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**Datasheet for the decision
of 28 March 2025**

Case Number: T 0350/23 - 3.3.03

Application Number: 15714066.6

Publication Number: 3116923

IPC: C08F210/16, C08F4/659,
C08F4/6592

Language of the proceedings: EN

Title of invention:

POLYMERS WITH IMPROVED TOUGHNESS AND ESCR FOR LARGE-PART BLOW
MOLDING APPLICATIONS

Patent Proprietor:

Chevron Phillips Chemical Company LP

Opponents:

The Dow Chemical Company
TotalEnergies OneTech Belgium

Relevant legal provisions:

EPC Art. 123(2)

Keyword:

Amendments - extension beyond the content of the application
as filed (yes)

Decisions cited:

G 0002/10, T 0350/20, T 2619/11



Beschwerdekammern

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Case Number: T 0350/23 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 28 March 2025

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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
20 December 2022 concerning maintenance of the
European Patent No. 3116923 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	M. Barrère
	A. Bacchin

Summary of Facts and Submissions

- I. The appeal of opponent 1 lies against the interlocutory decision of the opposition division concerning maintenance of European Patent No. 3 116 923 in amended form on the basis of the claims of auxiliary request 5 filed as auxiliary request 10 with letter of 4 August 2022 and an adapted description.
- II. Claim 1 of auxiliary request 5 read as follows:
- "1. An ethylene polymer having a density in a range from about 0.95 to about 0.965 g/cm³ , a high load melt index (HLMI) in a range from about 2 to about 20 g/10 min, a weight-average molecular weight (Mw) in a range from about 325,000 to about 650,000 g/mol, a number-average molecular weight (Mn) in a range from about 25,000 to about 55,000 g/mol, and a ratio of Mw/Mn in a range from about 6 to about 18, wherein the ethylene polymer has a zero-shear viscosity in a range of from about 1 x 10⁶ to about 1 x 10⁹ Pa-sec and wherein the ethylene polymer has an ESCR of at least 1000 hours."
- III. In that decision the opposition division held, among others, that the subject-matter of claim 1 of auxiliary request 5 complied with the requirements of Article 123(2) EPC.
- IV. Opponent 1 (appellant) filed an appeal against said decision.

V. With the rejoinder to the statement of grounds of appeal, the patent proprietor (respondent) filed five sets of claims as auxiliary requests 1 to 5.

VI. Oral proceedings were held before the Board on 28 March 2025.

VII. The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the appeal be dismissed (main request), or alternatively that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 5 filed with the rejoinder to the statement of grounds of appeal.

For the sake of completeness, it is noted that opponent 2 (party as of right under Article 107, second sentence, EPC) did not take an active part in the appeal proceedings and did not submit any request.

VIII. The respondent's main request corresponded to the auxiliary request considered allowable by the opposition division (reference is made to point II. for the wording of claim 1).

Claim 1 of auxiliary request 1 was amended with respect to claim 1 of the main request by adding the expression

"wherein the ethylene polymer is an ethylene/ α -olefin copolymer".

Claim 1 of auxiliary request 2 was amended with respect to claim 1 of the main request by adding the expression

"wherein the ethylene polymer is an ethylene/1-butene copolymer, an ethylene/1-hexene copolymer, or an ethylene/1-octene copolymer".

Claim 1 of auxiliary request 3 was amended with respect to claim 1 of the main request by adding the expression

"wherein the ethylene polymer is not a post-reactor blend of two polymers".

Claim 1 of auxiliary request 4 was amended with respect to claim 1 of the main request by adding the expression

"wherein the ethylene polymer is an ethylene/1-hexene copolymer, or an ethylene/1-octene copolymer".

Claim 1 of auxiliary request 5 was amended with respect to claim 1 of the main request by adding the expression

"wherein the ethylene polymer is a single reactor product".

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

IX. The parties' submissions, in so far as they are relevant to the present decision, can be derived from the reasons for the decision set out below. They essentially concerned the question whether claim 1 of the main request complied with the requirements of Article 123(2) EPC.

Reasons for the Decision

Main request (patent as maintained by the opposition division)

1. Article 123(2) EPC

1.1 Claim 1 of the main request is directed to an ethylene polymer having

- (i) a density in a range from about 0.95 to about 0.965 g/cm³,
- (ii) a high load melt index (HLMI) in a range from about 2 to about 20 g/10 min,
- (iii) a weight-average molecular weight (Mw) in a range from about 325,000 to about 650,000 g/mol,
- (iv) a number-average molecular weight (Mn) in a range from about 25,000 to about 55,000 g/mol,
- (v) a ratio of Mw/Mn in a range from about 6 to about 18,
- (vi) a zero-shear viscosity (ZSV) in a range of from about 1×10^6 to about 1×10^9 Pa-sec and
- (vii) an ESCR of at least 1000 hours.

1.2 In agreement with the opposition division, the respondent considered that the subject-matter of claim 1 was directly and unambiguously disclosed to a person skilled in the art at least in view of original claims 11, 13, 14 and embodiment 18 on page 70 of the application as filed (rejoinder to the statement of grounds of appeal, page 2, point 2.4 to page 3, point

2.20). Furthermore, the examples of the application as filed constituted a clear pointer to the combination of features (i) to (vii).

1.3 The appellant took the view that there was no direct and unambiguous basis in the application as filed for an ethylene polymer characterised by the combination of features (i) to (vii) contrary to the requirements of Article 123(2) EPC. Original claim 14 was not dependent on original claim 13. Therefore the combination of these claims was not a suitable basis for the subject-matter of claim 1. Contrary to the respondent's view, the subject-matter of claim 1 was the result of multiple selections from multiple lists (statement of grounds of appeal, page 2, point 3.1 to page 7, point 3.18).

1.4 It is not disputed that:

- features (i) to (v) are disclosed in combination in original claim 13,
- feature (vi) is disclosed in embodiment 18 on page 70 of the application as filed and
- feature (vii) is disclosed in original claim 14.

The question that needs to be answered is therefore whether a direct and unambiguous basis can be found for the combination of these features in the application as filed.

1.5 Combination of original claims 13 and 14

1.5.1 The respondent argued that the combination of original claims 13 and 14 from the application as filed provided a suitable basis for features (i) to (v) and (vii) of claim 1 because, although claim 14 was not formally

dependent on claim 13, their technical content was closely linked. Both claims were dependent on claim 11 and included overlapping parameters (e.g. density, HLMI, Mw, Mn, Mw/Mn ratio), with claim 14 further adding a requirement for minimum ESCR (letter dated 28 January 2025, page 2, penultimate paragraph to page 3, first full paragraph). There was furthermore no indication that claims 13 and 14 were mutually exclusive or otherwise technically incompatible (rejoinder, page 2, points 2.6 to 2.9).

In their opinion viewing claims 13 and 14 as entirely separate embodiments made no technical sense, since any polymer meeting the broader parameters of claim 14 would also meet those of claim 13. This was supported by the application's overall disclosure, including its title and background emphasising improved ESCR, and by the examples in the original application that met the requirements of claims 13 and 14. Therefore, the skilled person would understand these claims as disclosing the same embodiment rather than distinct ones. The claim structure should not be over-interpreted in isolation and the application as a whole provided a direct and unambiguous disclosure of the combined subject-matter (letter dated 28 January 2025, page 3, second to sixth full paragraphs with reference to T 2619/11). Hence, no unallowable selection or added matter resulted from their combination in claim 1 of the main request.

During the oral proceedings before the Board, the respondent further argued that the skilled person would understand, based on common general knowledge, that original claims 13 and 14 were not purely alternative but should be combined. In general the claims should not be interpreted by following only the so-called

"rules of logic" (see G2/10, point 4.5.3 of the Reasons). Instead, what should be considered was whether there was an implicit disclosure of the subject-matter of claim 1 in the original application as a whole. In that regard, reference was made to different passages of the description as filed disclosing each of the features (i) to (vii). It was clear that these features related to different facets of the same invention which meant that they were combinable.

1.5.2 Regarding the combination of original claims 13 and 14 as basis for features (i) to (v) and (vii), the Board finds no room for interpretative ambiguity. Claim 13 depends exclusively on claim 11 (embodiment A) and establishes a specific embodiment wherein features of original claims 11 and 13 are combined (embodiment A1). Similarly, claim 14 depends solely on claim 11 and establishes a distinct embodiment combining features of original claims 11 and 14 (embodiment A2). The single dependency structure in claims 13 and 14 necessarily implies that embodiments A1 and A2 constitute separate and distinct technical solutions. Therefore, original claims 13 and 14 present two partially overlapping but self-contained embodiments that do not provide a direct and unambiguous basis for the combination of features (i) to (v) and (vii). Furthermore, the Board cannot accept the respondent's assertion that original claims 13 and 14 should be implicitly combined based on common general knowledge. The respondent has failed to provide evidence of common general knowledge for this contention, and consequently, the Board must disregard this unsupported assertion.

1.5.3 Moreover, the argument that the disclosure of an application should not be assessed solely on the basis

of so-called "rules of logic" cannot change that conclusion about claims 13 and 14 (see G 2/10, point 4.5.3 of the Reasons). The said rules of logic were mentioned in G 2/10 in the context of a disclaimer. They pertain to the question whether the disclosure of an embodiment or smaller region (B) within a broader region (A), likewise disclosed, would thereby logically and inevitably disclose the subject-matter of the broader region minus the embodiment (A-B). In that context the Enlarged Board stated that no principle could be acknowledged, which would be applicable *a priori*, to the effect that disclaiming disclosed specific embodiments, groups thereof or areas from a broader claim can never infringe Article 123(2) EPC. On the other hand, any possible rule of logic could not be applied schematically to solely suggest that the introduction of a disclaimer modifies the subject-matter remaining in the claim because that amended claim contains less than the unamended claim, as this would also not be sufficient to motivate an objection under Article 123(2) EPC. Thus the Enlarged Board did not reach a final conclusion on the relevance of "rules of logic" for the assessment of Article 123(2) EPC, but rather confirmed that the test to be applied requires an assessment of the overall technical circumstances of the individual case under consideration, taking into account the nature and extent of the disclosure in the application as filed, the nature and extent of the disclaimed subject-matter and its relationship with the subject-matter remaining in the claim after the amendment (see G 2/10, point 4.5.4). As shown below, the assessment of Article 123(2) EPC made by the present Board in the case at hand is neither based on "rules of logic", nor solely on the structure of the claims, but it rather takes into account the whole application as originally filed.

- 1.5.4 The respondent also referred to T 2619/11 (see catchword) which warned against focusing on the structure of the claims as filed to the detriment of what is really disclosed to a skilled person by the documents as filed. In that respect, it is pointed out that it was the respondent's contention to rely initially on claims 13 and 14 (rather than on other parts of the application as filed) as basis for the combination of features (i) to (v) and (vii) (see rejoinder, page 1, point 2.3 and page 3, point 2.14). In that situation, the Board has therefore to examine whether the combination of original claims suggested by the respondent is a suitable basis for the subject-matter of present claim 1. In any event, as shown below (from point 1.6 of the Reasons), the Board did not only focus on the structure of original claims but considered all relevant parts of the application as filed.
- 1.5.5 It follows from the foregoing that original claims 13 and 14 do not as such constitute an appropriate basis for the combination of features (i) to (v) and (vii).
- 1.6 This first conclusion does not imply that the subject-matter of present claim 1 extends beyond the content of the application as filed. As noted by the respondent, the description and in particular the examples of the application as filed should also be taken into consideration. While it is undisputed that the combination of features (i) to (v) is directly disclosed in original claim 13, features (vi) and (vii) (respectively the zero-shear viscosity (ZSV) in a range of from about 1×10^6 to about 1×10^9 Pa-sec and the ESCR of at least 1000 hours) can also be identified in the description as filed. However, it is first noted

that each of features (vi) and (vii) on its own constitutes a selection from a list of converging ranges (page 51, lines 20 to 24; page 70, embodiment 18 and page 49, lines 10 to 14). For instance, the ESCR can be at least 250 hours up to between 2,500 to 4,000 hours and the range of at least 1000 hours is only an intermediate range in the list.

1.7 In addition, the ZSV and the ESCR are only two of many different parameters which can be used to further characterise the ethylene polymer (all of which are not present in claim 1) such as:

- the peak molecular weight (Mp) (page 50, lines 10 to 16);
- the viscosity-average molecular weight (Mv) (page 51, lines 3 to 6);
- the z-average molecular weight (Mz) (page 51, lines 13 to 17);
- the CY-a parameter (page 51, lines 18 to 20);
- the viscosity at 100 sec⁻¹ (eta @ 100) (page 51, lines 24 to 28), etc.

1.8 In view of that, the Board considers that the choice of ZSV and ESCR represents two selections from a list of several parameters which may optionally be used to further characterise the ethylene polymer. In that regard, this finding is in line with decision T 0350/20 in which the corresponding Board held that *"in a forest of optional features, a singled-out individual combination may not be directly and unambiguously derivable by the skilled person"* (point 2.5 of the Reasons). Consequently, the combination of the specific ranges for the ZSV and ESCR (features (vi) and (vii)) represents multiple selections from multiple lists: twofold selection of the said parameters in a list of alternative parameters and selection of the specific

sub-ranges in converging lists of alternative (but not particularly preferred) ranges.

- 1.9 According to established case law, amendments based on multiple arbitrary selections from lists represent an extension of the content of the application as filed contrary to the requirements of Article 123(2) EPC, unless there is a clear pointer to such selections in the application as filed (Case Law of the Boards of Appeal, 10th edition 2022, in the following "Case Law", II.E.1.6.2 a)).
- 1.10 In their written submissions (rejoinder, page 3, points 2.18 and 2.19; letter dated 28 January 2025, page 3, third full paragraph), the respondent argued that the examples provided a pointer to an ESCR of at least 1000 hours and a ZSV as defined in claim 1 (features (vi) and (vii) of claim 1). It was furthermore clear from the background of the invention that the ethylene polymers according to the invention were characterised by improved ESCR and toughness (see page 1, lines 13 and 14).
- 1.11 The Board does not agree with these views. As noted above, the application as filed discloses a list of optional parameters that can further define the ethylene polymer: *inter alia* Mp, Mv, Mz, the CY-a parameter and eta @ 100 in addition to ESCR and ZSV. All these parameters are used in combination to characterise the ethylene polymer of the examples and the values reported in the examples fall within the corresponding ranges specified in the description and are all disclosed with the same level of preference (see the application as filed, pages 65 and 66, Tables II to IV). Thus, the skilled person reading this list of parameters in the light of the examples would see

all of them as relevant and would at most understand that they should all be combined. However, the singling out of ESCR and ZSV cannot be deduced from the examples. The same reasoning applies to the background section of the description as filed (page 1, lines 13 and 14). While the ESCR is mentioned as one of the improved properties, this section also mentions the toughness and the impact strength, properties which are not mentioned in the present main request.

Additionally, even if the improvement of the ESCR were to be considered as an implicit or essential feature of the claimed ethylene polymer (which is not clearly derivable from the original application), it is pointed out that the description as filed does not specify that the ESCR should necessarily be at least 1000 hours as required by claim 1. Instead, it is mentioned on page 49, lines 10 to 14 that the ESCR can be at least 250 hours up to at least 2500 hours. Hence, even in that situation, no pointer can be recognised for an ESCR of at least 1000 hours in the general part of the description.

- 1.12 For these reasons, the Board fails to recognise in the application as filed any pointer to the specific combination of features (vi) and (vii). It follows that the combination of features (i) to (vii) as defined in claim 1 is not directly and unambiguously derivable from the application as filed.
- 1.13 In view of the foregoing, claim 1 of the main request does not meet the requirements of Article 123(2) EPC and the main request, as a whole, is not allowable.

Auxiliary requests 1 to 5

- 1.14 The subject-matter claim 1 of auxiliary requests 1 to 5 is limited by the above-mentioned features (i) to (vii). During the oral proceedings the respondent stated that they had no further submissions with respect to the combination of these features in auxiliary requests 1 to 5 (minutes of the oral proceedings, page 2, penultimate paragraph). Consequently the previous findings under Article 123(2) EPC apply *mutatis mutandis* to these requests (see points 1.1 to 1.13).
2. Since none of the requests meets the requirements of Article 123(2) EPC, the patent must be revoked. There is therefore no need to rule on other objections.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



D. Hampe

D. Semino

Decision electronically authenticated