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Datasheet for the decision of 6 September 2013

Case Number: T 0059/08 - 3.3.03

Application Number: 99935230.5

Publication Number: 1095102

IPC: C08L23/04

Language of the proceedings: EN

Title of invention:
POLYMER COMPOSITION FOR PIPES

Patent Proprietor:
Borealis Technology Oy

Opponents:
Basell Polyolefine GmbH
Ineos Commercial Services UK Limited

Headword:

Relevant legal provisions:
EPC Art. 83, 111(1)

Keyword:
Method for measurement of conventional parameter not indicated in the patent
Sufficiency of disclosure and clarity requirements
Appropriate criteria for assessing sufficiency of disclosure not considered in the decision
Remittal to the department of first instance

Decisions cited:
G 0002/98, T 1366/07

Catchword:

Europäisches Patentamt
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Case Number: T 0059/08 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 6 September 2013

Appellant: (Patent Proprietor)	Borealis Technology Oy P.O. Box 330 06101 Porvoo (FI)
Representative:	Kador & Partner Corneliusstrasse 15 80469 München (DE)
Respondent I: (Opponent 1)	Basell Polyolefine GmbH Intellectual Property Bldg. C657, 2nd floor Industriepark Höchst 65926 Frankfurt (DE)
Respondent II: (Opponent 2)	Ineos Commercial Services UK Limited Hawkslease Chapel Lane Lyndhurst Hampshire SO43 7FG (GB)
Representative:	Smith, Julian Philip Howard Mathisen & Macara LLP Communications House South Street Staines-upon-Thames Middlesex, TW18 4PR (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 14 November 2007 revoking European patent No. 1095102 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairwoman:	B. ter Laan
Members:	F. Rousseau
	C. Brandt

Summary of Facts and Submissions

I. The appeal by the Patent Proprietors (Appellants) lies from the decision of the Opposition Division posted on 14 November 2007 according to which European patent No. 1 095 102 (application No. 99 935 230.5) was revoked.

II. The European patent was granted on the basis of 15 claims, independent claims 1 and 12 of which read as follows:

"1. A multimodal polyethylene composition for pipes, which multimodal polyethylene has a density of 0.930-0.965 g/cm^3 and an MFR_5 of 0.2-1.2 g/10 min, **characterised in that** the multimodal polyethylene has an M_n of 8000-15000, an M_w of 180-330 x 10^3, and an M_w/M_n of 20-35, said multimodal polyethylene comprising a low molecular weight (LMW) ethylene homopolymer fraction and a high molecular weight (HMW) ethylene copolymer fraction, said HMW fraction having a lower molecular weight limit of 3500, and a weight ratio of the LMW fraction to the HMW fraction of (35-55) : (65-45).

12. A pipe characterised in that it is a pressure pipe comprising the multimodal polymer composition according to any one of the preceding claims, which pipe withstands a pressure of 8.0 MPa gauge during 50 years at 20°C (MRS8.0)."

III. Two oppositions had been filed requesting revocation of the patent in its entirety on the ground that its subject-matter lacked novelty and an inventive step (Article 100(a) EPC), and that the invention was not disclosed in a manner sufficiently clear and complete

for it to be carried out by a person skilled in the art (Article 100(b)).

IV. The impugned decision was based on a main and an auxiliary request. The claims of both requests were identical (as granted); for the auxiliary request only the description had been amended.

V. The decision under appeal concentrated on the argument that the documents as filed were silent on whether the high molecular weight (HMW) ethylene copolymer fraction, defined to have a lower molecular weight limit of 3500, was calculated on the basis of M_w or M_n. Said limit was crucial to the teaching of the patent in suit and it might happen that the same polyethylene would fall under the scope of claim 1 if the molecular weight was calculated as M_w, whereas it could be outside if it was calculated as M_n. Moreover, the patent in suit did not disclose a method for the determination of the molecular weights M_w and M_n, although it was known in the art that there were several methods for the measurements of the molecular weight that could lead to different results, depending in particular on the measurement conditions. Therefore, the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art; hence it was revoked. The grounds for opposition under Article 100(a) EPC were not dealt with.

VI. On 9 January 2008 the Patent Proprietors (Appellants) lodged an appeal against the above decision. The prescribed fee was paid on the same day.

VII. With the statement setting out the grounds of appeal filed on 20 March 2008, the Appellants submitted new

documentary evidence (E21 to E31) in order to show that at the priority date of the patent in suit the skilled person was well in a position to measure M_n, M_w, the molecular weight distribution, as well as the low molecular weight limit of the high molecular weight component of the claimed polymer composition.

VIII. Opponents 1 (Respondents) replied to the statement of grounds of the appeal by letter of 22 August 2008 and submitted documents (E33, E34 and E35) concerning the determination of M_n and M_w as well as the influence of the method used on the values obtained for said parameters and their ratio M_w/M_n.

IX. Comments on the Appellants' grounds of appeal were submitted by Opponents 2 (Respondents) with letter of 3 October 2008.

