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**Datasheet for the decision  
of 2 May 2023**

**Case Number:** T 0936/21 - 3.3.09

**Application Number:** 09775134.1

**Publication Number:** 2350178

**IPC:** C08J9/00

**Language of the proceedings:** EN

**Title of invention:**

METHOD FOR PRODUCING A FLAME RETARDANT FOAM FORMING  
COMPOSITION

**Patent Proprietor:**

Soudal

**Opponent:**

Tremco CPG Netherlands B.V.

**Headword:**

Method for producing a flame retardant foam forming  
composition/SOUDAL

**Relevant legal provisions:**

EPC Art. 123(2), 111(1)  
RPBA 2020 Art. 11

**Keyword:**

Amendments - added subject-matter (no)  
Remittal - (yes)

**Decisions cited:**

T 0731/17



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

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Case Number: T 0936/21 - 3.3.09

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.09**  
**of 2 May 2023**

**Appellant:** Soudal  
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**Representative:** Gevers Patents  
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**Respondent:** Tremco CPG Netherlands B.V.  
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**Representative:** Lippert Stachow Patentanwälte Rechtsanwälte  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 9 April 2021  
revoking European patent No. 2350178 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** A. Haderlein  
**Members:** C. Meiners  
F. Blumer

## Summary of Facts and Submissions

- I. This decision concerns the appeal filed by the patent proprietor (appellant) against the opposition division's decision to revoke the patent in suit (hereinafter "the patent").
- II. In its notice of opposition, the opponent (respondent) had requested that the patent be revoked in its entirety based on the grounds for opposition under Article 100(a) EPC in combination with Article 56 EPC (lack of inventive step), Article 100(b) EPC (lack of sufficiency of disclosure) and Article 100(c) EPC (added matter).
- III. In its decision, the opposition division found, *inter alia*, that the subject-matter of the main request did not meet the requirement of Article 123(2) EPC. The version of auxiliary request 1 pending at that time was found not to meet the requirement of Article 123(2) EPC either. Further, the subject-matter of claim 1 of the second and third auxiliary requests pending at that time lacked clarity and thus did not meet the requirements of Article 84 EPC.
- IV. With its statement of grounds of appeal, the appellant re-submitted the main request underlying the decision of the opposition division and filed auxiliary requests 1 to 5.
- V. Claim 1 of the main request reads as follows:  
"A method for producing a one component foam forming composition which contains at least one organic prepolymer composition for producing a fire retardant foam upon extrusion of the foam forming composition

*from a pressurized container, characterized in that the prepolymer composition and from 0.5 - 30 wt.% expandable graphite with respect to the weight of the prepolymer are supplied to the container, after which the container is sealed and pressurized by injection of at least part of the pressurized propellant into the closed container and the contents of the container are subjected to motion to cause mixing of the prepolymer composition, the expandable graphite and the propellant, wherein the prepolymer composition is at least partially prepolymerised when the expandable graphite is added and wherein the organic prepolymer composition contains a prepolymer which is a NCO or silane terminated prepolymer and wherein the prepolymer has an isocyanate monomer content of less than 3 wt.% with respect to the total weight of the prepolymer."*

VI. The appellant's arguments, where relevant to the decision, can be summarised as follows:

- The subject-matter of the main request did not extend beyond the disclosure of the application as originally filed. The opposition division erred when it concluded that it was not directly and unambiguously derivable from the application that the features "isocyanate monomer content of less than 3 wt.% with respect to the total weight of the prepolymer" and "viscosity higher than 40.000 mPa·s at 20°C", as disclosed on page 12, lines 10 to 16, could be read independently. The two features were not inextricably linked. This could be inferred by a skilled person, in particular from Comparative Example 4 and Example 5.
- The submissions made in points 5 to 7 of the respondent's letter of 26 April 2023 should not be

admitted into the proceedings as they were late-filed.

- Consequently, the case should be remitted to the opposition division for an assessment as to whether the main request complies with the requirements of Articles 83 and 56 EPC.

The respondent's arguments, where relevant to the decision, can be summarised as follows:

As held by the opposition division in its decision, claim 1 of the main request did not comply with the requirement of Article 123(2) EPC. In particular, the opposition division had correctly concluded that the viscosity of greater than 40.000 mPa·s, as disclosed on page 12, line 11, of the application, related to the "prepolymer composition". Even if the viscosity value of greater than 40.000 mPa·s as disclosed on page 12 were to be considered to relate to the viscosity of the prepolymer, the viscosity would be inextricably linked with the isocyanate monomer content of less than 3 wt.%. It also followed from page 7, lines 23 to 27, that the viscosity constituted an essential feature for bringing about an allegedly homogeneous dispersion of the expandable graphite. Example 5 was labelled "comparative" in the patent as granted and did not provide support for the amendment in question. The reference in Example 5 to the "prepolymer" was an obvious clerical error, as the viscosity had been measured on the basis of the composition rather than the prepolymer.

VII. Final requests

The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or one of auxiliary requests 1 to 5 as filed with the statement of grounds of appeal.

The respondent requested that the appeal be dismissed.

**Reasons for the Decision**

1. *Amendments (Article 123(2) EPC) - main request*

1.1 This request corresponds to the main request on which the decision under appeal is based. The amendment in dispute is "*and wherein the prepolymer has an isocyanate monomer content of less than 3 wt.% with respect to the total weight of the prepolymer*".

1.2 The opposition division's conclusion is that it is not directly and unambiguously apparent from the passage on page 12, lines 10 to 18, of the application as filed that the second sentence of this paragraph (disclosing the contentious feature) can be taken independently from the teaching of the first sentence (directed to the viscosity range of higher than 40.000 mPa·s at 20°C for the polymer or polymer mixture).

1.3 First, the board observes that the two sentences are not linked semantically. The respondent argued that the conjunction "particularly" at the beginning of the second sentence, containing the wording inserted into claim 1, made it clear that it referred to the previous

sentence. The board does not see any substantiation for this contention. While such an interpretation would be possible, it does not follow from the information contained in this passage. The two requirements relate to different properties of the polymer (compositions). Further, as argued by the appellant, the first sentence mentions that the polymers or polymer mixtures having a viscosity of greater than 40.000 mPa·s *can be* compounded with expandable graphite and other additives. In line with the remarks made in point 1.6 below, it also follows from this wording that the first property (specific viscosity) is merely optional in the application, as is the isocyanate content of less than 3 wt.% referred to in the subsequent sentence of the second full paragraph on page 12.

1.4 The board agrees with the respondent's line of argument and the decision under appeal that the polymer or polymer mixture referred to in line 11 on page 12 of the application as originally filed can in fact also be understood to be the (pre)polymer composition, to which it is also referred in the second paragraph on page 6 and in claims 2 and 15 of the application, for example. In the application, the prepolymer composition is used synonymously with the "preformed polymer" (see page 7, lines 31 to 32). The board holds that this interpretation, of including the prepolymer composition, is also logical in view of the requirement to adjust the viscosity of the *composition* to provide a homogeneous dispersion of the expandable graphite in the foam-forming composition, as argued by the respondent.

1.5 In this context, the respondent also put forward that the viscosity of at least 40.000 mPa·s at 20°C was an essential feature in the application to avoid the



settling of the expandable graphite filler.

- 1.6 By contrast, the board takes the view that it is unambiguously derivable from the application that a polymer or polymer composition viscosity of greater than 40.000 mPa·s is *not essential* for achieving the desired result. In this context, page 6, lines 6 to 9, of the application clearly sets out that the prepolymer composition *preferably* has a viscosity of at least 40.000 mPa·s at 20°C to achieve *optimum* mixing. The at least partially prepolymerised formulation or an at least partially prepolymerised polymer has a much higher viscosity, facilitating homogenisation of expandable graphite with the preformed polymer (see page 7, lines 12 to 20, of the description as filed). In line with this, the original claim 1 does not call for a minimum viscosity of at least 40.000 mPa·s at 20°C for the prepolymer or prepolymer composition.

In general terms, the application reveals on page 2, line 10 and lines 16 to 19, that a *reduced isocyanate content* is envisaged, and the text on page 9, lines 19 to 27, stresses that fire-retardant properties of the formed foams of class B2 and B1 can be obtained even with *negligible* halogen and/or *monomeric isocyanate contents*. This statement is not linked to any specific viscosity value either. By contrast, according to the application, an isocyanate monomer content of up to 10 or even 20 wt% can be present in conventional prepolymers. In line with this, it follows from Example 5 that a prepolymer viscosity of about 20.000 mPa·s is sufficient to pass the B2-test and at the same time achieve a homogenous aerosol content in the can.

In view of the above, a viscosity of at least 40.000 mPa·s is not essential for the compositions prepared.

- 1.7 Moreover, the application also contains an explicit embodiment reflecting the aforementioned amendment: Example 5 is prepared in the same way as Comparative Example 4, save for the addition of the expandable graphite filler in Example 5. The polymers also have the same viscosity value. Comparative Example 4 discloses the 100% conversion of the isocyanate (NCO) groups by using a silane-based end-capping agent. It follows that Example 5 of the application reveals an embodiment of claim 1 of the main request not only implicitly but also explicitly to a skilled person in view of their common general knowledge. A polymer not comprising residual NCO monomer at all comprises a *fortiori* less than 3 wt.% of isocyanate monomer based on the total weight of the prepolymer. Thus, in the case in hand, a disclosure of the alleged intermediate generalisation exists in the original application documents. This would mean also applying the sole value for the NCO monomer content disclosed for the prepolymers to prepolymers having viscosities of 40.000 mPa·s or lower. Even if it is assumed that the viscosity value indicated in Example 5 for the polymer indicates the viscosity of the prepolymer composition, as argued by the respondent in the oral proceedings, this would not be at odds but rather in line with the conclusion that the passage on page 12, lines 10 to 11, of the application also includes prepolymer compositions in the expression "polymer or polymer mixture" for the above-indicated reasons. The opposition division's conclusion that an isocyanate monomer content of less than 3 wt.% would not apply to Example 5 as it is silane-terminated is not persuasive.

- 1.8 The value of (less than) 3 wt.% for the isocyanate monomer content is the only specific value for embodiments in accordance with the invention as disclosed in the application.
- 1.9 The respondent argued that an inextricable functional relationship existed between the viscosity of the prepolymer and the isocyanate monomer content. While the board concurs that a lower (residual) isocyanate monomer content will lead to a higher viscosity of the polymer in question, this undisputed common general knowledge does not support the fact that the specific end-point for the viscosity of 40.000 mPa·s for the prepolymer or prepolymer composition would be inextricably linked with the specific value of 3 wt.% or lower for the isocyanate monomer content. By contrast, at negligibly low isocyanate monomer contents obtained in Example 5, a viscosity of only 20.000 mPa·s has been obtained for the polymer/polymer composition. In the view of the board, this embodiment is clearly an embodiment of claim 1 of the main request.

Thus, contrary to the position of the opposition division, this embodiment is a direct and unambiguous disclosure that an isocyanate monomer content of < 3 wt.% with respect to the total weight of the prepolymer is not associated or linked in the application as filed with a viscosity of at least 40.000 mPa·s for the prepolymer or prepolymer composition.

The fact that in Example 7 of the application a viscosity for an NCO-terminated prepolymer exceeding 40.000 mPa·s has to be expected when measured at 20°C has no bearing on this finding.

While Example 5 features an embodiment having a negligibly low isocyanate monomer content (due to complete end-capping of remaining isocyanate groups), the board sees no criticality of other embodiments falling within the range of less than 3 wt.% for the NCO monomer content towards the upper end-point of that range. Obviously, while it can be expected that such polymers would exhibit even lower viscosity values than 20.000 mPa·s (see also the respondent's corresponding remarks in point 7 of its submission dated 26 April 2023), the application stresses the importance of at least partial prepolymerisation on page 7, lines 10 to 20, to improve the dispersion of the expandable graphite. Such embodiments would thus also be in line with the general teaching of the application as filed.

1.10 Consequently, there is no link between the first and second sentences in the passage on page 12, lines 10 to 18, of the application that would either be derivable from the semantic content of that passage or from the technical teaching and disclosure of the application as a whole. Thus, the amendment in question is directly and unambiguously derivable from the application as filed. No further objections were raised by the respondent with regard to the subject-matter of the main request under Article 123(2) EPC, and the board does not have any objections either.

1.11 Since the board has arrived at the conclusion that the requirement of Article 123(2) EPC is met even when taking into account the arguments put forward in points 5 to 7 of the respondent's letter of 26 April 2023, there is no need to decide on whether these actually constitute an amendment to the respondent's case or on the admissibility thereof.

1.12 Hence, the main request meets the requirements of Article 123(2) EPC.

2. *Remittal to the first instance (Article 111(1) EPC and Article 11 RPBA 2020)*

Article 11 RPBA 2020 has to be construed in conjunction with Article 12(2) RPBA 2020, which stipulates that it is the primary object of the appeal proceedings to review the decision appealed in a judicial manner, see, for example, T 731/17, Reason 7.2. This requirement would not be respected if the board were to carry out a complete examination of the case.

Applied to the present case, this would mean examining the question of sufficiency of disclosure and inventive step. The decision of the opposition division does not deal with these issues. Consequently, the board has decided to remit the case to the opposition division for the assessment of sufficiency of disclosure and inventive step (Articles 83 and 56 EPC, respectively), as requested by the appellant.

## 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:



M. Schalow

A. Haderlein

Decision electronically authenticated