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D E C I S I O N
of 20 July 2006

Case Number: T 0790/03 - 3.3.03

Application Number: 94904842.5

Publication Number: 0675906

IPC: C08F 210/16

Language of the proceedings: EN

Title of invention:
Linear low density polyethylene film

Patent Proprietor:
EXXONMOBIL OIL CORPORATION

Opponents:
BP Chemicals Ltd
Repsol Quimica SA

Headword:
-

Relevant legal provisions:
EPC Art. 56, 100(b), 107, 114(1)(2)

Keyword:
"Inventive step - ex post facto analysis"
"Opposition grounds - insufficiency of disclosure (no)"
"Opponent not to be prevented from commenting on an opposition ground duly submitted by another opponent"
"Late-filed material - not sufficiently relevant to be further considered"

Decisions cited:
T 0073/88, T 0448/89, T 1002/92, T 0270/94, T 0863/96

Catchword:
-



Case Number: T 0790/03 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 20 July 2006

Appellant:
(Opponent II)

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Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office dated
7 May 2003 and posted 23 May 2003 concerning
maintenance of the European patent No. 0675906
in amended form.

Composition of the Board:

Chairman: R. Young
Members: A. Däweritz
E. Dufrasne

Summary of Facts and Submissions

I. The grant of European patent No. 0 675 906 in respect of European patent application No. 94 904 842.5, based on International patent application No. PCT/US93/12166 (which had been published as WO-A-94/14855), filed on 14 December 1993 and claiming priorities of 28 December 1992 and 25 March 1993 of two earlier applications in the USA (997421 and 36796, respectively), was announced on 17 February 1999 (Bulletin 1999/07). The patent contained eight claims, independent Claim 1 of which read as follows:

1. A film, exhibiting a haze, determined by ASTM D-1003, ranging from 3 to 20, a dart impact value, measured by ASTM D-1709, which ranges from greater than 100 and up to 2000, a hexane extractables content of 0.3 to 1.2 wt.%, said film comprising a LLDPE comprising ethylene and an alpha olefin of 3 to 10 carbon atoms, which has a density ranging from 0.900 to 0.929; MFR of 15 to 25; a M_w/M_n of 2.5 to 3.0 and a melting point ranging from 95°C to 135°C.

The remaining dependent Claims 2 to 8 concerned particular elaborations of the film of Claim 1.

In this decision, any reference given in brackets refers to a paragraph in the patent in suit, eg [0001].

II. On 16 and 17 November 1999, respectively, two Notices of Opposition were filed in which revocation of the patent in its entirety was requested on the basis of the grounds according to Article 100(a) EPC, for lack of novelty and lack of inventive step (Articles 54 and 56 EPC). Opponent I additionally based its opposition on the ground according to Article 100(b) EPC, for not complying with the provision of Article 83 EPC and asserted that the patent in suit was not entitled to the first priority date, mentioned in section I, above. In the Notices of Opposition, the following documents were cited (numbering as in the decision under appeal; D1 to D4 cited by Opponent II; D5 to D10 by Opponent I):

- D1: WO-A-94/03 509,
- D2: EP-A-0 552 945,
- D3: EP-A-0 336 593,
- D4: US-A-4 912 075,
- D5: US-A-4 243 619,
- D6: US-A-4 302 565,
- D7: EP-A-0 323 716 (the EP counterpart of D4),
- D8: EP-A-0 363 029,
- D9: EP-A-0 406 912 and
- D10 "EXXPOL™ Technology - Driving the Revolution in Polyolefins", G.L. McPike, SP'92-Polyethylene World Congress, December 7-8-9, 1992, Zürich (CH), pages VII-1.1 to VII-1.10.

The objection under Article 100(b) EPC was based on the allegation that it had not been possible for Opponent I in nine attempts to obtain the copolymers according to Claim 1, when carrying out polymerisations according to Examples 2 and 3 of the patent in suit, thereby "using the same catalyst composition and preparative method as described in example 1" of the patent in suit, and preparing films therefrom "according to the procedures described in the patent" in suit. In order to support this assertion, Opponent I filed, with its Notice of Opposition, an experimental report describing these experiments, in which, however, "In every case copolymers having M_w/M_n in the range 1.89 - 2.05 were observed rather than the claimed range of 2.5 - 3.0 or the exemplified value of 2.6.". However, it was conceded that "In some aspects it was necessary for the opponent to depart from the conditions exemplified in the patent. The opponent considers that where this was the case no effect would have been consequential in the

resultant copolymer." and "The opponent prepared two blown films from the copolymers both of which had the claimed parameters of the patent based on haze, dart impact and hexane extractables. Claim 1 of the patent however requires that the films comprise LLDPE's having a M_w/M_n of 2.5 - 3.0." (Opponent I: Annex to the Notice of Opposition, pages 2 to 11, in particular page 2, third last paragraph and page 10, paragraphs 2 and 6).

