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Datasheet for the decision of 27 January 2009

Case Number: T 1278/06 - 3.3.03

Application Number: 98918540.0

Publication Number: 0977786

IPC: C08F 10/02

Language of the proceedings: EN

Title of invention:
Premium pipe resins

Patentee:
ExxonMobil Oil Corporation

Opponent:
INEOS Manufacturing Belgium NV
Basell Polyolefine GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 84, 123(2)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Main request, first auxiliary request - clarity - no"
"First, second, third auxiliary request - added subject-matter - yes"
"Fourth auxiliary request - reformatio in peius - yes"
"Fourth auxiliary request - amendments appropriate and necessary - not proven"

Decisions cited:
G 0001/92, G 0004/93, G 0001/99

Catchword:

-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1278/06 **-** 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 27 January 2009

Appellant: (Opponent OII)
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-

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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office, dated 8 June 2006 and posted 21 June 2006 concerning maintenance of European patent No. 0977786 in amended form.

Composition of the Board:

Chairman: R. Young
Members: M. C. Gordon
H. Preglau

Summary of Facts and Submissions

I. Mention of the grant of European Patent No. 0 977 786 with the title "Premium Pipe Resins" in the name of ExxonMobil Oil Corporation in respect of European patent application No. 98918540.0, filed on 21 April 1998 as international application No. PCT/US98/08042, published as WO-A-98/49209 on 5 November 1998, and claiming a priority date of 25 April 1997 from US 08/846 159, was announced on 11 June 2003 (Bulletin 2003/24) on the basis of 11 claims.

Claim 1 read as follows:
"A conduit comprising a polyethylene resin selected from the group consisting of polymers and copolymers of ethylene and admixtures thereof, wherein the resin is **characterized by** FI [$I_{21.6}$, measured according to ASTM D 1238, Condition F] of 2 to 20 dg/min and wherein the resin is made with a catalyst comprising a metallocene transition metal compound wherein the resin contains a catalyst residue and thus contains up to 20 ppm of transition metal provided by said metallocene transition metal compound, and wherein the resin has a density of 0.930 to 0.950 g/cc."

Claims 2 to 11 were dependent claims, directed to preferred embodiments of the conduit of claim 1.

II. Notices of opposition were filed against the patent by:

- Solvay Polyolefins Europe- Belgium SA, later Innovene Manufacturing Belgium N.V. ("OI") on 9 March 2004 and
- Basell Polyolefine GmbH ("OII") on 11 March 2004.

OI invoked the grounds of opposition pursuant to Art. 100(a) EPC (lack of novelty, lack of inventive step) and Art. 100(b) EPC (insufficiency of disclosure).

OII invoked the grounds of opposition pursuant to Art. 100(a) EPC (lack of novelty, lack of inventive step), Art 100(b) EPC (insufficiency of disclosure) and Art 100(c) EPC (extension beyond the content of the application as filed).

III. By a decision announced at the end of oral proceedings, held before the opposition division on 8 June 2006 and issued in writing on 21 June 2006 the opposition division held that the patent could be maintained in amended form on the basis of the first auxiliary request filed at said oral proceedings.

The oral proceedings were attended by the patent proprietor and by OII. OI did not attend, as had been announced in a letter dated 10 April 2006.

Said first auxiliary request consisted of 8 claims whereby claim 1 read as follows, the additions compared to claim 1 as granted being indicated in **bold** and deletions being indicated by ~~strikethrough~~:
"A conduit comprising a polyethylene resin selected from the group consisting of polymers and copolymers of ethylene and admixtures thereof, wherein the resin **has a** ~~is characterized by~~ FI [$I_{21.6}$, measured according to ASTM D 1238, Condition F] of 2 to 20 dg/min, **the resin comprises two components which differ from each other in average molecular weight, one component of said two components exhibiting a higher average molecular weight than a second of said two components which second**

component exhibits a lower average molecular weight than said one component, and ~~wherein the~~ **this** resin is ~~made with a~~ **produced in one reactor using a bimetallic** catalyst comprising a metallocene transition metal compound, ~~wherein~~ **and** the resin contains a catalyst residue and thus contains up to 20 ppm of **said** transition metal provided by said metallocene transition metal compound, and ~~wherein~~ the resin has a density of **0.940** ~~0.930~~ to 0.950 g/cc**, and wherein the conduit has a life time of greater than 500 hours at a hoop stress of 5 MPa at 80°C and an impact strength of greater than 3 kJ/m^2 at 0°C.**".

Claims 2-8 were dependent claims, directed to preferred embodiments of the conduit of claim 1 and contained features from claims 3, 4, 5, 7, 8, 10 and 11 respectively as granted.

