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D E C I S I O N
of 2 September 2004

Case Number: T 1146/01 - 3.3.3

Application Number: 91122310.5

Publication Number: 0492656

IPC: C08L 23/04

Language of the proceedings: EN

Title of invention:
Polyethylene composition

Patentee:
NIPPON PETROCHEMICALS COMPANY, LIMITED

Opponent:
Basell Polyolefine GmbH
BOREALIS A/S

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
"Amendments - added subject-matter (main and 1st auxiliary requests: yes)"
"Allowability of a disclaimer - delimitation against state of the art under Article 54(2) - accidental anticipation (2nd auxiliary request: no)"

Decisions cited:
G 0001/92, G 0001/03, G 0002/03, T 0201/83, T 0434/92,
T 0596/96, T 0013/97, T 1071/97

Catchword:
-



Case Number: T 1146/01 - 3.3.3

D E C I S I O N
of the Technical Board of Appeal 3.3.3
of 2 September 2004

Appellant: NIPPON PETROCHEMICALS COMPANY, LIMITED
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office dated 10 April 2001 and
issued in writing on 13 August 2001 revoking
European patent No. 0492656 pursuant to
Article 102(1) EPC.**

Composition of the Board:

Chairman: R. Young
Members: A. Däweritz
A. Pignatelli

Summary of Facts and Submissions

I. The grant of European patent No. 0 492 656 in respect of European patent application No. 91 122 310.5, filed on 27 December 1991 and claiming priority of 28 December 1990 of an earlier application in Japan (418497/90), was announced on 30 July 1997 (Bulletin 1997/31). The patent contained 5 claims reading as follows:

"1. A polyethylene composition which comprises:

(I) 20 to 80 wt.% of a copolymer of ethylene and α -olefins having 3 to 18 carbon atoms, which copolymer meets the following conditions (a) to (d):

(a) intrinsic viscosity (η_1 (decalin solution, 135°C)): 1.2 to 9.0 dl/g

(b) density (d_1): 0.890 to 0.935 g/cm³

(c) in the elution temperature-eluate volume curve in continuously temperature rising elution fractionation, the ratio S (Ib/Ia) of the area Ib under the curve of elution temperature of 25 to 90°C to the area Ia under the curve of elution temperature of 90°C and above, is not larger than the value S_1 which is calculated with the following equation,

$$S_1 = 20 \eta_1^{-1} \exp[-50(d_1 - 0.900)]$$

(d) the quantity W wt.% of the content which is soluble in 25°C o-dichlorobenzene is not smaller than the value W_1 which is calculated with the following equation,

$$W_1 = 20 \exp(-\eta_1)$$

and

(II) 80 to 20 wt.% of ethylene homopolymer and/or the copolymer of ethylene and α -olefins having 3 to 18 carbon atoms, which meet the following conditions (e) and (f):

(e) intrinsic viscosity (η_2 (decalin solution, 135°C)): 0.2 to 1.6 dl/g

(f) density (d_2): 0.890 to 0.980 g/cm³

wherein the value (η_1) is larger than (η_2), the intrinsic viscosity (η) of the composition is 0.77 to 5.2 dl/g, the density (d) thereof is 0.890 to 0.950 g/cm³ and the N-value calculated with the following equation is 1.7 to 3.5:

$$\text{N-Value} = \frac{\log (\dot{\gamma}_{150} / \dot{\gamma}_{20})}{\log (\tau_{150} / \tau_{20})}$$

wherein " $\dot{\gamma}$ " is an apparent shear rate (sec⁻¹ at 170°C) and " τ " is an apparent shear stress (dyne/cm² at 170°C) and the subscripts "20" and "150" indicates [sic] loads of 20 kg/cm² and 150 kg/cm².

2. The polyethylene composition as claimed in Claim 1, wherein the α -olefin used for preparing said ethylene- α -olefin copolymer as said component (I) is at least one member selected from the group consisting of 1-butene, 1-pentene, 1-hexene,

4-methyl-1-pentene, 1-heptene, 1-octene, 1-nonene and 1-decene.

3. The polyethylene composition as claimed in Claim 1, wherein said component (II) is ethylene homopolymer.
4. The polyethylene composition as claimed in Claim 1, wherein said component (II) is a copolymer of ethylene and at least an α -olefin selected from the group consisting of 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-heptene, 1-octene, 1-nonene and 1-decene.
5. The polyethylene composition as claimed in Claim 1 or 4, wherein said component(II) is a mixture of ethylene homopolymer and ethylene- α -olefin copolymer."