III. Together with a letter dated 21 December 2000, the Patent Proprietor replaced the above set of claims by a new version, differing therefrom only by the following wording of Claim 1:

"1. A film, exhibiting a haze, determined by ASTM D-1003, ranging from 3 to 20, a dart impact value, measured by ASTM D-1709 Method A, which ranges from greater than 100 and up to 2000, a hexane extractables content of 0.3 to 1.2 wt.%, said film comprising a LLDPE comprising ethylene and an alpha olefin of 3 to 10 carbon atoms, which has a density ranging from 0.900 to 0.929; MFR of 15 to 20; a M_w/M_n of 2.5 to 3.0 and a melting point ranging from 95°C to 135°C."

Moreover, the Patent Proprietor disputed the arguments of both opponents and the validity of the experiments submitted by Opponent I. Due to errors in the data provided by Opponent I and due to divergence from the features in the examples of the patent in suit, allegedly repeated, Opponent I had failed, in the Patent Proprietor's opinion, to meet the criteria for establishing insufficiency. Rather "the Opponent would himself appear to have proved that the Patent is

sufficient, in that following the teaching of the Patent and using common general knowledge, the Opponent has apparently obtained a film having the properties defined in claim 1." (bottom of page 10 to page 12, paragraph 2 of the letter).

In a communication dated 26 March 2001, the Opposition Division acknowledged that the new claims were entitled to the priority of U.S. application 36796 of 25 March 1993 (cf. section I, above) and invited the Patent Proprietor to adapt the description to the new claims.

This was done by the Patent Proprietor with a letter dated 26 July 2001, to which an amended version of page 2 of the description was enclosed.

- IV. On 7 May 2003, oral proceedings were held in the absence of Opponent I. In the hearing, Opponent II maintained its objections concerning novelty and inventive step, whereby it identified D10 as the closest piece of prior art. Additionally, Opponent II supported the objection under Article 100(b) EPC of Opponent I with the argument that the patent in suit contained only one example in which the measured values of the various ranges defined in Claim 1 were far from the extremes claimed. Moreover, the patent in suit would not contain any indication of how to achieve a haze value of 3% (Minutes, items 3.1 and 5.1).
- V. In an interlocutory decision orally announced at the end of these oral proceedings and issued in writing on 23 May 2003, the patent in suit as amended (section III, above) was held to meet the requirements of the EPC.

(1) More particularly, the ground for opposition pursuant to Article 100(b) EPC was rejected, because the experiments of Opponent I had not been "proper repetitions of the examples of EP-B-0 675 906". Thus, as proved by the Patent Proprietor in its letter dated 21 December 2000, "there are clear differences in the polymerisation conditions used as can be seen by comparing Table III on page 6 of the opposition of Opponent I with Examples 2 and 3 of EP-B-0 675 906." Therefore, the Opposition Division held "that these tests could not be used to prove that the patent in suit violated the requirements of Article 83 EPC". Nor was the additional argument of Opponent II (section IV, above), which, in the absence of any evidence, was considered to be "in the form of a mere statement", found relevant to the question of sufficiency of disclosure (Nos. 2.1 to 3.2 of the reasons in the decision under appeal).

(2) With regard to D1 and D2, both being intermediate documents, the subject-matter of Claim 1 as amended was found novel, because for neither of them had it been shown that it disclosed a film fulfilling all the parameters defined in the claim. The same was found valid for the other cited documents, not all of which related to films, anyway. Thus, no mention of films was made eg in D3, D4, D7, D8 and D9. Nor did these other documents (D3 to D10) mention LLDPE having both a MFR (= I_{21}/I_2) of 15 to 20 or a M_w/M_n ratio of 2.5 to 3.0 (Nos. 6 to 6.10 of the reasons).

In the Opposition Division's view, this finding was not compromised by D10 which taught all sorts of

PE (polyethylene) films and gave ranges for melting point, density, dart drop impact resistance, haze and hexane extractables of such films (figures on page VII-1.8 and in the left column of page VII-1.9), even though it was possible that these general ranges enclosed or overlapped with ranges of Claim 1 under consideration.

(3) Consequently, besides the rejection of the ground for opposition pursuant to Article 100(b) EPC, novelty was also acknowledged for the above reasons.

(4) The technical problem underlying the claimed subject-matter with respect to D5 (closest state of the art according to Opponent I) was seen in the provision of an improved film having the parameters of Claim 1. However, none of D3, D4 and D6 to D10 contained a teaching suggesting to improve the films of D5 in the way claimed.

(5) By contrast, Opponent II had considered D10 as the closest piece of prior art, which would teach a LLDPE film meeting the parameters for melting point, density, dart drop impact resistance, haze and hexane extractables of Claim 1. In this respect, however, the Opposition Division took the view that, even if it were accepted that this contention of the opponent concerning the film which fulfilled the required values of the above parameters, there would be no suggestion in D3 to D9 that such a film should comprise a LLDPE having a MFR of 15 to 20 and a M_w/M_n ratio of 2.5 to 3.0.

(6) On the basis of these findings, the Opposition Division came to the conclusion that the claimed subject-matter was also based on an inventive step.

VI. Against this interlocutory decision, a Notice of Appeal was filed by the Appellant/Opponent II on 22 July 2003, and the prescribed fee was paid on the same date. Furthermore, two additional publications were cited for the first time and it was requested that they be admitted into the proceedings:

D11: "Single Site Catalyzed Ethylene Copolymers: Structure/Property Relationships", B.C. Trudell et al., Proceedings of ANTEC '92 , Detroit, U.S.A., May 3-7, 1992 and

D12: "Structure/Property Relationships in EXXPOL™ Polymers", C.S. Speed et al., SPE Polyolefins VII International Conference, Houston, U.S.A, February 24-27, 1991.

In the Statement of Grounds of Appeal, received on 26 September 2003, the Appellant further pursued the request for revocation of the patent in suit in its entirety for (a) lack of inventive step and (b) insufficient disclosure.

(1) With regard to the latter objection under Article 100(b) EPC, the Appellant, "for the sake of avoiding repetition", referred to "the argumentation of Opponent I", and stated that "As argued by Opponent I in the written submissions to the opposition division, it was convincingly shown that using the techniques described in the patent, no value of M_w/M_n in the claimed range of 2.5 to 3.0 could be obtained."

Moreover, in its opinion, the patent in suit did not disclose how a skilled person should obtain a film "having a haze ratio outside the only value quoted of 5-7 %", whilst Claim 1 recited "that the lower value of the range is a value of only 3 %".

Similar arguments were put forward by the Appellant, in view of the respective values given in the sole example of the patent in suit, with regard to the hexane extractables content and the dart impact value.

Therefore, the patent in suit "should be revoked as a result of the ground of opposition under Article 100(b) EPC." (Statement of Grounds of Appeal: bottom of page 2 and whole page 3).

(2) In the frame of its arguments presented with regard to inventive step (Statement of Grounds of Appeal: page 4 *et seq.*), the Appellant explained why it considered the two additional documents D11 and D12 (see the first paragraph of this section) to be so relevant that they should be admitted to the appeal proceedings. According to the Appellant, "two further documents were identified describing the properties of the EXXPOL polymers, D11 and D12 submitted with the Notice of Appeal. These documents were identified only after the oral hearing before the opposition division and therefore it was not possible to introduce them in the first instance proceedings." Both documents "describe various properties of differing polymer films including films made from resins produced using C4, C6 and C8 alpha olefins." (upper half of page 4).

(3) In more detail, the Appellant referred to haze values, densities and dart impact values of polymers mentioned on different pages of D12, whilst it conceded that there was no explicit reference to M_w/M_n (other terms used therefor: M_w/M_n , Mw/Mn, MWD, molecular weight distribution) or MFR values in the document within the ranges as defined in Claim 1. It then argued that the structural features such as molecular weight and its distribution were readily controllable using the EXXPOL catalyst and process conditions, thereby allowing to optimise the level and balance of melt flow properties and physical/optical properties. Moreover, broadening MWD and/or CD (composition distribution) was referred to in D12 as being required for many applications.

With respect to D11, the Appellant only stated that it also described various properties of differing polymer films (section VI(2), above, last sentence) and that it referred to LLDPE copolymers comprising C_4 , C_6 or C_3 comonomers (Statement of Grounds of Appeal: page 4 to page 6, paragraph 2).

Moreover, since the MFR value for a LLDPE film was "a property associated with the bulk density and not the film itself", it was classified as being a meaningless quantity. Consequently, there was seen no need for the MFR value to be reported in any one of D10 to D12. Nevertheless, the Appellant referred to D7 to show that the skilled person would know that a particular MFR value could be achieved using a metallocene-aluminoxane catalyst for the copolymerisation of ethylene and hexene-1 (page 6, paragraphs 3 and 4, respectively). And it concluded that the subject-matter of Claim 1 was,

therefore, not inventive over the content of D12 either on its own or in combination with D7, D10 or D11.

Based on similar considerations, the Appellant additionally considered documents D3 to D10 [*sic*] as being relevant to the issue of inventive step and, to this end, referred to individual parameters and to process features mentioned in D3, D4, D7, D8 and D9 (page 6, penultimate paragraph to page 7, paragraph 2).

Finally, these arguments were summarised in the form of a feature analysis referring to the disclosure of individual features in particular documents.

VII. This argumentation was referred to by the Respondent in a letter dated 18 February 2004 as being "a classical hindsight approach" being wrong and not allowable, and as being contrary to the well established preferred method for the determination of inventive step using the problem-solution approach (Nos. 3.2 and 3.15 of the letter, respectively).

(1) In its view, "it is not permissible in seeking to invalidate the Patent in suit to pick and choose polymer properties from different disclosures in order to arrive at the combination of properties defined in claim 1." (No. 3.15 of the letter).

Then after having commented on the individual features referred to by the Appellant in the different documents cited (only a few of which referred to a film anyway; nor did any one, including D12, contain any disclosure of a single polymer or a film made thereof meeting the haze, dart impact, hexane extractables content, density

and melting point requirements of Claim 1 of the patent in suit; Nos. 3.5 to 3.14), the Respondent summarised: "Furthermore, it is inappropriate to import polymer properties from one type of polymer into another type of polymer, as the Appellant attempts to do throughout his argumentation, whether based upon D12 or on other documents in these proceedings." and "... the Appellant's argument based on these documents is merely that the subject matter of claim 1 constitutes a collocation of properties known from the prior art. However, the Appellant provides no motivation or reasoning whatsoever as to why the skilled man might combine different properties of different polymers disclosed in different documents to arrive at the claimed invention. Only with hindsight is this possible." (Nos. 3.8 and 3.24 of the letter).

(2) As a consequence of this conclusion, the Respondent requested that the appeal be dismissed and the patent in suit be maintained in the form decided upon by the Opposition Division.

(3) Moreover, it requested that the newly cited documents D11 and D12 not be admitted, since they were filed over four years after the period for filing an opposition. Nor would these documents add anything more relevant than the documents already on file. Consequently, they should be shut out as late-filed.

If, however, they were admitted by the Board, this would mean that they were deemed more relevant than the documents already on file. Then, this would effectively constitute a fresh case, which should be considered in a first stage by the Opposition Division. Accordingly,

the Respondent requested that, if D11 and D12 were admitted, the case be remitted to the first instance.

(4) Furthermore, with reference to T 448/89 (OJ EPO 1992, 361), the Respondent expressed its opinion that the Appellant should not be allowed to rely on documents cited only by Opponent I/the other Party, ie on D6 to D10, which should, therefore, be excluded from the appeal proceedings (No. 1.3 of the letter).

(5) To the objection under Article 100(b) EPC, the Respondent set out that "the Appellant merely refers generally to the argumentation made by Opponent I in this regard.". This argumentation had, however, been based on experimental work which "did not constitute proper repetitions of those Examples (of the patent in suit), and ... there were clearly errors in the data reported by Opponent I". The Appellant had, however, carried out no further experimental work to overcome the deficiencies in the work carried out by Opponent I. Thus, the situation remained as it had been before the Opposition Division, with the argument for insufficiency unproven. The further argument to this issue raised by the Appellant was essentially that the claims were too broad in relation to a number of parameters specified in the claims (cf. section VI(1), above). The Appellant's argument in this regard was "at best speculative" and "not based upon any well-founded reason or scientific evidence that the invention cannot be performed over the entirety of the breadth claimed.". As the burden of proof was with the Appellant to prove insufficiency, which it had not discharged, "this argument must fail" (Nos. 2 to 2.8 of the letter).

VIII. As both the Appellant and the Respondent had, as auxiliary motions, requested to hold oral proceedings, the parties were summoned for the 19 July 2006 (summons dated 3 May 2006).

(1) In reply to the summons, the Appellant informed the Board by letter dated 17 May 2006 that it would not attend the hearing. By letter dated 26 May 2006, the other Party (Opponent I) did likewise.

(2) Having been informed of these announcements, the Respondent pointed out in a letter dated 21 June 2006 that the Appellant had not challenged most of the conclusions of the Opposition Division but, instead, had relied mainly on issues which had not previously been pleaded. Nor, in its view, had its own answer to the arguments in the Statement of Grounds of Appeal been challenged by either the Appellant or the other Party. Therefore, it would be unfair, if the case would finally be debated in the hearing in such circumstances, wherein the Respondent had not been given an opportunity "to assess whatever criticisms might be made against patentee's arguments against that case."

(3) It also explained its previously filed requests in more detail: Thus, the Respondent requested that oral proceedings be held only before any decision other than (a) dismissal of the appeal with or without assessment of the relevance of D11 and D12 or (b) remission to the first instance for assessment of the relevance of those latter documents.

(4) Finally, the Respondent expressed its hope that the Board would be in a position to cancel the hearing.

IX. On 29 June 2006, the Board issued a communication by fax, wherein the parties were informed that neither of the requests for oral proceedings had been withdrawn, and that the hearing could not, therefore, be cancelled by the Board.

Since the only reaction of the Appellant and the other Party to the reply of the Respondent to the Statement of Grounds of Appeal had consisted in their letters mentioned in section VIII, above, it appeared to the Board that all their arguments had already been provided. Therefore, the Appellant was invited to reconsider its request for oral proceedings.

By fax received on the same date, the Appellant withdrew its request for oral proceedings and the Board subsequently cancelled the oral proceedings.

X. In summary, as far as requests have been submitted and are still maintained by the parties in these appeal proceedings, they are construed to be as follows:

(1) The Appellant (Opponent II) requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

(2) The Respondent (Patent Proprietor) requested that the appeal be dismissed or, in the alternative, if the further documents D11 and D12 were admitted to the proceedings, that the case be remitted to the first instance for further prosecution.

Reasons for the Decision

1. The appeal is admissible.
2. *Procedural matters*
 - 2.1 Article 107 EPC states that "Any party to proceedings adversely affected by a decision may appeal. Any other parties to the proceedings shall be parties to the appeal proceedings as of right.". On the basis of this wording and in agreement with established jurisprudence (cf. T 73/88, OJ EPO 1992, 557, No. 1.2 of the reasons; T 270/94 of 22 January 1998, No. 2.1 of the reasons; and T 863/96 of 4 February 1999, No. 2 of the reasons, neither of the latter decisions published in OJ EPO), the Board takes the view that neither the opposition nor the appeal proceedings resulting therefrom can be split into different procedures, each dealing separately with the grounds for opposition and the facts, evidence and arguments presented in the Notice of Opposition of the respective opponent.

Decision T 448/89, referred to by the Respondent (section VII(4), above), did not concern the above issue, but the question of admissibility of an opposition based on objections of lack of novelty and of lack of inventive step, which had been formulated in the Notice of Opposition only in very general terms on the basis of a passage in a granted EP-patent published only after the effective date of the patent in suit. This reference in its generality was not, under the specific circumstances in that case, found to comply with the requirements of Rule 55(c) EPC, despite the fact that it had been possible to identify the pre-

published patent application corresponding to the cited EP-patent.

Consequently, the arguments of the Appellant which deal with an objection duly submitted by Opponent I/the other Party within the time limit of Article 99(1) EPC cannot simply be disregarded, solely because they are based on the documents cited by the other Party (ie in the present case: D5 to D10).

2.2 In the Statement of Grounds of Appeal, the Appellant cited two further documents for the first time, ie D11 and D12. In its reply (section VII(3), above), the Respondent requested that these documents be excluded from the proceedings.

2.2.1 The question of the admission of late-filed evidence and late-filed documents with due consideration of Article 114(1) and (2) EPC was considered in decision T 1002/92 (OJ EPO 1995, 605, Nos. 3 to 3.4 of the reasons). Reference can thus be made to the summary of that aspect of T 1002/92 as given in Headnote II:

"In proceedings before the Boards of Appeal, new facts, evidence and related arguments, which go beyond the 'indication of facts, evidence and arguments' presented in the notice of opposition pursuant to Rule 55(c) EPC in support of the grounds of opposition on which the opposition is based, should only very exceptionally be admitted into the proceedings in the appropriate exercise of the Board's discretion, if such new material is prima facie highly relevant in the sense that it can reasonably be expected to change the eventual result and is thus highly likely to prejudice

maintenance of the European patent; and having regard also to other relevant factors in the case, in particular whether the patentee objects to the admissibility of the new material and the reasons for any such objection, and the degree of procedural complication that its admission is likely to cause."

2.2.2 Therefore, the request of the Respondent not to take documents D11 and D12 into consideration can be examined within those conditions as established in T 1002/92 (above), (i) with respect to the question of their relevance and (ii) , if found relevant, with regard to the state of the proceedings at the date of their filing. Since aspect (i), above, is closely related to the issue of inventive step, it will be dealt with in that context herein below.

3. *Wording of the specification*

As addressed in sections III, VII(2), VIII(3) and X (above), respectively, an amended set of claims and an amended page 2 of the description formed the basis of the decision under appeal and this version of the patent in suit is further pursued by the Respondent in these appeal proceedings.

The amendments in Claim 1 consist in the identification of the method of measuring the dart impact according to ASTM D-1709 (ie "Method A") and the limitation of the melt flow ratio (MFR) range of the LLDPE used to "15 to 20" on the basis of page 4, line 4 and page 3, line 6 of the application as published, respectively. Paragraphs [0004] and [0014] on page 2 of the description were amended accordingly.

Hence, it is evident that Article 123(2) EPC is complied with. Since the two amendments also clearly limit the scope of Claim 1 as granted further, the requirements of Article 123(3) EPC are also met.

4. *Article 100(b) EPC*

4.1 With regard to a first aspect of this objection, the Appellant has relied only on the arguments provided in the Notice of Opposition of Opponent I (sections II and VI(1), above). Those arguments were, however, disputed by the Patent Proprietor (sections III and VII(5), above) and were also refuted in the decision under appeal (cf. section V(1), above), because they had been based on experiments neither being true repetitions of the examples of the patent in suit as alleged nor being convincing. Moreover, no additional arguments have been brought forward by the Appellant in this respect, nor have the findings in the decision under appeal or the comments of the Respondent in its reply to the Statement of Grounds of Appeal (sections V(1) and VII(5), above) been challenged by the Appellant or the other Party within more than two years between the submission of the Respondent's reply and the summons, let alone thereafter.

Therefore, the Board has no reason to deviate from the findings in the decision under appeal with regard to this aspect of the objection.

4.2 With regard to a second aspect of this objection, the Appellant maintained that the skilled person was not in a position to reproduce the claimed subject-matter over

- the various ranges recited without a significant experimental burden, because he would not know how to achieve values of the various parameters in the claim other than those in the single example of the patent in suit (cf. sections IV and VI(1), above).
- 4.2.1 This aspect of the objection had been refuted in the decision under appeal (section V(1), above), in particular due to lack of any evidence for these assertions.
- 4.2.2 The absence of any evidence from the side of the Appellant was also addressed by the Respondent, who additionally pointed out that the onus of proof for its allegations had been on the Appellant and that the Appellant had not discharged this burden (section VII(5), above).
- 4.2.3 Although it had, thus, clearly been derivable from the decision under appeal that a "mere statement" had not sufficed for a success of this second aspect of the objection under Article 100(b) EPC (decision under appeal: No. 3.1 of the reasons; section V(1), above) and the Respondent had also addressed this weakness in the argumentation of the Appellant, no evidence has been provided to demonstrate that "the invention cannot be performed over the entirety of the breadth claimed" (section VII(5), above) ever since. In the absence of such evidence, the Board cannot, therefore, refute the arguments of the Respondent in this respect.
- 4.2.4 Moreover, the presentation of this aspect by the Appellant is not convincing, in the Board's view, for a still further reason. Thus, the Appellant argued, on

the one hand, that the skilled person could not carry out the invention, ie could not prepare something within the scope of the claims, but, on the other hand, expressed, at the same time, the opinion with regard to the prior art cited, that it would have been obvious and within normal skills of a person skilled in this art to arrive at something within the scope of these claims (Statement of Grounds of Appeal: page 6, third last paragraph; and Notice of Opposition: Annex 1, the paragraph bridging pages 2 and 3).

This inconsistency within the arguments of the Appellant becomes evident, in particular, when comparing its own statements dealing with the haze feature (mentioned just to give an example):

- (a) "... there is no disclosure in the patent in suit as to how a skilled person should obtain a film having a haze ratio outside the only value quoted of 5-7%" (Statement of Grounds of Appeal, page 3, paragraph 2; section VI(1), above).
- (b) "The haze values of D12 range from approximately 3.5 to 4.2 ..." (Statement of Grounds of Appeal: page 4, penultimate paragraph; section VI(3), above, paragraphs 3 and 1, respectively).

4.3 Therefore and in summary, the Board cannot see any reason to deviate from the findings in the decision under appeal concerning the objection under Article 100(b) EPC. Consequently, this objection is rejected.

5. *Novelty*

In the appeal proceedings, the initial novelty objection, which had been rejected by the Opposition Division (section V(2), above), has no longer been pursued by the Appellant. Under these circumstances, the Board has no reason to deviate in this respect from the decision under appeal.

6. *Problem and solution*

- 6.1 The patent in suit concerns a film comprising a LLDPE comprising ethylene and C₃₋₁₀- α -olefin.

The film as defined in Claim 1 is required simultaneously to meet certain requirements with regard to its optical, chemical and mechanical properties, namely to have haze, dart impact and hexane extractables within defined limits. Moreover, further prerequisites in the claim concern limitations of a number of properties of the LLDPE used to form the film, ie its density, its melt flow ratio, its molecular weight distribution and its melting point (Claim 1, section III, above).

- 6.2 The common general knowledge, that these properties of the polymer depend on its chemical composition, the catalyst system and the polymerisation conditions used in its preparation, is not only confirmed by the specification itself, which contains three chapters with the headings of "The Copolymer Products" (including a reference to the monomers; [0020]), "The Catalyst" (eg those based on metallocenes and aluminoxane cocatalysts) and "The Process Conditions"

(eg low pressures in the range of 1 to 2.4 MPa [0036]), but also eg by document D10, initially cited in the opposition and, at the hearing before the Opposition Division, identified by the Appellant/Opponent II as the closest piece of prior art (section IV, above). Last but not least it was also confirmed by the Appellant itself (cf. section VI(3), paragraph 1).

6.2.1 Document D10 is based on a presentation given on a congress and addressing some then already achieved and further expected aspects of a specific (EXXPOL™) technology on the basis of a particular type of catalyst system (referred to as "single site catalyst", "SSC"). This technology was said to allow a "tailor-made structuring of the polymer", the control of MWD and the making of polymers with narrow CD, and, thus, at the time of its publication, nurtured expectations for the future ("One approach we might see in tailoring polymers to meet customer needs is ..."). The needs (required properties) are, of course, related to the intended use of the polymers. Thus, the document further mentions a number of "properties such low heat-sealing temperatures, low haze, high clarity, impact resistance, elasticity and potentially - improved recyclability" (page VII-1.5, right column; and bottom of the left column on page VII-1.7) and a number of uses, such as "packaging film, electrical, automotive, medical devices, and textiles" (page VII-1.8, left column). When considering these expositions, it must, however, be taken into account that this document was not meant by its author "to be a technical presentation" (page VII-1.8, right column, paragraph 2).

6.2.2 Nevertheless, it referred to some technical particulars, namely (i) to different monomers (cf. the references to different polymers in the abscissas in the first and last bar charts, respectively, on pages VII-1.8 and VII-1.9), (ii) to single site catalysts (with particular reference to their ionic so-to-say sub-species composed of metallocene cations and anionic coactivator systems; page VII-1.6, right column) and (iii) to polymerisation conditions, namely to high pressure in a high pressure polymerisation line (page VII-1.6, left column, paragraph 2). Moreover, four figures, ie a diagram and altogether three bar charts, were included to give an idea in which way some properties of different polymers could be influenced by choosing a catalyst ("Exact single site polymers versus LLDPE and VLDPE"; page VII-1.8, right column, last paragraph). Thus, reference was made (a) to melting points of some "Ziegler Catalyzed Polymers" and of some "EXACT" polymers, (b) to hexane extractables of some "C4, C6 and C8 LLDPE" and some " C4, C6 and C8 VLDPE" polymers prepared by means of either a Ziegler-Natta catalyst or a SSC, as well as (c) to the dart drop impact resistance of some cast films and (d) to the total haze of some blown films, both types of films prepared from the different types of polymers mentioned. However, no further particulars or details were given which would allow to establish that a polymer of a given type in one figure was identical to a polymer of the same type referred to in another figure.

In other words, it is not unambiguously clear from the figures that eg the Exact Single-Site C4 VLDPE in the dart drop bar chart was identical to the C4 VLDPE Exact Single-Site Polymer in the Hexane Extractables bar

chart or to one of the Exact polymers mentioned in the Total Haze chart of D10, which cannot be further identified in the provided copy (page VII-1.9).

Furthermore, in the discussion between the parties about the various properties of the polymers in D10 and their relevance to the claimed subject-matter, one aspect mentioned above was completely left aside: point (iii), the polymerisation conditions and their influence on the products (cf. eg D5, column 1, line 19 *et seq.*, column 3, line 53 to column 4, line 34). The importance of this aspect can be illustrated eg by the well-known differences in clarity (haze) of two typical commodity product types in this field of the art, namely a high pressure polyethylene (LDPE) as opposed to a low pressure polyethylene (HDPE). D10 clearly refers to a high pressure polymerisation line (see the first paragraph of this section, above). By contrast, the description of the patent in suit refers only to pressures of 1 to 2.4 MPa (150 to 350 psi) [0036], clearly different from commonly known high pressure processes (cf. D5: column 1, lines 19 to 22, referring to "pressures as high as 50,000 psi").

6.2.3 In summary, this means that D10 does not allow to conclude that, in one of its films, specific values within the limits of those parameters as defined in Claim 1 had simultaneously been achieved or even could simultaneously be achieved.

6.3 It is exactly this conclusion, to which the Respondent also came with regard to documents D11 and D12, cited only in the Statement of Grounds of Appeal (cf. sections 2.2 to 2.2.2, above), after having dealt

extensively with the details of these documents, in particular with the individual parameters of individual polymers in D12, in its reply to the Statement of Grounds of Appeal (section VII(1) to (3), above).

6.3.1 Although the Appellant had, in the Statement of Grounds of Appeal, mainly relied on this latter document (sections VI to VI(3), above), against the consideration of which in these appeal proceedings had been pleaded by the Respondent, further arguments were provided neither by the Appellant nor the other Party to dispute, let alone to refute the detailed arguments of the Respondent after the filing of the reply of the Respondent in February 2004, not even after having received the summons to oral proceedings (sections VIII and VIII(2), above).

6.3.2 Moreover, the comparison of the detailed arguments of the Respondent and the contents of the new documents shows that, whilst referring to properties of the products prepared by a SSC catalyst system in more detail than D10 (D12 even mentioning the term EXXPOL™), both documents concern, like D10, polymers having a particularly narrow MWD. More particularly, the MWD of a number of polymers of different monomer compositions was specified therein in terms of a M_w/M_n -value of 2.0 (D11: first page, left column, line 14 from below; D12: Introduction on page 46, second paragraph).

Furthermore, both documents D11 and D12 are completely silent about the polymerisation conditions (see section 6.2.2, above) and, like D10, they also fail to demonstrate that the properties of a film as defined in

Claim 1 could and would be obtained *simultaneously* with a given polymer composition.

In view of these facts and of the arguments of the Respondent which remained undisputed, the Board cannot refute the argument of the Respondent that the two documents D11 and D12 are not more relevant than the prior art, which had been considered in the opposition proceedings (see section 2.2.1, above), and that the Appellant's arguments based on the citation of the new documents were based on hindsight (section VII(1), above).

In view of these findings, there is no need for the Board further to consider these two late-filed documents in more detail for the assessment of inventive step, and they are therefore excluded from consideration (Article 114(2) EPC).

- 6.4 Consequently, the Board has no reason to deviate from the Appellant's view in the opposition hearing that D10 was the closest piece of prior art (sections IV and 6.2, above).
- 6.5 According to paragraphs [0016], [0017] and [0018], the technical problem may be seen in the provision of a film showing simultaneously a number of distinct optical properties and mechanical properties, which film can easily be prepared from LLDPE products having various unique properties [0010].

