, lines 23-26; on page 8, lines 17-20; on page 9, line 21; and on page 15, line 6; as well as claim 41 of the grandparent application as filed, that there was no basis for introducing the word "catalyzed" into claim 1 nor for combining this with "a continuous sheet" that was rolled and "using supercritical fluid", in particular since the embodiments of figures 3 and 8 were not combinable. Regarding Art. 84 EPC, he put forth that the expression "catalyzed sol solution" was contradictory and vague, since there was no reference for when the catalyzation began, and it could also be thermal.

This objection was iterated in point IV.2.2 and IV.13 of respondent I's reply to the statement of grounds of appeal. Consequently, the board has no discretion under Article 12(4) RPBA 2007 not to consider this objection in the appeal proceedings. The appellant's request not to admit this objection had to be refused.

4.3 Article 84 EPC

4.3.1 It was disputed whether the term "*catalyzed sol solution*" was clear. The claims of the patent may be examined for compliance with the requirements of Article 84 EPC only when, and then only to the extent that, the amendment introduces non-compliance with Article 84 EPC (G 3/14, OJ EPO 2015, 102, Order). With respect to the patent as granted, claim 1 according to auxiliary request 37 was amended by specifying that the "*sol solution*" was a "*catalyzed sol solution*". Thus, this term may be examined under Article 84 EPC in opposition and opposition appeal proceedings (see Case Law, II.A.1.4.).

4.3.2 The board concurs with the respondents that the term "*catalyzed sol solution*" allows for different interpretations. This was in principle not contested by the appellant. However, the appellant brought forward that in the context of the patent only one interpretation was technically reasonable, namely that a catalyzed sol solution was a sol where gelation had been induced. The board was not convinced by this argument because the wording "*catalyzed sol solution*" does not include the purpose of the catalyst. The induction of gelation was only one possibility. Another possibility brought forward by respondent I was that the sol solution had been obtained by a process involving catalysts.

4.3.3 The appellant's further argument that, taking into account the patent as a whole, the "*catalyzed sol solution*" had necessarily to be understood as a sol where gelation had been induced cannot be accepted, because "*the claims shall define the matter for which*

*protection is sought*" (Article 84 EPC, first sentence). Under Article 84 EPC, claims must be clear in themselves when read by the person skilled in the art (see Case Law, II.A.1.1. and II.A.3.1.).

4.3.4 The appellant's reference to document TM1 does not change the board's opinion since it merely mentions thermal treatment of sols without defining the meaning of a catalyzed sol solution.

4.3.5 Conclusion on Article 84 EPC

The amendments made to claim 1 of auxiliary request 37 do not meet the clarity requirements of Article 84 EPC.

5. Auxiliary request 41

5.1 Admittance of auxiliary request 41

5.1.1 Auxiliary request 41 had been filed as auxiliary request 18 during oral proceedings before the opposition division (see point 7.1 of the minutes of the oral proceedings before the opposition division). It was not admitted by the opposition division because it was late-filed and clearly not allowable. In the opposition division's view, this request did not overcome the objections under Article 76(1) EPC due to the fact that a "*catalyzed sol solution*" was not the same as a "*catalyzed sol*" as decided for auxiliary request 10 (see points 6.2 and 8. of the Reasons for the decision under appeal). In view of this reasoning, the board is satisfied that the opposition division properly exercised its discretion to not admit auxiliary request 18 (see Case Law, V.A.3.5.1. b)).

5.1.2 Auxiliary request 18 was re-submitted as auxiliary request 41 with the statement of grounds of appeal. Its admittance is governed by Article 12(4) RPBA 2007 (see point 3.2). Following this provision, the non-admittance of a request not admitted in the first-instance proceedings into the appeal proceedings is at the discretion of the board. This is not to say that the board re-exercises the opposition division's discretion based on the case as it was presented then. Instead, the board may now be confronted with different circumstances which it has to take into account (see decision T 0971/11).

5.1.3 In the case at hand, the board, in its communication under Article 15(1) RPBA 2020, expressed the provisional opinion that, in view of the additional evidence filed at the appeal stage, it did not share the opposition division's opinion that in the current context a sol solution was not the same as a sol.

Thus, the board does not share the opposition division's finding that the feature of the "*sol solution, catalysed to induce gelation*" of auxiliary request 41 was *prima facie* unallowable under Article 76(1) EPC.