II. On 21 and 30 April 1998, respectively, two Notices of Opposition were filed in which revocation of the patent in its entirety was requested. In the Notice of Opposition of Opponent 1, objections of lack of novelty and lack of inventive step were raised (Article 100(a) EPC, in conjunction with Articles 54 and 56 EPC). According to the Notice of Opposition of Opponent 2, the claimed subject-matter was not patentable on the grounds set out in Article 100 EPC, in particular Article 100(a) and (b) EPC, since it did not meet the requirements of Articles 54 (novelty), 56 (inventive step) and 83 EPC (insufficiency of disclosure). The following documents were amongst those referred to:

D1: EP-A-0 057 891 and

D2: "Experimental and Results of repetition of Comparative Example 30 carried out by the Opponent "

both filed by Opponent 2.

In the course of oral proceedings held before the Opposition Division on 10 April 2001, sets of claims forming a first and a second Auxiliary Request, respectively, were submitted by the Patent Proprietor.

In the first Auxiliary Request, a disclaimer, with the wording "a composition wherein component I has a density d_1 of 0.928 g/cm³ and an intrinsic viscosity η_1 of 2.2 dl/g and component II has a density d_2 of 0.934 g/cm³ and an intrinsic viscosity η_2 of 0.61 dl/g being excluded", had been inserted at the end of Claim 1.

In Claim 1 according to the second Auxiliary Request, the ranges of the intrinsic viscosities η_1 of component I, η_2 of component II and η of the final composition had been redefined as being from 3.1 to 5.9 dl/g, from 0.36 to 1.05 dl/g and from 1.58 to 3.20 dl/g, respectively. Moreover, the range of the N-value of the final composition had been narrowed to from 1.87 to 2.87.

III. In a decision orally announced at the end of the oral proceedings and issued in writing on 13 August 2001, the patent in suit was revoked.

Whilst the objection of insufficient disclosure under Article 100(b) EPC was rejected, it was held that

Claims 1, 2 and 4 of the Main Request, ie of the patent in suit as granted (section I, above), lacked novelty over D1 in view of the reworking of Comparative example 30 of D1 in D2 (decision under appeal: section II.6) a) to f)). It was held that the measured values presented in D2 represented an accurate reworking of the cited passages of D1 and were, therefore, taken as they stood.

As to the first Auxiliary Request, the disclaimer in Claim 1 had not been disclosed in the application as originally filed, but had been taken from D1, which, however, did not remain "insignificant for the further examination, in particular of inventive step" as quoted from T 13/97 dated 22 November 1999. Hence, the disclaimer did not fulfil the criteria for the admissibility of a disclaimer as established in the jurisprudence, eg in decisions T 434/92 of 28 November 1995, T 596/96 of 14 December 1999 and T 13/97, above (none of which had been published in OJ EPO).

As regards the second Auxiliary Request, it was found that each of the values of intrinsic viscosity η_1 , η_2 and η , which had no basis in the general description, but had been taken from the data in Examples 5 and 17 of the patent in suit, respectively, concerned properties of a specific polymer which were linked with the other parameters particular to that polymer. Thus, the intrinsic viscosity of any one example was seemingly not preselected in isolation but was obtained as a result of the polymerisation along with all of the other product characteristics. Hence, the situation was different from that dealt with in T 201/83 (OJ EPO 1984, 481), and it was, therefore, not possible to single out desired intrinsic viscosity values to establish new

ranges and not be bound by the values obtained for d_1 , d_2 , d , S and W reported in the same examples. The same argument was valid for the amended range of the N -value of the final composition.

Consequently, both Auxiliary Requests were found to contravene Article 123(2) EPC.

IV. Against this decision, a Notice of Appeal was filed by the Patent Proprietor/Appellant on 19 October 2001. The prescribed fee was paid on the same date. The Statement of Grounds of Appeal was received on 20 December 2001.

In the Statement of Grounds of Appeal and in a further letter dated 8 October 2003, the Appellant disputed the reasons for the revocation as given in the decision under appeal. Moreover, new Main Requests and new auxiliary requests were filed with each of these submissions to replace the respective previous requests.

Claim 1 of the Main Request as filed with the letter dated 8 October 2003 differed from Claim 1 as granted (section I, above) by the following features added to the end of the claim:

", the composition having (g) an Izod impact strength measured according to JIS K 7110 at 23°C and -40°C of at least 6.4 kgf.cm/cm² and (h) a tensile impact strength measured according to ASTM D 1822 with 2 mm thick test pieces of 120 to 2000 kgf.cm/cm²."

Claim 1 of the first Auxiliary Request filed with the letter dated 8 October 2003 read as follows:

"1. A polyethylene composition which comprises:

(I) 20 to 80 wt.% of a copolymer of ethylene and α -olefins having 3 to 18 carbon atoms, which copolymer meets the following conditions (a) to (d):

- (a) intrinsic viscosity (η_1 (decalin solution, 135°C)): 3.1 to 5.9 dl/g
- (b) density (d_1): 0.900 to 0.930 g/cm³
- (c) in the elution temperature-eluate volume curve in continuously temperature rising elution fractionation, the ratio S (Ib/Ia) of the area Ib under the curve of elution temperature of 25 to 90°C to the area Ia under the curve of elution temperature of 90°C and above, is not larger than the value S_1 which is calculated with the following equation

$$S_1 = 20 \eta_1^{-1} \exp [-50(d_1-0.900)]$$

(d) the quantity W wt.% of the content which is soluble in 25°C o-dichlorobenzene is not smaller than the value W_1 which is calculated with the following equation

$$W_1 = 20 \exp (-\eta_1)$$

and

(II) 80 to 20 wt.% of ethylene homopolymer and/or the copolymer of ethylene and α -olefins having 3 to 18 carbon atoms which meet the following conditions (e) and (f)

- (e) intrinsic viscosity (η_2 (decalin solution, 135°C)): 0.36 to 1.05 dl/g
- (f) density (d_2): 0.910 to 0.955 g/cm³, wherein the value (η_1) is larger than (η_2), the intrinsic viscosity (η) of the composition is 1.58 to 3.20 dl/g, the

density (d) thereof is 0.905 to 0.949 g/cm³ and the N-value calculated with the following equation is 1.87 to 2.87:

$$\text{N-Value} = \frac{\log (\dot{\gamma}_{150} / \dot{\gamma}_{20})}{\log (\tau_{150} / \tau_{20})}$$

wherein $\dot{\gamma}$ is an apparent shear rate (sec⁻¹ at 170°C) and τ is an apparent shear stress (dyne/cm² at 170°C) and the subscripts "20" and "150" indicate loads of 20 kg/cm² and 150 kg/cm²."

Claim 1 of the second Auxiliary Request filed with the letter dated 8 October 2003 differed from Claim 1 as granted (section I, above) by the following disclaimer added to the end of the claim:

"With [sic] the exception of a composition having a density of 0.929, a melt index of 1.2, a MFR of 70 and an intrinsic viscosity of 1.4, comprising 50 wt.-% of an ethylene-butene-1-copolymer having a density of 0.928 and an intrinsic viscosity of 2.2 and SCB of 8 and 50 wt.-% of an ethylene-butene-1-copolymer having a density of 0.934 and an intrinsic viscosity of 0.61 and SCB of 22, wherein SCB is the molecular weight distribution index calculated by the FT-IR spectrum substration [sic] method disclosed in EP 057891 A2."

In each of these requests, dependent Claims 2 to 5 retained their wording as granted (section I, above).

Having regard to the above disclaimer, the Appellant requested suspension of the appeal procedure until the Enlarged Board of Appeal would have rendered decisions

in the cases G 1/03 and G 2/03 (which in the meantime have been published in OJ EPO 2004, 413 and 448, respectively). Since, according to OJ EPO 2004, 448, "The 'Headnote', 'Summary of facts and Submissions', 'Reasons for the decision' and 'Order' in G 2/03 are the same as in G 1/03", each reference to G 1/03 herein below should be understood as to refer to both decisions.

- V. In a letter dated 31 October 2002 of Respondent 2/ Opponent 2, the request for revocation of the patent in suit was maintained and the reasons given in the decision under appeal were supported.
- VI. In a Communication issued on 10 December 2003, the parties were informed of the suspension of the procedure as requested by the Appellant. Furthermore, a number of provisional, preliminary remarks as to the question of allowability of the amendments in the Main and first Auxiliary Requests of the Appellant, as quoted in section IV, above, with regard to Articles 123(2) and 123(3) and 84 EPC were communicated to them.
- (a) Thus, reference was made to Examples 8, 10 and 17, from which individual values of technical features had been taken to form the limits of new ranges of the additional features (g) and (h) in Claim 1 of the Main Request, and to Examples 3, 5, 10, 14, 16, 17, and 21 with regard to the new limits of the parameter ranges in Claim 1 of the first Auxiliary Request, whereby only the upper limit of density d_1 had also a basis on page 4, line 13 of the general

description of the patent in suit (or in the application as filed on page 8, line 8).

Furthermore, note had been taken of different positions taken, on the one hand, by Respondent 2 who had expressed the opinion that such values of individual examples could not be generalised, and, on the other hand, by the Appellant who had argued that the additional parameters in Claim 1 (Izod impact strength "IIS", and tensile impact strength "TIS") of the Main Request corresponded to those "as disclosed in all examples relevant for the present invention".

- (b) A further question was raised in the communication, the question of which examples in the patent in suit complied with the definitions in Claim 1 as granted and, consequently, could, in principle, form a basis for an amendment of this claim.

Thus, in all versions of Claim 1 (as quoted or referred to in sections I and IV, above, respectively), the N-value had been defined by the formula

$$\text{N-Value} = \frac{\log (\dot{\gamma}_{150} / \dot{\gamma}_{20})}{\log (\tau_{150} / \tau_{20})}$$

wherein the apparent shear rates $\dot{\gamma}$ in the numerator and apparent shear stresses τ in the denominator of the fraction were the values defined for a temperature of 170°C. However, in the explanation of the method to be applied in the determination of this parameter (patent in suit: page 6, item (6)), reference was made to measure-

ments in a flow tester at either 170°C or 210°C, dependent on the melt flow rates of the material of the samples, in order to get the necessary apparent shear rates at the required test pressures of 20 and 150 kg/cm². Hence, the question arose of whether measurements at 210°C, as carried out in Examples 2 to 10 and 18 to 20 of the patent in suit, could form a basis for the amendment of a definition based on a value defined for 170°C.

- VII. By communication dated 29 April 2004, the parties were informed that the procedure was resumed, since the Enlarged Board of Appeal had rendered decision G 1/03 (above), and they were summoned to oral proceedings.
- VIII. In letters dated 12 July 2004 of Respondent 2 and 28 July 2004 of Respondent 1/Opponent 1, objections were raised with regard to the amendments in the respective requests of the Appellant.
- IX. Oral proceedings were held on 2 September 2004 in the presence of all the parties. The issues dealt with in these proceedings focussed on the question of whether the Main Request and the two Auxiliary Requests, all as filed with the letter of 8 October 2003 (section IV, above), complied with Article 123(2) EPC.

The arguments presented by the Appellant in the Statement of Grounds of Appeal, the letter dated 8 October 2003 and the oral proceedings held on 2 September 2004 may be summarised as follows:

- (a) As regards the Main Request, the Appellant pointed out that the limits of the ranges concerning the

additional technical features (g) and (h) of Claim 1, ie IIS at 23°C and at -40°C and TIS, were taken from the examples of the patent in suit. Thus, the required minimum value of IIS, measured in accordance with the explanation on page 7, lines 5 to 12 of the patent in suit, could be found in Example 8 ("6.4", whilst a number of samples in other examples were not broken). The two limits of the TIS range were taken from Examples 17 ("120") and 10 ("2000"), respectively. The above amendments meant a limitation in comparison to Claim 1 as granted and were supported by all examples "relevant for the present invention" (Statement of Grounds of Appeal, page 2, line 11), ie "which belonged to the present invention" and "are considered to be the core of an invention and ... generally support the preferred lower values and upper values of a parameter range" (letter dated 8 October 2003, page 3, lines 13 to 24). As these examples disclosed preferred embodiments of the claimed subject-matter, the Main Request complied with Article 123(2) EPC.

On the question in the first Communication concerning the determination of the N-value (section VI(b), above), the Appellant commented only at the oral proceedings and, on this occasion, expressed the opinion that the difference in the temperature of the measurement, ie at 170°C or 210°C, would not significantly affect the result of the such a determination.

- (b) As regards the first Auxiliary Request, wherein the ranges of technical features in Claim 1 had been amended on the basis of measured values disclosed in different examples of the patent in suit, the Appellant referred to its arguments previously presented with regard to the Main Request.
- (c) In the context of the second Auxiliary Request, the Appellant had pointed out in its letter dated 8 October 2003, paragraphs bridging pages 2/3, that

"1. The disclosure of D1 is an accidental, novelty-destroying disclosure, since it relates to a comparative example of a cited document[s]. Only by reworking the single comparative example the Opponent produced a polymer composition meeting the parameters of the opposed patent.