(a) According to the decision, neither the opponents nor the opposition division had raised objections to the claims of the auxiliary request pursuant to Art. 123(2) or (3) EPC.

(b) The decision records that there were no objections pursuant to Art. 84 EPC against the claims of the first auxiliary request.

(c) The decision further held that the subject matter of the claims of the auxiliary request met the requirements of Articles 54, 56 and 83 EPC.

IV. A notice of appeal against the decision was filed by OII on 18 August 2006, the prescribed fee being paid on the same day.

V. The statement of grounds of appeal was filed on 23 October 2006.

Objections pursuant to the grounds according to Art. 100(a), (b) and (c) EPC were maintained.

VI. The patent proprietor, now the respondent disputed these objections in a letter dated 10 May 2007.

VII. In a letter dated 23 August 2007 OI informed the EPO that its name had changed to "Ineos Manufacturing Belgium N.V.", supporting documentation being provided.

VIII. On 19 May 2008 the Board issued a summons to attend oral proceedings.
The summons was accompanied by a communication in which preliminary, provisional observations were made.

(a) The Board observed that compared to the claims of the patent as granted operative claim 1 had been modified *inter alia* by specifying that the catalyst was "bimetallic".

(b) No explanation of the meaning of this term and hence of the limitation this imposed on the structure and the constitution of the catalyst could be found in the patent.
Accordingly the provisional opinion of the Board was that this term gave rise to an unclarity in connection with the further features of the claim relating to the catalyst (see section III above) namely:

- "comprising a metallocene catalyst";
- "and the resin contains a catalyst residue";

– "and thus contains up to 20 ppm of said transition metal provided by said metallocene transition metal compound".

(c) As a consequence of the obscurity concerning the meaning of "bimetallic" the claim appeared to cover one of five possible combinations for the catalyst:
- a metallocene compound and a further (non-metallocene) catalyst compound, each containing different metals;
- a metallocene compound and a further (non-metallocene) catalyst compound, each containing the same metal;
- two metallocene compounds, containing different metals and the same ligands;
- two metallocene compounds containing different metals and different ligands;
- two metallocene compounds, each containing the same metal but having different ligands.

(d) Insofar as neither the term "bimetallic", nor any other feature of the claim made it possible to ascertain which of the above alternatives was meant, an obscurity arose with respect to the specification of the residue from the metallocene compound. This could not unambiguously be assigned to a specific component of the catalyst, and might even apply to multiple components thereof.

(e) Accordingly the Board was provisionally of the opinion that claim 1 of the main request did not meet the requirements of Art. 84 EPC.

IX. In respect of its objection pursuant to Art. 83 EPC (see sections II and V above) the appellant filed an experimental report with a letter dated 1 July 2008 and

further documents and arguments with a letter dated 23 July 2008.

X. In a letter dated 24 July 2008 the respondent maintained as the main request that the appeal be dismissed, i.e. that the patent be maintained in the form as upheld by the opposition division.
Further, four sets of claims forming a first, second, third and fourth auxiliary request were submitted.

(a) With respect to the objection pursuant to Art. 84 EPC raised by the Board the respondent submitted that this objection had not been raised either by the opposition division or by either of the opponents. Accordingly the first time that the respondent had been aware of this objection was on receipt of the summons to oral proceedings. This fact was considered to provide justification for the filing of new requests.
Further it was submitted that all the newly filed requests corresponded, subject to minor changes, to requests that had been filed at various points during the opposition procedure.

(b) *Main request*
With regard to the main request it was submitted that the term "bimetallic" would be well understood by the person skilled in the relevant field. The absence of any objection along these lines from either of the opponents was taken as confirmation of this.
The term "bimetallic catalyst" would be understood, in the broadest sense, to mean a single catalyst in which two metallic catalyst species were provided on a single support, as distinct from a blend of different catalysts. The different

catalytic species encompassed species which differed in the metal component and/or in terms of another component, e.g. the ligands.
This was supported by the disclosure of the application and the patent. Reference was made to page 4, lines 18 and 19 of the published application which stated that the polyethylene resin of the invention was prepared with a bimetallic catalyst. Page 7, lines 8 to 10 explained that the polyethylene resin had uniform molecular weight properties and that this was attributable to a catalyst which contained the two transition metals. Regarding a specific embodiment, page 7, lines 15 to 18 went on to describe that the different molecular weight components of the resin were produced by different "active centres" within the catalyst, which was consistent with the catalyst being a single catalyst but containing different active sites or centres. Page 8, lines 8 to 13 explained that the presence of two transition metal sources - which was not limited to there being two transition metals - exhibited different hydrogen responses, resulting in beneficial properties in the final resin. Finally, page 11, lines 33 to 35 again referred to a source of a transition metal compound.