6.6 This problem is solved by the subject-matter of Claim 1.

Moreover, as indicated in Table II of the patent in suit, the particular combination of properties was, in fact, obtained. These values *per se* were not in dispute.

Therefore, the Board is satisfied that the above relevant technical problem was credibly solved.

7. *Inventive step*

It remains to be decided whether the claimed solution of this problem derives in an obvious way from the cited documents.

7.1 As already shown in sections 6.2 to 6.2.3, above, D10 itself does not provide all the details of the solution found for the above technical problem. In particular and as pointed out in the decision under appeal (No. 6.10), it is silent as to the MFR and a specific range of the MWD, viz. a MFR of 15 to 20 and a M_w/M_n of 2.5 to 3.0. Moreover, there is no teaching in the document of how to obtain films fulfilling all the requirements of Claim 1 simultaneously.

Although in part correct, the reasoning given for this fact by the Appellant on page 6, paragraph 3, of the Statement of Grounds of Appeal, that the MFR was associated with the bulk resin and not the film itself and that, therefore, a MFR value for a LLDPE film was a meaningless quantity and that, therefore, there was no need for its mentioning in D10, is not convincing. Thus, firstly, the relevant requirement in Claim 1 is clearly related to the LLDPE as such to be used ("... said film

comprising a LLDPE ..., which has ...; MFR ...", and, secondly, it has not been demonstrated by the Appellant (Opponent II) or the other Party that this property of the starting polymer would not have any effect on the properties of the film prepared therefrom. The onus of proof was clearly on the opponents who raised the objection. However, this burden was not discharged by either of them.

Nor does D10 provide any incentive to use a polymer having a MWD of 2.5 to 3.0 for obtaining a film having the required properties.

Consequently, D10 itself does not render the subject-matter as defined in Claim 1 of the patent in suit obvious.

7.2 In a number of the further documents cited by the opponents during the opposition proceedings and relied on by them in their objections of lack of inventive step, no mention was made at all of films (section V(2), above). Consequently, none of them can contribute to the solution of the relevant technical problem.

7.3 Document D5, which had been acknowledged in the patent in suit [0003], relates to films made from low density ethylene hydrocarbon copolymers made from at least 90 mol % of ethylene and at most 10 mol % of at least one C₃₋₈- α -olefin by means of a transition metal based catalyst and having a melt index of about ≥ 0.1 to about ≤ 5.0 (D5: Claim 1). The broadest limitation of the MWD of these copolymers is found in its Claim 4 (about ≥ 2.7 to ≤ 3.6), the range of which overlaps with the range defined in Claim 1 under consideration. The

same is valid for the density (≥ 0.912 to ≤ 0.940 ; Claim 3). However, the broadest range of the MFR of these copolymers as disclosed in D5 can be found in its Claim 5 ranging from about ≥ 22 to ≤ 36 , preferably ≥ 25 to ≤ 32 (cf. also D5: column 7, lines 60 to 63).

In the decision under appeal (No. 6.5 of the reasons), D5 was referred to as neither teaching films having the particular combination of parameters of the pending Claim 1, nor referring to the specific LLDPE of the pending Claim 1. For instance, it did not mention a polymer having a MFR-value of 15 to 20.

This finding in the decision under appeal was not challenged at all by the Appellant, nor has the Board any reason for raising any doubts in this respect.

Besides, the Board found no suggestion or incentive in D5 to modify the disclosure of D10 so as to solve the above relevant technical problem. Therefore, it has arrived at the same conclusion as the Opposition Division in the decision under appeal (No. 8.2 of the reasons) in this respect.

7.4 According to the decision under appeal (No. 6.6 of the reasons), the same findings are also valid for D6, which have not been disputed by the Appellant either.

Hence the Board has come to the same conclusion as in section 7.3, above.

7.5 In summary, the Appellant has not provided any convincing argument for an incentive to modify the disclosure of D10 in order to solve the relevant

technical problem (section 6.5, above) and thereby to arrive at something within the scope of present Claim 1.

Rather the Board has come to the conclusion that the arguments provided by the Appellant were based on an analysis of the different features of different polymers, as confirmed by pages 7 (starting at paragraph 3) to 9 of the Statement of Grounds of Appeal. As argued by the Respondent (sections VII and (1), above), such an analysis can only be considered as being based on an inappropriate ex-post facto analysis.

8. It follows that, besides the requirements of novelty and sufficiency of disclosure, the subject-matter of present Claim 1 according to the request of the Respondent also fulfils the requirement of Article 56 EPC; hence, it involves an inventive step.
9. By the same token this finding is also valid for the remaining dependent claims which include the same features as discussed above with respect to Claim 1.
10. Since the Appellant withdrew its Auxiliary Request for oral proceedings and the Main Request of the Respondent is successful, there is no need to hold oral proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

E. Görgmaier

R. Young