X. In preparation of the oral proceedings, the Board issued a communication on 10 May 2013, in which *inter alia* the meaning to be attributed to the feature "said HMW fraction having a lower molecular weight limit of 3500" was addressed.

XI. Oral proceedings were held on 6 September 2013, at the end of which the decision was announced.

XII. The arguments of the Appellants can in essence be summarised as follows:

(a) The definitions of Mw, Mn and the "lower molecular weight limit of the HMW fraction" were completely independent from any measurement method. They described the actual true values for those parameters, which corresponded to a fixed value, independent on any measuring method, unlike other

parameters such as viscosity, which for example was dependent on the measurement temperature.

(b) Hence, in the absence of any method indicated for measuring those parameters, the skilled person would select the appropriate method allowing him to determine accurately those true values. Whereas routine methods existed for quality control, other, more sophisticated methods requiring calibration or for example light scattering, allowed the skilled person to approach those true values. This also meant that the features M_w, M_n and the "lower molecular weight limit of the HMW fraction" were clearly defined. The fact that an appropriate method for approaching the true values might require a considerable level of expertise did not constitute an undue burden. This case was similar to case T 1366/07.

(c) If any lack of clarity arose from the absence of a measuring method, this, however, did not result in an insufficient disclosure, which requirement had to be assessed on the basis of the patent as a whole. In the present case the application as filed contained a detailed description on how to produce the claimed multimodal polyethylene compositions for pipes of the invention. The Respondents had failed to show that following this teaching the skilled person would not be able to obtain pipes that showed improved properties in terms of processability, rapid crack propagation and impact strength as mentioned in the patent specification.

(d) Hence, the requirement of sufficiency of disclosure was fulfilled.

XIII. The arguments of the Respondents can in essence be summarised as follows:

(a) Mw, Mn and Mw/Mn were essential features of the invention which were necessary to achieve the effects described in paragraph [0013] of the patent in suit. It was noted in this respect that different methods for determining those parameters led to different values. As there was no information what method to use, there was a lack of guidance for the skilled person how to obtain the desired effects. It is was in particular not possible to recognize that true values for Mw, Mn and the lower molecular weight limit of the HMW fraction were meant in claim 1 of the patent.

(b) Repeating the examples of the patent in suit did not allow to verify which method was meant to be used for determining Mw and Mn, as the catalyst used for preparing the resin was not specified.

(c) The skilled person was therefore prevented to understand the nature of the invention. In the absence of a test method for determining Mw, Mn and the lower molecular weight limit of the HMW fraction, one could not reproduce the invention, as one did not know whether one had obtained something falling within the ambit of claim 1. In cases where the LMW fraction was a copolymer - a possibility foreseen in paragraph [0011]of the patent - it became impossible to determine the limit between the LMW and HMW fractions, thus rendering it impossible to produce the claimed compositions.

(d) Therefore, the requirement of sufficiency of disclosure was not met.

XIV. The Appellants (Patent Proprietors) requested that the decision under appeal be set aside and that the case be remitted to the department of first instance for further prosecution.

XV. The Respondents 1 and 2 (Opponents 1 and 2) requested that the appeal be dismissed, or, alternatively, that the case be remitted to the department of first instance for further prosecution.

Reasons for the Decision

1. The appeal is admissible.

2. The question to be answered when assessing sufficiency of disclosure is whether the invention as defined in the claims can be performed by a person skilled in the art throughout the whole area(s) claimed without undue burden, taking into account the information given in the patent in suit and using common general knowledge.

2.1 The invention of which the sufficiency of disclosure has to be judged is the object defined in present claim 1 by the combination of the following features:

(i) a multimodal polyethylene composition suitable for pipes,

the multimodal polyethylene having

(ii) a density of 0.930-0.965 g/cm^3,

(iii) a MFR_5 of 0.2-1.2 g/10 min,

(iv) a M_n of 8000-15000, a M_w of 180-330 x 10^3 and a M_w/M_n of 20-35,

and comprising

(v) a low molecular weight (LMW) ethylene homopolymer fraction and a high molecular weight (HMW) ethylene copolymer fraction in a weight ratio of the LMW fraction to the HMW fraction of (35-55) : (65-45)

(vi) said HMW ethylene copolymer fraction having a lower molecular weight limit of 3500.

2.2 The contested decision nor the parties on appeal addressed the question whether the present patent specification disclosed a technical concept fit for generalisation and whether it made available to the skilled person, with his common general knowledge, compositions suitable for pipes meeting the combination of parameters defined in claim 1, as well as the pipes according to claim 12. The questions addressed were rather which meaning should be attributed to the feature "lower limit of the high molecular weight (HMW) ethylene copolymer fraction" and whether, in the absence of any mention in the patent with respect to the measurement methods for determining M_n, M_w and the lower limit of the high molecular weight (HMW) ethylene copolymer fraction, the skilled person would know which measurement method was to be employed.

2.3 Following the normal rule of claim construction according to which terms used in a claim should be given their ordinary meaning in the context of the claim in which they appear, the lower molecular weight limit of the HMW ethylene copolymer fraction defined in claim 1 designates the lowest molecular weight of any of the molecules of the HMW fraction. This view is supported by the statement provided in the specification on page 3, lines 9-12 and was not disputed any longer during the oral proceedings.