As further support for these arguments regarding the accepted meaning of "bimetallic catalyst" reference was made to a newly filed document:

WO-A-96/07478,

in particular page 1, lines 13 to 22 thereof.

Accordingly it was submitted that whilst the term "bimetallic catalyst" might - in its broadest sense - encompass different types of the catalyst and whilst previous submissions had focussed on bimetallic catalysts containing two transition metals the breadth of the term did not, in itself, give rise to a lack of clarity.

The interplay between this term and the other terms in claim 1 of the main request, referred to by the Board, did not give rise to a lack of clarity.

In particular, claim 1 of the main request did not refer to the bimetallic catalyst containing a metallocene catalyst. Instead it specified a bimetallic catalyst comprising a metallocene transition metal **compound** (emphasis of the respondent).

With regard to the catalyst residue the skilled person would have no difficulty understanding that this was the residue from the bimetallic catalyst. This was because, consistently with the respondent's interpretation of the term, a bimetallic catalyst was a single catalyst entity with two different active centres, as compared to a blend of different catalysts. As the bimetallic catalyst was the only catalyst mentioned in the claim it was clear that the residue must be of the bimetallic catalyst.

The content of the residue could be readily determined, as could the amount of metallocene transition metal compound(s) present and the total metallocene transition metal content, whether this had come from a single metallocene or two or more metallocene compounds.

(c) *First auxiliary request*

Claim 1 of the first auxiliary request differed from claim 1 of the main request (see section III above) in that the definition of the catalyst read as follows, the immediately preceding and following text of claim 1 of the main request being indicated in [*square brackets and italics*] and the amended text, compared to the main request, being indicated in **bold**:

"[…*and this resin is produced in one reactor using a bimetallic catalyst comprising*] **two transition metals and including a metallocene transition metal compound** [*, and the resin contains a catalyst residue…*]".

The respondent submitted that the basis for the restriction of the bimetallic catalyst to a specific embodiment, comprising two transition metals and including a metallocene transition metal compound, was to be found, for instance at page 7, line 10 of the application (Art. 123(2) EPC).

(d) *Second auxiliary request*

Claim 1 of the second auxiliary request differed from the main request (see section III above) in that the definition of the catalyst read as

follows, the wording common to claim 1 of this request and claim 1 of the main request being indicated in [*square brackets and italics*], and the amended text, compared to the main request being indicated in **bold** as for the first auxiliary request:
"[…*and this resin is produced in one reactor using a bimetallic catalyst comprising*] **a non-metallocene first transition metal compound and a metallocene second transition metal compound,** [*and the resin contains a catalyst residue and thus contains up to 20 ppm of*] **the second transition metal provided by said metallocene transition metal compound** [*, and the resin has a density of…*].

It was submitted that this claim was a limited version of the definition of the bimetallic catalyst according to claim 1 of the first auxiliary request.

The basis for the definition of the bimetallic catalyst was given as page 7, lines 9 and 10 and page 11, lines 33 to page 12, line 17 of the application (Art. 123(2) EPC).

(e) *Third auxiliary request*
Claim 1 of the third auxiliary request was submitted to be a limited version of claim 1 of the second auxiliary request.
The definition of the catalyst in claim 1 of the third auxiliary request read as follows (the differences compared to claim 1 of the main request being indicated as above):
[…*and this resin is produced in one reactor using*

a bimetallic catalyst comprising] **a non-metallocene first transition metal compound and a metallocene second transition metal compound** [*, and the resin contains a catalyst residue and thus contains up to 20 ppm of*] **the second** [*transition metal provided by said metallocene transition metal compound,]* **and wherein the first transition metal compound is selected from titanium and vanadium and the second transition metal is selected from zirconium and hafnium** [*, and the resin has a density of…*]."

It was submitted that the basis for the amendments could be found in the positions indicated for the second auxiliary request and in addition at page 12, lines 29 to 33 of the application (Art. 123(2) EPC).

(f) *Fourth auxiliary request*

The term "bimetallic" had been deleted from claim 1 of the fourth auxiliary request.

Claim 1 of the fourth auxiliary request read as follows, the differences compared to claim 1 of the main request being indicated as above:

[*…exhibits a lower average molecular weight than said one component,*] **wherein said second component exhibits a calculated MI[$I_{21.6}$, measured according to ASTM D 1238, Condition E] of 200 to 10,000 dg/min., and wherein said one component is present in the resin as a calculated weight fraction in the range of 0.20 to 0.90, and this resin is produced in one reactor using a catalyst [***comprising a metallocene transition metal compound and the resin contains a catalyst residue*

and thus contains up to 20 ppm of said transition metal provided by said metallocene transition metal compound, and the resin has a density…]".

The respondent submitted that this claim corresponded to a combination of granted claims 1, 3, 4, 6 and 9 to 11 (Art. 123(2) EPC).

XI. In a letter dated 7 October 2008 the patent proprietor (respondent) stated that it would not be represented at the oral proceedings.

XII. In a letter dated 10 November 2008 the appellant submitted as a preliminary request that the newly filed auxiliary requests 1 to 4 not be admitted to the proceedings on the grounds that these were late filed.

With respect to the admissibility of the fourth auxiliary request it was further submitted that the patent proprietor had not itself filed an appeal and hence only had the status of respondent.
It was observed that the operative set of claims on the basis of which the opposition division had held that the patent in suit could be maintained contained the term "bimetallic catalyst". This same set of claims was now the respondent's main request.

In view of this constellation of facts the fourth auxiliary request filed with the letter of 24 July 2008 (See section X, in particular subsection (f) thereof above) had to be deemed inadmissible due to the broadening of the scope of operative claim 1 beyond that of the last, validly pending main request. This arose from the deletion of the term "bimetallic", which

meant that the catalyst definition was now the same as in granted claim 1.

With reference to the case law of the Boards of Appeal, in particular G 9/92 (OJ EPO 1994, 875) and G 1/99 (OJ EPO 2001, 381) the respondent was attempting to establish a *reformatio in peius* by going beyond the scope of the last validly pending main request and reverting to the terms of the claims of the patent as granted.

This was not admissible for a respondent, but could only had been considered in the case that the patent proprietor had itself filed an appeal.

The patent proprietor had abandoned the original main request i.e. the claim as granted which did not contain this term. It was also submitted that deletion of the feature "resin comprising two components" - permitted by G 1/99 as a penultimate measure would not help to overcome the clarity objection with respect to the term "bimetallic".

The appellant also raised objections to all of the first to fourth auxiliary requests pursuant to Art. 123(2) EPC and to the first auxiliary request pursuant to Art. 84 EPC.

XIII. Oral proceedings were held before the Board on 27 January 2009, attended only by the appellant (see section XI above).

(a) The appellant maintained the objection to the introduction of the auxiliary requests to the procedure (see section XII above). Further it was submitted that auxiliary request 4 did not meet the requirements of G 1/99 regarding the possible

exceptions to the doctrine of prohibition of *reformatio in peius.*

(b) *Main request*

The appellant maintained objections to the main request pursuant to Art. 54, 56, 83 and 123(2) EPC.

(c) *First auxiliary request*

The appellant objected to the introduction of this request. Whilst it was acknowledged that this had been filed in response to objections raised by the Board, it had also raised new issues.

The Board indicated that the "new issues" appeared to be related to the amendments made in order to address the objections raised in its communication. Accordingly, the first auxiliary request could be admitted to the procedure.

The appellant raised objections pursuant to Art. 123(2) EPC.
According to the claim it appeared that the metallocene was in addition to the two transition metals. In particular there was no basis for the language "bimetallic catalyst comprising…". Reference was made to page 4, lines 18 and 19 of the application which disclosed a bimetallic catalyst and a single reactor. Reference was also made to page 7, lines 9, 10 and 13 ("the two transition metals" or preferred titanium/zirconium-based bimetallic system); page 9, line 15 relating to the first transition metal component and page 12, lines 18 to 26 referring to "any transition metal compound" and

the possibility of preactivating with alkyl alumoxane. All the indicated passages disclosed either only generally 2 components or specifically metallocene/non-metallocene systems. Further the claim was not limited to two transition metals, but the wording thereof permitted three. This went beyond the disclosure of the application as filed which referred only to two transition metals. The wording of the claim also left open the possibility that the metallocene was not part of the "two transition metals", reference being made in this respect to page 8, line 7ff which specified that the metallocene was mandatorily included on the carrier - this feature was absent from operative claim 1.
An objection pursuant to Art. 84 was raised with respect to the term "including a metallocene transition metal compound" - it was not clear whether this applied to the catalyst or the resin.

Further the objections raised in the statement of grounds of appeal were maintained.

After deliberation the Board announced that the main and first auxiliary requests were refused.