5.1.4 Furthermore, the board is not convinced that the embodiment shown in Figure 8 and disclosed on page 15, lines 1 to 15 of document N4 does not *prima facie* form a basis for the amendments in claim 1 of auxiliary request 41 as brought forward by respondent I.

5.1.5 Conclusion on admittance of auxiliary request 41

In view of this, the board exercises its discretion and admits auxiliary request 41 under

Article 12(4) RPBA 2007.

5.2 Admittance of a new objection under Article 76(1) EPC

5.2.1 During the oral proceedings before the board, respondent I raised the objection under Article 76(1) EPC that Figure 8 of document N4 did not form a basis for the amendments in claim 1 of auxiliary request 41 because a mixture of a sol precursor solution and a catalyst (see reference sign 21 in Figure 8 and page 13, line 19 of document N4) was not the same as sol solution comprising a gel precursor and a solvent as claimed.

5.2.2 Respondent I referred to points 139 and 140 on page 22 of respondent II's reply to the statement of grounds of appeal to demonstrate that this objection had been raised before. There it is stated that the amendment "*dispensing a sol solution (25) comprising a gel precursor and a solvent, catalyzed to induce gelation, onto a moving element as a continuous sheet(27)*" was not in line with Article 76(1) EPC for the same reasons as discussed regarding auxiliary request 9 claiming a "*catalyzed sol solution*" instead of a "*sol solution (25) comprising a gel precursor and a solvent, catalyzed to induce gelation*". These points concern auxiliary request 9 and read as follows:

6.

**Auxiliary Requests 9 to 12**

111. In Auxiliary Requests 9 and 10, feature 1.1 of claim 1 has been amended to read  
*dispensing a catalyzed sol solution (25) comprising a gel precursor and a solvent onto a moving element as a continuous sheet (27)*
112. This amendment is, however, not in line with Art. 76 (1) EPC.
113. Support for a "catalyzed sol solution" can only be found on page 9, line 21, of N4. However, page 9, line 21, of N4 is directed to the specific embodiments of figures 3 and 4. In these embodiments, no rolling or removing of solvent as in claim 1 of Auxiliary Requests 9 and 10 takes place. In addition, in these embodiments, a polymer sol is used. However, claim 1 of Auxiliary Requests 9 or 10 is not limited accordingly. Also, no fibre reinforcing structures are added, which is not ruled out by claim 1 of Auxiliary Requests 9 or 10. In contrast, this is specifically claimed in claim 2 of Auxiliary Requests 9 or 10.
114. Thus, the subject matter of Auxiliary Requests 9 and 10 is an impermissible intermediate generalization with respect to the disclosures on page 9, line 21, of N4.

Similar submissions can be found in respondent I's reply to the statement of grounds of appeal under points IV.14 and IV.6.

The board observes that these passages do not refer to the disclosure of Figure 8 and page 15, lines 1 to 15 of document N4. They also do not mention an alleged difference between a sol precursor solution and a sol solution comprising a gel precursor and a solvent. Thus, respondent I's objection mentioned under point 5.2.1 above was raised for the first time in oral proceedings before the board.

- 5.2.3 This new objection constitutes an amendment to respondent I's appeal case. In accordance with the provisions of Article 13(2) RPBA 2020, which applies in view of the transitional provisions set out in Article 25(3) RPBA 2020, an amendment to a party's appeal case shall, in principle, not be taken into account unless there are exceptional circumstances which have been

justified with cogent reasons by the party concerned.

5.2.4 Respondent I admitted that such circumstances did not exist.

5.2.5 Conclusion on admittance of the new objection under Article 76(1) EPC

For these reasons, this new objection was not taken into account in accordance with Article 13(2) RPBA 2020.

5.3 Article 84 EPC

5.3.1 Claim 1 of auxiliary request 41 is clarified in that the expression "*catalyzed sol solution*" is re-phrased to "*sol solution ..., catalyzed to induce gelation*". Having clarified the function of the catalyst according to page 9, line 31 to page 10, line 5 of document N4, the clarity objections are overcome.

5.3.2 Respondent I still saw a lack of clarity as it was not clear from claim 1 of auxiliary request 41 where and to what extent gelation occurred. This, however, relates to the breadth of the claim and is not, per se, a clarity issue relating to the amended expression "*sol solution ..., catalyzed to induce gelation*".

5.3.3 Conclusion on clarity

In view of the foregoing, claim 1 of auxiliary request 41 is clear (Article 84 EPC).