2.4 In the absence in the claim of any indication of a method for determining M_n, M_w and the lower limit of the high molecular weight (HMW) ethylene copolymer fraction, the claim has to be read as allowing any method of measurement, including any setting, that can be said to be standard in the art concerned; in other words, any ordinary method within the context of the present claim. In this respect, the parties do not dispute that different methods (for example GPC), including different settings, would be available to determine values for those parameters, nor that the choice of the measurement method for determining said parameters has an influence on the values obtained.

2.5 The notions of "true value" and closeness to that "true value" in relation to M_w and M_n parameters, to which the appellant referred, are however not only vague, but also not reflected by the information provided in the patent in suit. If a patent proprietor wishes to argue that a parameter range in a claim should be read in a special way or needs to be measured in a particular manner because several possibilities are available, then for that argument to be accepted it is necessary to limit the claim to this method of measurement by way of amendment, provided that this can be done meeting the requirements of Article 123(2) EPC. It is not enough to argue that the claim should be read in a particular way when the wording of the claim does not require this. For lack of information to that effect, it is not apparent that the skilled person would try to determine the "true value" of M_w and M_n, as it is at least equally credible that he would choose any standard method meeting his needs in the context of the technical circumstances of the case, i.e. also taking

into account the convenience and reproducibility of that method.

2.6 Therefore, the present claims should be read as to encompass any composition or pipe that meets the defined values of M_w, M_n and "lower limit of the high molecular weight (HMW) ethylene copolymer fraction" using any method that can be considered to be standard in the art in the technical context of the present claims as the method of measurement for those parameters.

2.7 Such a reading of the claim may on the one hand result in a larger number of compositions or pipes meeting the claimed values than when one specific method were used, and therefore in less difficulty to obtain compositions or pipes as defined by the claims, i.e. in less stringent requirements for assessing sufficiency of disclosure of the claimed combination of features. In that case it may on the other hand require stronger arguments in favour of novelty and inventive step, in particular if the claimed values were held to distinguish the claimed subject-matter from the prior art and to be considered essential for providing a technical effect vis-à-vis the prior art.

3. The Respondents' argument that the conventional methods for determining M_w and M_n led to different values out of which a lack of guidance resulted for the skilled person wishing to obtain the result defined in the patent specification (paragraph [0013]), namely to obtain a pressure pipe with a desired combination of good processability and good strength, cannot be accepted as an argument pertaining to sufficiency of disclosure of the invention, as those results or effects are not features of the present claims. This

follows from the consideration that - in accordance with Rule 43(1) EPC - the invention in the European patent application is defined by the subject-matter of a claim, i.e. the specific combination of features present in the claim, as is reminded in Opinion G 2/98 of the Enlarged Board of Appeal (OJ 2001, 413; point 2 of the Reasons). Whether the result defined in the present patent specification (paragraph [0013]), is achieved or not, may, however, become relevant under the requirement of inventive step, for assessing the technical problem which can be held to be successfully solved by the combination of features claimed.

4. The uncertainty about which method the skilled person would select to determine M_n, M_w and the lower limit of the high molecular weight (HMW) ethylene copolymer fraction, which was the central issue addressed by the parties both in opposition and in appeal proceedings, is in the present case not adequate to make a case against sufficiency of disclosure. The argument that the choice of the measurement method for determining M_n, M_w and the lower limit of the high molecular weight (HMW) ethylene copolymer fraction had an influence on the values obtained and that therefore the skilled person would not know whether he had obtained something falling within the ambit of the claims - as it was argued by the respondents as well as in the decision under appeal - boils down to the argument that the boundaries of the claims are not clearly defined, which is a matter of Article 84 EPC, not sufficiency of disclosure. Such an objection under Article 84 EPC cannot be successful as it would not arise out of any amendment made in opposition or appeal proceedings.

5. For assessing the requirement for sufficiency of disclosure the question should be answered whether the

skilled person, following the teaching provided in the patent specification, in particular in paragraphs [0025] to [0029] and the Examples, and also taking into account his general knowledge, would be able to obtain without undue burden multimodal polyethylene compositions meeting all criteria defined in claim 1 of the patent in suit (see point 2.1 above) and the pipe according to claim 12.

5.1 In this respect, points raised before the opposition division (points 3.1.1 to 3.1.8 of the letter of 8 June 2005 of Opponents 1 and points 4.1 to 4.4 of the Patent Proprietors' letter of 19 January 2006), which in particular relate to the process conditions that are needed to obtain the combination of technical features defined in the claims, and which appear to be essential to assess the sufficiency of the disclosure, should also be considered.

5.2 However, none of those issues was decided by Opposition Division, nor argued by the parties before the Board.

6. Under those circumstances, as the essential issues to be addressed in respect of sufficiency of disclosure have not been dealt with in the contested decision, the Board exercises its discretion under Article 111(1) EPC to remit the case to the first instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution.

The Registrar: The Chairwoman:

L. Fernández Gómez B. ter Laan

Decision electronically authenticated