(d) *Second auxiliary request*
The appellant stated that it did not oppose the admissibility of this request.
The appellant raised objections pursuant to Art. 123(2) EPC in particular with respect to he wording "comprising a non-metallocene first transition metal compound and a metallocene second transition metal compound", in particular with

respect to the "second transition metal compound". There was no basis for this subject matter in the application as filed. Reference was made to the application page 7, lines 9 and 10 and the disclosure at page 11, lines 34 and 35 that the first transition metal compound was preferably a non-metallocene. There was no disclosure concerning the second transition metal compound and specifically no disclosure that this was non-metallocene. Page 12, line 18 of the application referred to "mixtures" and at page 12, lines 22 and 24 there was a reference to additional metallocene. This was not discussed with respect to the previous discussion of metallocene compounds. In particular it was not disclosed in this passage that this was the aforementioned "second metallocene" compound. Thus there was no basis in the application as filed for the language of claim 1 of the second auxiliary request. Further, the feature that the first transition metal compound was a non-metallocene was disclosed in the application only as being optional.
The Board observed that the passages invoked by the respondent did not appear to disclose the same level of generality as specified in the operative claim. In this connection the appellant drew attention to the reference to preactivation at page 12, line 25 which feature was not in the operative claim.

After deliberation the Board announced that the second auxiliary request was admitted to the procedure but refused.

(e) *Third auxiliary request*

The appellant did not oppose the admissibility of this request to the procedure.
It was submitted that the same situation applied as with respect to the second auxiliary request. Further there was no basis in the application as filed at the specified level of generality for features added compared to the second auxiliary request.

After deliberation the Board announced that the third auxiliary request was admitted to the procedure but refused.

(f) *Fourth auxiliary request*

The appellant submitted that the admission of this request to the procedure was resisted due to the deletion of the feature "bimetallic", reference being made to the arguments in the letter of 10 November 2008 regarding G 1/99 and *reformatio in peius* (see section XII above). In filing this claim the patent proprietor had reverted to an earlier form of the claim which had been withdrawn during this opposition procedure. This was considered to represent an abuse of procedure.

With regard to G 1/99 it was submitted that according to this decision it was required that initially an attempt be made to overcome the objection by introduction of further restrictions. Such a restriction was possible as disclosed on page 7, line 13 of the application as filed (disclosure of a titanium/zirconium-based bimetallic catalyst).

In particular it was necessary for the patent proprietor to show that the amendment offered was the only one possible, which had not been done.

In response to a comment by the Board that it was not for the opponent to dictate the form of amendment the appellant submitted that if that were the case it would be easy for the patent proprietor to generate a situation in which by proposing various amendments it would become apparent that only the third alternative of G 1/99 was available. However according to point 15 of the reasons of G 1/99 this third alternative was only available when the previous two alternatives proved impossible; it was disputed that this had been proved.

In this respect the appellant observed that the respondent had failed to provide arguments regarding the amendments advanced according to the first and second auxiliary requests with respect to the conditions set out in G 1/99. It was also observed that no attempt had been made by the respondent to formulate an amendment which corresponded to the second alternative of G 1/99. Nor had any arguments had been advanced to justify why this avenue had not been explored. In particular it was argued that the respondent in such a situation should make an attempt according to each of the three alternatives foreseen by G 1/99 or alternatively to advance arguments as to why the amendment offered was the only one possible.

XIV. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No. 977 786 be revoked.

The respondent requests that the appeal be dismissed. Alternatively it is requested that the patent be maintained in amended form on the basis of the claims according to the first, second, third or fourth auxiliary request in that order, each filed with the letter dated 24 July 2008.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 *Art. 123(2) EPC*

No objections were raised under this ground by the appellant. The Board is satisfied that the findings of the opposition division that the claims of this request meet the requirements of Art. 123(2) EPC is correct. In particular the features of claim 1 of the main request are based on the disclosures of originally filed claims 1, 3, 4, 10, 18 and 27.

2.2 *Art. 84 EPC*

2.2.1 In its communication the Board raised an objection pursuant to Art. 84 EPC in respect of the term "bimetallic" (see section VIII above), which had been

introduced from the description (page 4, line 18 and page 7, line 13).

2.2.2 The respondent drew attention to a number of passages in the application as filed and the patent in suit in order to clarify what this term meant (see section X.(b) above).

2.2.3 However none of the indicated passages provides the necessary clarification.

(a) Page 4, lines 18 and 19 of the application as filed states that the resin is prepared with a "bimetallic catalyst" in a single reactor. This passage however refers only to the resulting resin and contains no explanation of the constitution of the catalyst.

(b) Page 7, lines 8 to 10 of the application states that the uniformity of molecular weight and molecular weight distribution was attributable to a catalyst "which contains the two transition metals".

To the extent that the reference to "the two transition metals" could be taken as referring back to "bimetallic catalyst" on page 4 at lines 18-19 this would clearly indicate that the term "bimetallic" must imply that two different transition metals are present.

(c) This view of the matter is, if anything reinforced by the passage commencing at page 7, line 12 of the application which discloses as a preferred embodiment a titanium/zirconium-based bimetallic catalyst system, and refers in this connection at page 7, lines 15 to 18 to Ti and Zr "active centers". However this passage also fails to

explain in what configuration the "active centers" are present in the catalyst or how these relate to or interact with each other.

(d) Page 8, lines 8 to 13 of the application - which passage was deleted from the application prior to grant and consequently does not appear in the granted patent - specifies that "when two transition metal sources exhibiting different hydrogen responses in ethylene polymerization reactions are supported on the carrier…". However this passage, cited in isolation by the respondent is part of a larger disclosure, entitled "The Catalyst" commencing at page 7, line 19. This disclosure relates to the preparation of a catalyst and specifies various details of the catalyst, e.g. that the carrier is silica, the particle size, pore size and pore volume of said carrier, the nature of the slurrying medium (aliphatic), and also specifies the presence of alumoxanes of defined (generic) formulae. Thus the disclosure relied upon by the respondent relates to a specific embodiment of the catalyst. This passage however derogates from the concept that the term "bimetallic" implies the presence of two different transition metals in that it requires only two different transition metal "sources". Consequently doubt arises as to the extent to which these "sources" might be provided by a single transition metal. There is any case no information in the indicated passage which would lead to the conclusion that the structure resulting from the disclosed steps is synonymous with the term "bimetallic catalyst". Nor has the respondent provided any arguments in this respect.

(e) Similarly the passage at page 11, lines 33 to 35 referred to by the respondent is taken from a discussion of the most preferred embodiment of the synthesis of the catalyst, (commencing at page 10, line 17 of the application as filed). This passage also refers, however, to the "first source of transition metal compound…" and thus, like the passage on page 8, lines 8 to 13 raises doubts as to whether two different transition metals are in fact necessary to fulfil the term "bimetallic". On the contrary, the argument of the appellant (see section X.(b) above) that the different catalytic species can differ in the metal component **and/or** in terms of another component e.g. the ligands reinforces the doubts as to whether two different transition metals are in fact required to fulfil the term "bimetallic".

(f) Regarding the reference to the WO-A-96/07478 (see section X.(b) above) the Board notes that the cited passage thereof (page 1, lines 13 to 22) merely states that the bimetallic catalyst contains two transition metals or two different transition metal compounds and that these have different hydrogen responses. This passage further refers to a "typical embodiment" - elucidated further on within the document - and explains which of the components of the resulting polymer (high molecular weight, low molecular weight) is produced by each of the metals in said embodiment (Ti or Zr). Consequently this document does nothing to resolve the doubt, referred to above, of whether the term "bimetallic catalyst" in fact requires the presence of two transition metals.

(g) All that the cited document establishes is that the term "bimetallic catalyst" has previously been employed in the art. However the indicated passage fails to specify the precise structure of the catalyst or the relationship of the two transition metals or different transition metal compounds.

(h) Further the Board notes the disclosure at page 3, line 6 of the cited document, namely that the catalyst comprises a carrier and two different sources of transition metal and **may be referred to as a bimetallic catalyst** (emphasis of the Board). This passage fails to indicate that the term "bimetallic catalyst" has a specific well defined meaning in the art. On the contrary from this passage it appears that "bimetallic catalyst" is a term which has no particular, specific definition in the art and as a consequence can be applied to a wide range of catalyst structures.

2.2.4 It is therefore concluded that neither the information contained in the application as filed, the granted patent, or the further cited document WO-A-96/07478 permits the precise meaning of the term "bimetallic catalyst" to be understood, and in particular whether or not it requires the presence of two transition metals.

2.3 Accordingly claim 1 of the main request does not meet the requirements of Art. 84 EPC.

2.4 The main request is therefore refused.

3. *First auxiliary request*

3.1 *Admissibility*

3.1.1 The appellant raised objections to the admissibility of this request on the grounds that it was late filed (see sections XII and XIII.(a) and (c) above).

3.1.2 The first auxiliary request was filed, according to the statement of the respondent in the third paragraph of the letter of 24 July 2008 (See section X.(a) above), in response to the objection raised by the Board in its communication.

3.1.3 No objections to the clarity specifically of this term had previously been raised in the opposition procedure. Accordingly the first time that the parties had been aware of such an objection was upon receipt of the communication accompanying the summons to attend oral proceedings (See section VIII above).

3.1.4 The amendments made to claim 1 of this request compared to the claims of main request concern the definition of the catalyst and thus constitute a further definition of the term "bimetallic catalyst".

3.1.5 Further beyond a reference to non-identified "new issues" (see section XIII.(c) above) it has not been argued, much less shown by the appellant that the amendments made have ramifications for other parts of the claim not associated with the objected term.

3.1.6 Accordingly the Board is satisfied that:

- the amendments were made in reaction to the objection of lack of clarity which had been raised for the first time in the Board's communication of 19 May 2008;
- that the amendments were directed exclusively to features of the claim associated with the objected term;
- further since this objection had not been previously raised in the opposition or appeal proceedings not only would there have been no cause to proffer such amendments, they would not in fact have been admissible (R. 80 EPC).

3.1.7 Accordingly in view of the circumstances explained above, the amendments made according to the first auxiliary request cannot be regarded as late filed.

3.1.8 The first auxiliary request is therefore admitted to the procedure.

3.2 *Art 123(2) EPC*

3.2.1 Claim 1 of the first auxiliary request differs from claim 1 of the main request by the feature that the definition of the catalyst reads "a bimetallic catalyst comprising two transition metals and including a metallocene transition metal compound" (see section X.(c) above).

3.2.2 According to the respondent the basis for this wording is the passage at page 7, line 10 of the application as filed (see section X.(c) above).

3.2.3 The indicated passage of the description discloses that "This uniformity [of the polymer obtained] is attributable to a catalyst which contains the two transition metals."

3.2.4 There is however no disclosure in this passage of the description of the term "metallocene" or even of a specific metallocene compound.

3.2.5 Accordingly it is concluded that the subject matter of claim 1 is not disclosed in the application as filed with the consequence that claim 1 of the first auxiliary request does not meet the requirement of Art. 123(2) EPC.

3.2.6 The Board also notes that the formulation of claim 1 of the first auxiliary request contains an ambiguity regarding whether the feature "including a metallocene" applies to the "two transition metals" or denotes a third component in addition to the "two transition metals" (see submissions of the appellant at the oral proceedings reported in section XIII.(c) above). The consequence of this ambiguity is that claim 1 of the first auxiliary request also does not meet the requirements of Art. 84 EPC.

3.3 The first auxiliary request is therefore refused.

4. *Second auxiliary request*

4.1 *Admissibility*

The written objection to the admissibility of this request (see section XII above) was withdrawn by the

appellant at the oral proceedings before the Board (see section XIII.(d) above).

For the same reasons as those relating to the first auxiliary request (see section 3.1 above) the Board concludes that this request is to be admitted to the procedure.

4.2 *Art 123(2) EPC*

4.2.1 As reported in section X.(d) above claim 1 of the second auxiliary request employs the following definition of the catalyst:

"…a bimetallic catalyst comprising a non-metallocene first transition metal compound and a metallocene second transition metal compound, and the resin contains a catalyst residue and thus contains up to 20 ppm of the second transition metal provided by said metallocene transition metal compound…".

4.2.2 The respondent submitted (see section X.(d) above) that the basis for this definition was provided by the disclosure of the application as filed at:

- page 7, lines 9 and 10 and
- page 11, lines 33 to page 12, line 17.

4.2.3 As explained in section 3.2 above the passage at page 7 specifies only that the catalyst contains two transition metals, but fails to specify the form of the compounds in which these are present. In particular the indicated part of the description does not disclose that one of the compounds is a metallocene and that the other is a non-metallocene.

4.2.4 As noted in section 2.2.3.(e) above, the passage commencing at page 11 line 33 is within the context of a disclosure of the most preferred embodiment, commencing at page 10, line 17 and is disclosed in association with a number of other features, namely an organomagnesium catalyst (page 10, line 18), the amounts thereof with respect to the support (page 10, lines 18 to 35), nature of the carrier (silica, page 11, line 5), the ratio of magnesium and organomagnesium compound to silica (page 11, lines 6 to 13), treatment of the resulting material, in particular by addition of specified amounts of an alcohol to the resulting slurry (page 11, lines 18 to 32).
Further the passage indicated by the respondent, which follows directly on from those passages discussed above, discloses that the first source of transition metal compound is only a "preferably" non-metallocene compound. The further disclosure goes on to specify the conditions under which this is to be combined with the slurry of the silica and organomagnesium compound in alcohol.

4.2.5 Accordingly the second of the passages indicated by the respondent cannot provide a basis for the subject matter of claim 1 of the second auxiliary request since:

- it fails to disclose that specifically a metallocene and a non-metallocene compound are employed;
- it is in any case a single feature extracted from a disclosure of the preparation of particular type of catalyst (organomagnesium based), the remaining features of this disclosure, in particular the restriction to

organomagnesium catalysts have however not been incorporated into the claim.

4.2.6 Accordingly claim 1 of the second auxiliary request does not meet the requirements of Art. 123(2) EPC.

4.3 The second auxiliary request is refused.

5. *Third auxiliary request*

5.1 *Admissibility*

5.1.1 The written objection to the admissibility of this request (see section XII above) was withdrawn by the appellant at the oral proceedings before the Board (see section XIII.(e) above).
For the same reasons as those relating to the first and second auxiliary requests (see sections 3.1 and 4.1 above) the Board is concludes that this request is to be admitted to the procedure.

5.2 *Art 123(2) EPC*

5.2.1 As submitted by the respondent claim 1 of the third auxiliary request was a limited version of claim 1 of the second auxiliary request (see section X.(e) above).

5.2.2 The limitations undertaken, i.e. specifying the permissible metals for the metallocene and non-metallocene components do not address the deficiencies pursuant to Art. 123(2) EPC noted with respect to the second auxiliary request (see section 4 above).

5.2.3 Accordingly for the same reasons as given with respect to the second auxiliary request, claim 1 of the third auxiliary request does not meet the requirements of Art. 123(2) EPC.

5.3 The third auxiliary request is therefore refused.

6. *Fourth auxiliary request*

6.1 *Admissibility*

6.1.1 The objection to the admissibility of this request related to the deletion of the term bimetallic, reference being made to the findings of G 1/99 (see sections XII and XIII.(f) above).

6.1.2 The cited decision concerns the possibility of an exception to the principle of prohibition of *reformatio in peius* in the case that the opponent was the sole appellant (i.e. the patent proprietor having only the status of respondent) in order to meet an objection put forward by the opponent/appellant or the Board during appeal proceedings in circumstances where the patent as maintained in amended form would otherwise have to be revoked as a direct consequence of an inadmissible amendment held allowable by the opposition division in its interlocutory decision (see G 1/99, order).

6.1.3 Three approaches to address this situation were foreseen (G 1/99, section 15 of the reasons):

- in the first place, for an amendment introducing one or more originally disclosed features, which

would not put the opponent/appellant in a worse situation than it was in before it appealed; or

- if such a limitation proves impossible, for an amendment introducing one or more originally disclosed features, which extends the scope of the patent as maintained, but within the limits of Art. 123(3) EPC; or
- if such an amendment proves impossible, for deletion of the inadmissible amendment maintained by the Opposition Division, but within the limits of Art. 123(3) EPC, even if, as a result, the situation of the opponent/appellant is made worse.

G 1/99 emphasises in paragraph 15 of the reasons that since the Boards of Appeal have to respect the principle of prohibition of *reformatio in peius* such an exception (i.e. corresponding to the second and third remedies set out above) should only be construed narrowly. This is reflected in the above cited wording of paragraph 15 of the reasons of G 1/99 which stipulates that the second and third remedies are available under the condition that the respective preceding remedy **proves** impossible (emphasis of this Board).

6.1.4 According to section 10 of the reasons of G 1/99, in an earlier decision (G 4/93) it had been decided that: "amendments proposed by the patent proprietor… may be rejected as inadmissible…if they are neither appropriate or necessary".

6.1.5 The question of whether an amendment is appropriate or necessary depends on the absence of alternative

amendments - as follows from the final sentence of part 15 of the reasons of G 1/99.

6.1.6 In the present case, the amendment proposed according to the fourth auxiliary request corresponds to the third possibility foreseen in the Order of G 1/99, i.e. deletion of the objectionable feature "bimetallic".
The amendments proposed according to the first, second and third auxiliary requests corresponded to the first remedy foreseen in G 1/99.
However, no amendments corresponding to the second remedy foreseen by G 1/99 were proposed by the respondent.

6.1.7 The respondent/patent proprietor failed to provide any written justification for the absence of any proposed amendments corresponding to said second remedy and the decision of the respondent/patent proprietor not to attend the oral proceedings deprived the Board of the opportunity to question the party with a view to assessing whether there were in fact no possible alternative amendments within the scope of the first or second remedies of G 1/99.

6.1.8 As a consequence of the absence of any arguments - written or oral - from the respondent regarding the amendment submitted, in particular the absence of any submissions directed to "proving" that amendments according to the second remedy foreseen by G 1/99 were not possible, the Board is unable to conclude that the amendments proposed as the fourth auxiliary request were "appropriate and necessary" to overcome the objection pursuant to Art. 84 EPC raised in respect of

the term "bimetallic" (cf G 1/99, Paragraph 15 of the reasons, final part).

6.1.9 As a consequence the fourth auxiliary request must be rejected as inadmissible.

7. Since there are no allowable requests the patent must be revoked.

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:

E. Goergmaier R. Young