5.4 Article 123(3) EPC

5.4.1 Respondent I argued that due to the presence of a catalyst, the process of claim 1 of auxiliary request 41 was a different process with a different starting material using a catalyst, thus the scope of the claim was extended.

5.4.2 The board, however, cannot accept this argument. Claim 14 as granted covered a process comprising the step of dispensing a sol solution comprising a gel precursor and a solvent. The presence or absence of a catalyst was not specified. Thus, granted claim 14 covered sol solutions with and without a catalyst. Claim 1 of auxiliary request 41 is now restricted to sol solutions catalyzed to induce gelation. Consequently, the scope of protection is not extended.

5.4.3 Conclusion on the scope of protection

The requirements of Article 123(3) EPC are met.

5.5 Article 76(1) EPC

5.5.1 The parties had diverging views on whether in the context of the application the terms "sol" and "sol solution" are used as synonyms. The board observes that a sol is very often designated as a colloidal solution (see documents TM1, TM2 and BB4/C&F4: "*sol is a type of colloid in which a solid is dispersed in a liquid*"). This is consistent with paragraph [0010] of the patent and page 3, lines 5 to 9 of document N4, both referring to combining a low viscosity solution of a sol and a (catalyzing) agent for forming a catalysed sol. Also in the context of Figure 8, a "sol" (see column 14, line

35 of the patent and page 15, line 1 of document N4) is produced by mixing a stable sol precursor solution (21) with a catalyst (22). The board thus concurs with the appellant that the terms "sol" and "sol solution" are synonyms in the current context.

5.5.2 The board also concurs with the appellant that claim 1 of auxiliary request 41 is based on the embodiment shown in Figure 8 and page 15, lines 1 to 15 of document N4. Figure 8 shows the dispensing of a sol solution (25) with a catalyst (22) onto a fibrous batting material (27). Reference sign 21 is a stable sol precursor solution, and reference sign 22 is a catalyst to induce gelation of the sol (see page 13, line 19 of document N4). The gelled sheet is then rolled into a plurality of layers with a spacer layer (20) provided between two layers of the continuous sheet (see page 15, lines 3 to 5 of document N4). The removing of the solvent using supercritical fluid is disclosed in the corresponding part of the description on page 15, lines 6 to 8 of document N4.

5.5.3 Regarding respondent I's argument that a catalyzed sol solution was disclosed only on page 9, line 21 in the context of the embodiment of Figure 3, the board points out that page 13, lines 29 of document N4, which refers to the same embodiment, discloses a stable sol precursor solution 30 and a catalyst 31. As argued by the appellant, the same mixture is used for all the embodiments shown in Figures 1 to 8. It is clear from the figures and the description on pages 13 to 14 of document N4 that a stable sol precursor solution and a catalyst are common to all these embodiments (see reference signs 11 and 12 in line 8 of page 13 for Figure 1, reference signs 21 and 22 in line 19 of page 13 for Figure 2, reference signs 30 and 31 in line 29

of page 13 for Figure 3, reference signs 40 and 41 in lines 5 to 6 of page 14, and reference signs 70 and 71 in lines 23 to 24 of page 14 for Figure 7). Reference signs 21 and 22 are equally used in the embodiment shown in Figure 8. Consequently, the sol solution, catalyzed to induce gelation, i.e. the mixture of a stable sol precursor solution and a catalyst, is a conventional chemically catalyzed sol-gel as mentioned on page 9, lines 14 to 15 of document N4.

5.5.4 For these reasons, the subject-matter of claim 1 of auxiliary request 41 does not go beyond the content of document N4 (Article 76(1) EPC).

## 6. Remittal

6.1 The remittal of the case to the opposition division is within the discretion of the board in accordance with Article 111(1) EPC.

6.2 The subject-matter of claim 1 of auxiliary request 41 was not examined by the opposition division as to its patentability. In its summons to oral proceedings, the opposition division gave a preliminary opinion for novelty of the subject-matter of granted claim 14 corresponding to claim 1 of the current main request. Compared to claim 1 of the main request, claim 1 of auxiliary request 41 is now restricted to one specific embodiment. Thus, the amendments are such that the opposition division's opinion might have to change. Moreover, the parties stated that they had no objections against a remittal of the case to the opposition division for further prosecution. Therefore, in accordance with Article 11 RPBA 2020, special reasons present themselves for remitting the case to the opposition division for further prosecution.

6.3 Thus, it is appropriate to set aside the decision under appeal and remit the case to the opposition division for further prosecution on the basis of auxiliary request 41.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution.

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated