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**Datasheet for the decision
of 25 June 2025**

Case Number: T 1164/23 - 3.2.05

Application Number: 09702098.6

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Language of the proceedings: EN

Title of invention:
SYSTEM AND METHOD FOR PRODUCING AN EXTRUDED EXPANDABLE BARRIER

Patent Proprietor:
Sika Technology AG

Opponent:
L & L Products Europe S.A.S.

Relevant legal provisions:
EPC Art. 100(c), 123(2), 111(1)
RPBA 2020 Art. 13(2), 11

Keyword:

Grounds for opposition - added subject-matter (yes)
Amendments - intermediate generalisation - allowable
(auxiliary requests 1, 1D: no)
Amendment after notification of Art. 15(1) RPBA communication
- exceptional circumstances (auxiliary request 1F: no) -
exceptional circumstances (new objection, auxiliary request
1G: yes)
Remittal - (yes)

Decisions cited:

G 0002/10, G 0001/24



Beschwerdekammern

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Case Number: T 1164/23 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 25 June 2025

Appellant:
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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 26 April 2023
revoking European patent No. 2242634 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman T. Vermeulen
Members: C. Kujat
F. Blumer

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division of the European Patent Office concerning revocation of the European Patent No. 2 242 634 (hereinafter: the patent) pursuant to Article 101 (3) (b) EPC.
- II. In the impugned decision, the opposition division came to the conclusion that the ground for opposition under Article 100(c) prejudiced the maintenance of the patent as granted and that the claims of auxiliary requests 1, 1A to 1C and 2 to 10 did not meet the requirements of Article 100(c) or 123(2) EPC, respectively. Claim 1 of auxiliary request 1D was found to lack inventive step within the meaning of Article 56 EPC. Auxiliary request 1E was not admitted.
- III. In preparation for oral proceedings, the Board issued a communication pursuant to Article 15(1) RPBA dated 14 February 2025 setting out its provisional opinion on the relevant issues. Oral proceedings were duly held in the presence of both parties on 25 June 2025. During the oral proceedings, auxiliary requests 1F and 1G were filed
- IV. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), or on the basis of one of
- auxiliary request 1 as submitted in the proceedings before the opposition division;
 - auxiliary request 1F as filed during the oral proceedings before the Board;

- auxiliary request 1D as submitted in the proceedings before the opposition division;
- auxiliary request 1G as filed during the oral proceedings before the Board;
- auxiliary requests 1A, 1B, 1C, 1E and 2 to 10, all as submitted in the proceedings before the opposition division.

As an auxiliary measure, the appellant requested that the case be remitted to the opposition division for further prosecution in regard of the main request or any of auxiliary requests 1, 1A to 1E and 2 to 10.

V. The respondent (opponent) requested that the appeal be dismissed. In case the Board decided that the claims of the main request or of one of auxiliary requests 1, 1A, 1B, 1C, 1G met the requirements of Article 123(2) EPC, or in case that the Board admitted auxiliary request 1E, the respondent requested remittal to the opposition division.

VI. Claim versions

(a) Claim 1 of the main request (patent as granted) reads as follows:

"A system (100), comprising:
a barrel (106) having a material inlet port (104) disposed proximate to a first end and configured to receive an expandable material through the material inlet port (104),
wherein the expandable material is a heat activated expandable material;
a die (120) disposed proximate to a second end of the barrel (106), the die (120) including a first opening

to receive the expandable material from the barrel (106) and a second opening;
a screw (108) substantially disposed within the barrel (106) and configured move the expandable material through the barrel (106) from the inlet port (104) to the die (120),
characterized in further comprising:
a profiler (122) disposed adjacent to the die (120) at the second opening,
wherein the profiler (122) includes a shaped cut-out configured to extrude the expandable material into a formed extruded expandable barrier,
wherein the profiler (122) is at least one of a removable plate and a removable screen;
a controller configured to implement a heating profile;
and
a plurality individual temperature controlled zones,
wherein the controller is configured to regulate each temperature controlled zone according to the heating profile."

(b) Claim 5 of the main request reads as follows:

"A method, comprising:
identifying a cavity to be sealed;
designing an extrusion profile;
developing a heating profile;
manufacturing a profiler (122) according to the extrusion profile;
extruding an expandable material using an extrusion system (100),
wherein the expandable material is a heat activated expandable material,
the extrusion system (100) being based in part on the heating profile, and

the expandable material being extruded through the profiler (122),
wherein the profiler (122) is at least one of a removable plate and a removable screen;
regulating a plurality of temperature controlled zones according to the heating profile; and
cutting the extruded expandable material after being extruded through the profiler (122) to form an extruded expandable barrier configured to seal the identified cavity."

(c) Claim 1 of auxiliary request 1 differs from claim 1 of the main request by the following amendments (additions highlighted by the Board):

"...a controller configured to implement a heating profile, wherein the heating profile is configured to increase the temperature of the expandable material as the expandable material travels through the barrel (106) from the inlet port (104) to the die (120); and a plurality individual temperature controlled zones, wherein the controller is configured to regulate each temperature controlled zone according to the heating profile, the heating profile being further configured to maintain each temperature controlled zone at a temperature below 121.11 degrees Celsius."

(d) Claim 4 of auxiliary request 1 differs from claim 5 of the main request by the following amendment (addition highlighted by the Board):

"...regulating a plurality of temperature controlled zones according to the heating profile;
maintaining each temperature controlled zone at a temperature at or below 121.11 degrees Celsius; and

cutting the extruded expandable material after being extruded through the profiler (122) to form an extruded expandable barrier configured to seal the identified cavity."

(e) The only claim of auxiliary request 1F differs from claim 1 of auxiliary request 1 by the following amendments (additions highlighted by the Board):

"... an extrusion screw (108) substantially disposed within the barrel (106) ...
... a controller configured to implement a heating profile, wherein the heating profile is configured to increase the temperature of the expandable material as the expandable material travels through the barrel (106) from the inlet port (104) to the die (120);
a plurality of independently controlled heating elements selectively controlled via the controller according to the heating profile; and
a plurality individual temperature controlled zones, wherein the controller is configured to regulate each temperature controlled zone according to the heating profile, the heating profile being further configured to maintain each temperature controlled zone at a temperature below 121.11 degrees Celsius;
wherein the system (100) is configured to use a combination of heating elements and shear heating from the extrusion screw to apply heat to the expandable material inside the barrel (106)."

(f) Claim 1 of auxiliary request 1D differs from claim 1 of auxiliary request 1 by the following amendments (deletions highlighted by the Board):

"... wherein the profiler (122) is ~~at least one of a removable plate and a removable screen;~~ ..."

(g) The only claim of auxiliary request 1G differs from the claim of auxiliary request 1F by the following amendments (deletions highlighted by the Board):

"... wherein the profiler (122) is ~~at least one of a removable plate and a removable screen~~; ..."

VII. The parties' relevant arguments can be summarised as follows.

(a) Main request - Amendments

(i) Appellant (patent proprietor)

According to decision T 479/20, the context of the application must be considered in its entirety. The features added to original claim 1 are each literally disclosed in respective original claims 2, 3 and 6. The only question which needs to be answered is whether a skilled person can derive from the whole of the originally filed application that the features of dependent claims 2, 3 and 6 relate to independent alternatives, or whether they cumulatively contribute to the invention. A skilled person only needs to realise that these features can be combined. As the system according to granted claim 1 is disclosed in a single embodiment according to figure 1 and original paragraphs [0040] and [0041], the skilled person realizes that a heat activated material according to original claim 2 may be combined with the profiler according to paragraph [0040] and the heating profile according to paragraph [0041].

The claimed combination of features does not need to be disclosed completely in the description. Paragraphs [0040] and [0041] rather serve to clarify that the

features of original claims 5 and 6 do not relate to exclusive alternatives, but may be combined. There are no interactions with the further features of the embodiment, and thus, these features are not mandatory. In an alternative approach, the profiler according to original dependent claim 6 may be combined with original claim 1 because of its claim dependency. Despite the lack of claim dependencies between original claims 2 and 6, a skilled person would never consider that the heat activated material and the profiler relate to alternatives, because there is no technical or functional connection between these features. The same applies to the heating profile according to original claim 3. Original paragraph [0041] discloses a plurality of independently controlled heating devices along the extrusion system. Reference is made to the decision G 1/24 of the Enlarged Board of Appeal, in particular to points 16 and 19 of the Reasons. These arguments apply in an analogue manner to granted claim 5. In this context, paragraphs [0066] and [0067] of the application as filed should be taken into account.

(ii) Respondent (opponent)

Original paragraphs [0040] and [0041] do not only disclose the additional features (a profiler and a heating profile), but additional subject-matters such as hopper, a feedthroat, an extrusion screw rather than a screw, a combination of heating elements and shear heating from extrusion screw to apply heat, a screw drive motor and a heating profile as a pre-determined set of heating parameters that control one or more temperature devices in the system. Paragraphs [0066] and [0067] of the application as filed are part of the description of the method which extends from paragraphs

[0061] to [0071] and comprises many more features that are not part of the independent method claim. Therefore, granted claims 1 and 5 contain subject-matter which extends beyond the content of the application as filed.

(b) Auxiliary request 1 - Amendments

(i) Appellant

For allowability of the amendments in claim 1, the skilled person only needs a single additional information, i.e. that the features of the original dependent claims jointly improve the general teaching of claim 1. This additional information may be derived from the common understanding of a skilled person. Shear heating inevitably occurs due to friction generated by the inner wall of the barrel and by the screw which moves the material through the barrel. Further, a plurality of individual temperature controlled zones implies that a plurality of heaters is located along the length of the barrel. As to the amendments in claim 4, further basis can be found in paragraph [0067] of the application as filed.

(ii) Respondent

A transport screw does not inevitably generate shear heating of the transported material. In addition to that, the disclosure of a screw in a barrel does not imply that there are also independently controlled heating elements along the length of the barrel.

(c) Auxiliary request 1F - Admissibility

(i) Appellant

The late filing of this request is justified because the rejection of auxiliary request 1 is based on new arguments presented for the first time during the oral proceedings held before the board, in particular that certain features allegedly missing in the claims are present in other dependent claims and that a plurality of independently controlled heating elements along the length of the barrel is required.

(ii) Respondent

There are no exceptional circumstances, because the deficiencies in claim 1 of auxiliary request 1 are identical to those in claim 1 of the main request. With regard to that claim, paragraphs 5.4 and 5.5. of the communication pursuant to Article 15(1) RPBA points out that the embodiment in paragraphs [0040] and [0041] discloses an extrusion system with a plurality of independently controlled heaters for increasing the temperature of the barrel along its length, and that the extrusion system uses a combination of heating elements and shear heating.

(d) Auxiliary request 1D - Admissibility of a new objection, amendments

(i) Appellant

The objection under Article 123(2) EPC against this request should not be admitted, because the opposition division had not examined this request under Article 123(2) EPC. The objection was raised only during the oral proceedings before the Board. Claim 1 of auxiliary request 1A had not been attacked under Article 123(2) EPC. The case should be remitted for the

examination of auxiliary request 1D under Article 123(2) EPC since the respective objection should be discussed in two instances.

(ii) Respondent

Claim 1 of auxiliary request 1D is identical to claim 1 of auxiliary request 1A. The arguments relevant for the amendments in auxiliary request 1D have already been discussed in the context of other requests. The objection under Article 123(2) EPC is *prima facie* relevant.

(e) Auxiliary request 1G - Admissibility

(i) Appellant

Auxiliary request 1G is a legitimate reaction to an objection raised only during oral proceedings before the Board.

(ii) Respondent

The request is not *prima facie* allowable and should not be admitted for the same reasons as auxiliary request 1F.

(f) Auxiliary request 1G - Amendments

(i) Appellant

Element 110 in figure 1 of the application as filed is not a motor. Motor 128 is implicitly contained by virtue of the claimed extrusion screw which is configured to move the material through the barrel. Original claim 7 relates to a plurality of heating

elements, which is synonymous with two or more heating elements. The gradual temperature increase is implicit from the claim wording. The change to "configured to use" avoids the addition of a method step to a system claim.

(ii) Respondent

A plurality of independently controlled heating elements is disclosed in paragraph [0041] only as three or more heaters, and only in combination with a gradual temperature increase. A gradual increase excludes any discontinuity. Original claim 7 only depends on original claim 1. Further, the extrusion system according to paragraphs [0040] and [0041] comprises a first motor 110 and a second motor 128, which is not claimed. Furthermore, the original disclosure "system uses a combination of heating elements and shear heating" is amended to "configured to use...", which only relates to an option.

(g) Auxiliary request 1G - Remittal

(i) Appellant

The case should not be remitted to the opposition division for further prosecution on the basis of auxiliary request 1G.

(ii) Respondent

Auxiliary request 1G is based upon auxiliary request 1D, so the case should be remitted to the opposition division for the same reasons as presented by the appellant for auxiliary request 1D.

Reasons for the Decision

1. Main request - Amendments

The appellant disputes the opposition division's finding that there is added subject-matter in granted claims 1 and 5, see paragraph 3.3 of the impugned decision.

- 1.1 It is common ground that granted claim 1 is a combination of original claims 1, 2, 3 and 6, and that each of original dependent claims 2, 3 and 6 solely depends upon original claim 1. It is also common ground that original paragraphs [0040] and [0041] and Figure 1 of the application as filed relate to an embodiment in which features corresponding to those of original dependent claims 2, 3 and 6 are presented in combination.
- 1.2 According to the decision G 2/10 of the Enlarged Board of Appeal (OJ EPO 2012, 376), any amendment to the parts of a European patent application or of a European patent relating to the disclosure is subject to the mandatory prohibition on extension laid down in Article 123(2) EPC and can therefore, irrespective of the context of the amendment made, only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed (see paragraph 4.3 of G 2/10). This test is commonly referred to as the "gold standard".
- 1.3 The Board accepts that the features added to original claim 1 are each literally disclosed in respective original claims 2, 3 and 6. However, because of the

lack of dependencies between these claims, the amendment in granted claim 1 can only be allowable under the "gold standard" if the remainder of the original application, i.e. the description and figures, provides a basis for a combination of these features. In this regard, the Board concurs with the appellant that the context of an application must be considered in its entirety when assessing allowability of an amendment (statement setting out the grounds of appeal, last paragraph on page 2: "*Gesamtkontext*"). In fact, as stated in G 2/10, any amendment can only be made within the limits of what a skilled person would derive from the whole of these documents as filed (see paragraph 4.3 of G 2/10, emphasis added by the Board). The Board must therefore examine whether a skilled person in the present case would derive from the whole of the application that original claims 1, 2, 3 and 6 can be combined *per se*, i.e. without the incorporation of further features.

- 1.4 Contrary to the appellant's view, it does not suffice for allowability of the amendment under the "gold standard" if the features of original claims 2, 3 and 6 cumulatively contribute to the invention, or if a skilled person realizes that these features can be combined. While these may be necessary conditions, the sufficient condition for allowability under the "gold standard" is that the amendment is within the limits of what a skilled person would derive directly and unambiguously from the application. In that respect, the Board concurs with the appellant that original paragraphs [0040] and [0041] relate to a single embodiment of an extrusion system. In this embodiment, system 100 is an extrusion system which comprises one or more controlled temperature devices and extrudes an expandable material through a die with a profiler in

the form of a removable plate or a screen. However, the embodiment does not only disclose the features of original claims 3 (a plurality of individual temperature controlled zones regulated by a controller according to the heating profile) and 6 (the profiler being at least one of a removable plate and a removable screen), but also further features such as a hopper, a feedthroat, an extrusion screw rather than the claimed screw, a combination of heating elements and shear heating from the extrusion screw to apply heat, and a screw drive motor. It is common ground that these further features were not incorporated into claim 1 of the main request. Therefore, it does not suffice for allowability of the amendment that the skilled person might realize from paragraphs [0040] and [0041] that a heat activated material according to original claim 2 may be combined with the profiler and the heating profile. Instead, as the combination of original claims 1, 2, 3 and 6 is less specific than the embodiment in paragraphs [0040] and [0041], the claim is directed to an intermediate generalisation which omitted the recited further features.

1.5 The Board must therefore examine whether this intermediate generalisation is justified. In accordance with established jurisprudence, see Case Law of the Boards of Appeal ("CLBA"), 10th edition 2022, II.E.1.9.1, an intermediate generalisation is justified only in the absence of any clearly recognisable functional or structural relationship among the features of the specific combination or if the extracted features are not inextricably linked with those features.

1.5.1 In the present case, the Board accepts that there is no functional or structural relationship between hopper

102 or feedthroat 104 and the remaining structural features of the extrusion system 100. The Board also accepts that screw drive motor 128 is an implicit feature of the claimed system with a screw disposed within a barrel and configured to move expandable material through the barrel. These features may therefore be omitted.

- 1.5.2 However, the Board is not convinced of the appellant's assertion that there was no interaction of the claimed features with the remainder of the further features of the embodiment in paragraphs [0040] and [0041]. This embodiment is directed to an extrusion system with an extrusion screw. According to common general knowledge, an extrusion screw differs from a transport screw, e.g. an Archimedes' screw, in that its flight depth is not constant along the length of the screw. Instead, it has at least three distinct zones: A deep feed zone close to the feedthroat at one end of the extruder is followed by an intermediate compression zone with decreasing flight depth, which in turn is followed by a shallow metering zone close to the die at the other end of the extruder. A skilled person directly and unambiguously recognises this three-zone layout in Figure 1 of the application as filed from the varying flight depth of extrusion screw 108. According to common general knowledge this three-zone layout is required for melting solid plastic materials, as such an extrusion screw generates a substantial amount of shear heating. This shear heating is expressly mentioned in original paragraph [0040] ("Generally, system 100 uses a combination of heating elements and shear heating from extrusion screw 108 to apply heat to the expandable material inside barrel 106.", emphasis added by the Board). In addition to that, a skilled person understands this passage in that heating

elements must be located on the outer surface of the barrel 106 of the extrusion system 100 in order to apply heat to the material inside the barrel. Such specific location of the heating elements is also disclosed in original paragraph [0041], where (three or more) independently controlled heaters gradually increase the temperature of barrel 106 from the rear to the front at die 120. For a skilled person, this implies that these heaters are located on the outer surface of the barrel. As paragraph [0040] introduces the combination of heating elements on the barrel and shear heating from the extrusion screw with the term generally (*"Generally, system 100 uses..."*), the Board considers this to be an inherent characteristic of the extrusion system disclosed in paragraph [0040]. Put differently, this statement establishes a clearly recognisable functional and structural relationship between the extrusion screw and the specific location of the heaters, and those features which were extracted from the embodiment, i.e. features corresponding to those in original claims 2, 3 and 6.

1.5.3 As a consequence, the intermediate generalisation is not allowable in the present case. In the light of this conclusion, it is immaterial whether paragraphs [0040] and [0041] serve to clarify that the features of original claims 2 and 6, or 5 and 6 do not relate to exclusive alternatives, but may be combined, as also argued by the appellant. Again, the possibility of combining the features of these dependent claims is a necessary, but not a sufficient condition for allowability of an amendment under the "gold standard".

1.5.4 This conclusion is not altered by the appellant's reference to the decision G 1/24 of the Enlarged Board of Appeal and to Headnote 2 of the UPC decision

mentioned in Reasons 19 of G 1/24. Based on these decisions, the appellant argued that the subject-matter of the patent extends to what, after examination of the description and the drawings, appears to be the subject-matter for which the patent proprietor seeks protection ("*der Willen des Patentinhabers*", hereafter: the will). The board disagrees, because the description and claims as filed already express "the will" for the very reason that they were drafted by the applicant, and thus, there would not be any need for further speculation on the applicant's (or: the patent proprietor's) intentions, i.e. on what else might be the subject-matter to be protected. Assuming *arguendo* that "the will" really was to be considered for examining the allowability of an amendment - which the board strongly rebuts - this concept would identify multiple different wills in the present case. Any combination of claims 1, 2, 3 and 6 (i.e. claims 1, 2 and 3, or claims 1, 2 and 6, or claims 1, 3 and 6, or claims 1, 2, 3 and 6) of the application as filed would be an equally likely manifestation of "the will" for the sole reason that the features of each combination are jointly disclosed in the embodiment of original paragraphs [0040] and [0041]. This is contrary to the criterion of a direct and unambiguous disclosure, i.e. the "gold standard".

- 1.6 For these reasons, the Board concludes that claim 1 of the main request contains subject-matter which extends beyond the application as filed. The above reasons apply in an analogue manner to method claim 5, which also contains the features of original claims 2, 3 and 6. In this respect, the appellant's arguments in respect of paragraphs [0066] and [0067] of the application as filed, which explicitly refer to "extrusion system 100" resp. "system 100", i.e. the

system described in paragraphs [0040] and [0041] of the application as filed, are also not convincing.

Therefore the ground for opposition under Article 100(c) EPC prejudices the maintenance of the patent as granted, and the main request is not allowable.

2. *Auxiliary request 1 - Amendments*

2.1 Independent claim 1 of auxiliary request 1 is based on a combination of original claims 1, 2, 3, 5 and 6. Compared to the main request, the additional features of original claim 5 were added to the claim, i.e. that the heating profile is configured to increase the temperature of the expandable material as the expandable material travels through the barrel (106) from the inlet port (104) to the die (120), and that the heating profile is configured to maintain each temperature controlled zone at a temperature below 121.11 degrees Celsius (converted from the original 250 degrees Fahrenheit).

2.2 During the oral proceedings before the Board, the appellant argued that shear heating inevitably occurs due to friction generated by the inner wall of the barrel and by the screw which moves the material through the barrel. They also argued that a plurality of individual temperature controlled zones implies that a plurality of heaters is located along the length of the barrel.

None of these arguments convince the Board for the following reasons.

2.3 The Board is not convinced that the extrusion screw may be generalized to "any" screw. Even if a transport

screw, e.g. an Archimedes' screw, also generates friction and thereby shear in the transported plastic material, it has a specific layout with a constant flight depth along its length. In contrast to that, original paragraph [0040] explicitly discloses an extrusion screw 108, which according to common general knowledge and according to original figure 1 has a three-zone layout with different flight depths in each zone, see the details above. The appellant did not provide any argument which would justify the generalization of the specific three-zone extrusion screw according to original paragraph [0040] to a different type of screw, e.g. to an Archimedes' screw with a single zone. Also the Board does not see any justification for this generalisation.

- 2.4 The Board is also not convinced that a plurality of individual temperature controlled zones in the system necessarily imply that heaters are located along the length of the barrel. On a purely semantic basis, the feature directed to a plurality of individual temperature controlled zones originates from original claim 3, while original claim 7 is directed to a plurality of heating elements selectively controlled via the controller according to a heating profile. If a plurality of individual temperature controlled zones indeed implied the arrangement of heaters along the length of the barrel, as argued by the appellant, there would not have been any need for original claim 7, which was not even dependent upon original claim 3. Further, also on a technical basis, the plurality of individual temperature controlled zones can have different locations and still be configured to increase the temperature of the material travelling through the barrel. If e.g. a heater is located on the barrel (and a further heater elsewhere, e.g. at the hopper or the

die), the single heater on the barrel will also inevitably add energy to the material inside the barrel, thereby increasing the temperature between positions upstream and downstream from its location on the barrel. This inevitably increases the temperature of the material as it travels through the barrel, albeit without the provision of a plurality of heaters on the barrel. Furthermore, a plurality of heaters are not necessarily independently controlled, contrary to what is disclosed in paragraph [0041] of the application as filed.

- 2.5 For these reasons, even the incorporation of the additional features of original claim 5 into claim 1 of auxiliary request 1 does not overcome the objections against the amendments raised in the context of the main request. The Board therefore concludes that claim 1 of auxiliary request 1 contains subject-matter which extends beyond the application as filed. The above reasons apply in an analogue manner to method claim 4, which also contains the features of original claims 2, 3, 5 and 6. In this respect, the appellant's arguments in respect of paragraph [0067] of the application as filed, which explicitly refers to "system 100", i.e. the system described in paragraphs [0040] and [0041] of the application as filed, are also not convincing. Auxiliary request 1 is, therefore, not allowable.

3. *Auxiliary request 1F - Admissibility*

- 3.1 During the oral proceedings before the Board, the appellant filed auxiliary request 1F. Claim 1 of that request differs from auxiliary request 1 in that the screw is an extrusion screw, in that a plurality of independently controlled heating elements are selectively controlled via the controller according to

the heating profile, and in that the system is configured to use a combination of heating elements and shear heating from the extrusion screw to apply heat to the expandable material inside the barrel. The appellant justified the late filing of this request with the Board's negative conclusion on the amendments in claim 1 of auxiliary request 1, essentially arguing that they were confronted with new information during the oral proceedings before the Board, in particular, that certain features allegedly missing in the claims were present in other dependent claims and that the individual control of the heating elements was relevant.

- 3.2 Pursuant to Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1) RPBA shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned. In the present case, the appellant construed original paragraph [0041] already in their statement setting out the grounds of appeal as disclosing a plurality of independently controlled heating elements along the length of the barrel, see the first paragraph on page 4 (*"Weiter wird im Zusammenhang mit dem Extrusionssystem gemäß Figur 1 erläutert, dass ein Heizprofil eingesetzt werden kann, wobei mehrere unabhängig gesteuerte Heizer die Temperatur des Zylinders entlang dessen Länge erhöhen, vgl. [0041]"*, emphasis added by the Board). In addition to that, the respondent's reply to the statement setting out the grounds of appeal recited the features which in their view were omitted from the embodiment in original paragraphs [0040] and [0041], see the bridging paragraph between pages 2 and 3 of that reply. Amongst other features, the respondent

mentioned the disclosure of an extrusion screw rather than the claimed screw, and the use of a combination of heating elements and shear heating (see the second and third items on page 3 of the reply). Furthermore, the Board in their communication pursuant to Article 15(1) RPBA expressed the view that a plurality of independently controlled heaters for increasing the temperature of the barrel along its length, and an extruder system using a combination of heating elements and shear heating from extrusion screw were interdependent at least with the feature of a plurality of individual temperature controlled zones (paragraph 5.4 of the communication, where this features is labelled feature [1.9] in accordance with paragraph 3.1.1 of the reasons for the impugned decision). The Board thus concludes that the appellant had already had ample opportunity before the oral proceedings to respond to these existing objections by filing precautionary auxiliary requests. Regarding the observation that certain features missing in the claims were present in original dependent claims, this was not decisive for the board's conclusion on the main request or auxiliary request 1.

3.3 For these reasons, the Board decides that no exceptional circumstances as required by Article 13(2) RPBA were justified by the appellant. The Board therefore does not take into account auxiliary request 1F.

4. *Auxiliary request 1D - Admissibility of new objection, remittal, amendments*

4.1 Claim 1 of auxiliary request 1D differs from auxiliary request 1 only in that the profiler is restricted to the alternative of a removable plate. During the oral

proceedings held before the Board, the respondent raised an objection under Article 123(2) EPC against this claim. The appellant requests that this objection not be admitted, essentially arguing that the opposition division did not examine claim 1 of auxiliary request 1D under Article 123(2) EPC and that this objection was raised only during the oral proceedings before the Board.

4.2 The Board concurs with the appellant that neither the decision under appeal nor the respondent's written submissions in appeal contained an objection against the amendments in auxiliary request 1D. Section 5 of the respondent's reply to the statement setting out the grounds of appeal and section 4 of their letter of 12 July 2024 only deal with inventive step of the subject-matter of claim 1 of auxiliary request 1D while the respondent's letter of 17 June 2025 does not even explicitly mention auxiliary request 1D. Although section 2 of the respondent's letter of 28 April 2025 states that their arguments against the main request and auxiliary request 1 also apply to auxiliary requests 1B to 1D, they did not spell out which of these objections still applied to auxiliary request 1D despite the amendments in that request. The Board therefore accepts that the objection under Article 123(2) EPC against claim 1 of auxiliary request 1D is an amendment to the respondent's appeal case after notification of the communication under Article 15(1) RPBA.

4.3 Pursuant to Article 13(2) RPBA, such an amendment is, in principle, not taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned. In the present case, the board is satisfied that the presence

of exceptional circumstances can be accepted because it is immediately apparent that an objection raised against a different request (auxiliary request 1A) also applies to the request at issue, in particular as claims 1 of these requests have identical wording, see CLBA, V.A.4.5.7 b). In fact, claim 1 of auxiliary request 1D is neither restricted to an extrusion screw nor to a system configured to use a combination of heating elements and shear heating from the extrusion screw to apply heat to the expandable material inside the barrel. The omission of these features from claim 1 of auxiliary request 1 was considered to generate an unallowable intermediate generalisation, see above. In the Board's view, it is therefore immediately apparent that the objection against the amendments in claim 1 of auxiliary request 1 also applies to auxiliary request 1D.

- 4.4 For these reasons, the Board exercises its discretion under Article 13(2) RPBA to admit the objection under Article 123(2) EPC against claim 1 of auxiliary request 1D into the proceedings.
- 4.5 The Board also failed to see any special reason for remitting the case to the opposition division for the examination of auxiliary request 1D under Article 123(2) EPC. The appellant's request for remittal at this stage was thus rejected.
- 4.6 As to the merits of the objection, both parties stated during the oral proceedings before the Board that they had nothing to add. The Board therefore concludes that the incorporation of the additional features of original claim 5 into claim 1 of auxiliary request 1D does not overcome the objections against the amendments raised in the context of auxiliary request 1, i.e. the

unallowable intermediate generalisation caused by the omission of the extrusion screw and the configuration of the system to use a combination of heating elements and shear heating from the extrusion screw to apply heat to the expandable material inside the barrel.

- 4.7 The Board therefore concludes that claim 1 of auxiliary request 1D contains subject-matter which extends beyond the application as filed (Article 123(2) EPC). Auxiliary request 1D is, therefore, not allowable.

5. *Auxiliary request 1G - Admissibility*

- 5.1 During the oral proceedings before the Board, the appellant filed auxiliary request 1G. The appellant considers the late filing of this request a legitimate reaction to an objection raised only during oral proceedings before the Board.
- 5.2 The respondent requests that auxiliary request 1G not be admitted in the proceedings, essentially arguing that the request is not *prima facie* allowable and that it should not be admitted for the same reasons as auxiliary request 1F.
- 5.3 The Board disagrees, because the admission of the objection against the amendments in claim 1 of auxiliary request 1D during the oral proceedings before the Board in the present case constitutes exceptional circumstances which justify the admission of a further auxiliary request directed at overcoming these objections. For these reasons, the Board exercises its discretion under Article 13(2) RPBA to admit auxiliary request 1G into the proceedings.

6. *Auxiliary request 1G - Amendments*

- 6.1 The only claim of auxiliary request 1G differs from claim 1 of auxiliary request 1D in that the screw is an extrusion screw, in that a plurality of independently controlled heating elements are selectively controlled via the controller according to the heating profile, and in that the system is configured to use a combination of heating elements and shear heating from the extrusion screw to apply heat to the expandable material inside the barrel. The Board is satisfied that these amendments overcome the objection of an unallowable intermediate generalisation in view of the embodiment in paragraphs [0040] and [0041] of the application as filed, as discussed in the context of the main request and of auxiliary request 1.
- 6.2 None of the further objections raised by the respondent against the amendments in the claim of auxiliary request 1G convinces the Board:
- 6.2.1 The Board concurs with the respondent that original paragraph [0041] is directed to three or more independently controlled heaters which gradually increase the temperature of the barrel. Concerning the number of heaters, the disclosure of three or more may be generalized to a plurality in view of the "one or more temperature devices" in paragraph [0041], or "a plurality individual temperature controlled zones" in original claim 3, or "a plurality of heating elements" in original claim 7. The respondent did not provide any evidence for their assertion that "a plurality" must be understood as three or more, and thus, the Board cannot accept this interpretation which was contested by the appellant. Concerning the alleged generalization of the gradual temperature increase, the Board considers this

an implicit feature of the claimed plurality of heaters because thermal conductivity of the (typically metallic) extruder barrel will inevitably result in a multi-directional heat flux from a heating element, both towards the interior of the barrel and to the left and right side of the barrel. This implicitly results in a gradual temperature profile along the length of the barrel.

- 6.3 The Board does not see any technical difference between the expression "system 100 uses a combination of heating elements and shear heating from extrusion screw 108" in original paragraph [0040] and the claimed feature "the system (100) is configured to use a combination of heating elements and shear heating from the extrusion screw". As convincingly argued by the appellant in the context of the main request and auxiliary request 1, shear heating is an implicit consequence of friction generated by the extrusion screw. Therefore, the mere presence of an extrusion screw in the claimed system will result in shear heating once the system is used.
- 6.4 Concerning the different reference numerals 110 and 128 used for the screw drive motor in original paragraph [0040], the Board is not convinced by the respondent's assertion that the system contains two distinct screw drive motors. On a purely linguistic level, both terms are presented in paragraph [0040] in the singular, and thus, do not directly and unambiguously disclose a plurality of screw drive motors ("a screw drive motor 110", "which is driven by a screw drive motor 128"). On a technical level, the Board is of the view that a second screw drive motor at the position of reference numeral 110 in Figure 1 of the application as filed, i.e. between barrel 106 and die 120, does not make

technical sense. The respondent did not provide any evidence for their allegation that they are aware of screw drive motors in that position, so the Board cannot share their view. Instead, the Board considers reference numeral 110 in the context of the screw drive motor an obvious error. In particular, element 128 shown in Figure 1 at the right end of the barrel is identified as a reference to the screw drive motor in its usual location.

- 6.5 For these reasons, the Board concludes that the only claim of auxiliary request 1G does not contain subject-matter which extends beyond the application as filed. Auxiliary request 1G therefore meets the requirements of Article 123(2) EPC.

7. *Auxiliary request 1G - Remittal*

- 7.1 The appellant requests that the case should not be remitted to the opposition division for further prosecution on the basis of auxiliary request 1G.
- 7.2 In accordance with Article 111(1) EPC, second sentence, the Board of Appeal may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution. In the present case, the appellant had auxiliarily requested remittal to the opposition division in respect of any of the auxiliary requests then on file, essentially arguing that the division had not discussed the ground for opposition under Article 100(a) EPC, see section 2.6 of their statement setting out the grounds of appeal. In addition to that, the appellant also requested remittal to the opposition division in case the amendments in auxiliary request 1D were to be

examined, see section 6 of their reply of 23 May 2025. As auxiliary request 1G is based on auxiliary request 1D, see above, and this auxiliary request was subject of both requests for remittal, the Board concludes that there are special reasons that justify a remittal of the case to the opposition division in accordance with Article 11 RPBA.

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:



D. Hampe

T. Vermeulen

Decision electronically authenticated