2. Although D1 is prior art under Art. 54(2), it is not relevant for the determination of the inventive step. D1, by showing that comparative example 30 results in a composition which does not solve the problem underlying D1 (and which evidently does not solve any problem) suggests to the skilled person not to use a composition such as that of comparative example 30 and consequently teaches away from the essential features of the present invention."

Complementary to these arguments, the Appellant further argued at the oral proceedings that, although the technical fields of D1 and of the

patent in suit were the same and, moreover, the aims to be achieved by them were in common, Comparative example 30 of D1 could be disclaimed, because the solution of the patent in suit was pointing in a direction which, according to the comparative example, was not to be followed.

Therefore, even though D1 had been considered by the Opposition Division as the closest state of the art, Comparative Example 30 did not belong to the invention of that document, since it neither fulfilled certain features of D1, nor achieved the advantages of that invention, nor formed part of that invention.

Consequently, the requirements for the allowability of a disclaimer as defined in decision G 1/03 (above) had been met by the disclaimer in question, for which the Appellant saw two justifications: (i) it was necessary in order to exclude the anticipatory disclosure of Comparative example 30 of D1, and (ii) this anticipation was accidental, as eg defined in T 1071/97 of 17 August 2000 (not published in OJ EPO; referred to in point 2.2.2 of the reasons of G 1/03) which said in 3.2 of the reasons: "what is disclosed in the prior document could accidentally fall within the wording of the claim(s) of the application or patent to be assessed for novelty without there being a common or related technical field, or a common technical problem or solution".

On this basis, it would have neither been decisive whether or not the technical field of D1 was

remote from that of the patent in suit, nor whether both of these documents dealt with a common technical problem, but that it was sufficient that there was no common solution.

The arguments presented by the Respondents in their letters of 12 July 2004 and 28 July 2004, respectively, and in the oral proceedings held on 2 September 2004 may be summarised as follows:

- (d) As regards Claim 1 of the Main Request, the additional technical features (g) and (h) and their ranges, eg "6.4" taken from Example 8, were arbitrary selections taken from a minimum of three separate, non-linked examples. Furthermore, this value of "6.4" had only been disclosed for an IIS at -40°C , but not for $+23^{\circ}\text{C}$.

Moreover, the individual values used to define the new ranges of features (g) and (h) had been disclosed in conjunction with all the other parameters present in each example and could not, therefore, be treated as discrete disclosures. Figures 4 to 8 in the patent in suit showed the interrelations between these properties with other properties of the polymers. The IIS and TIS values of any one example were dependent on polymerisation conditions as well as all of the other product parameters. Therefore, it was not possible to single out these values and not be bound by the values of S, W etc. reported in the same examples.

Furthermore, it was disputed that Examples 11 to 13 and 22 were no longer "appropriate examples of the invention" as they had been when the original application had been filed. According to the patent in suit, the claimed compositions had excellent mechanical properties, especially at low temperature, good fluidity, wide molecular weight distribution and excellent melt elasticity. It was not understood why "6.4" was to be considered a good IIS, whilst "4.2" (Example 22) was not, or why "120" represented an acceptable TIS whereas "100" (as in Example 13) did not. Moreover, Examples 11 to 13 and 22 showed a number of further good, sometimes even better properties than the preferred examples. Thus, reference was made to yield tensile strength "YTS", flexural (Olsen) strength "OS" and environmental stress cracking resistance "ESCR" (cf. letter dated 31 October 2002, items 5 to 8, 11, 13, 14 to 18; all quoted IIS and TIS values should be understood in terms of "kgf·cm/cm²"). These facts demonstrated that the selections made by the Appellant were arbitrary.

Moreover, whilst the data of the N-values were defined in Claim 1 for a temperature of 170°C, the measurements of the apparent shear rates^{γ̇}, necessary for the determination of these values, had, however, been carried out in a number of examples including Example 8 at 210°C. Since measurements of a physical property obtained in certain conditions, eg at a specific temperature, could not be translated into numerical values of this property valid for different conditions

without providing a clearly understandable calculation method or at least a calibration for a translation, no one even knew whether these examples had complied with the requirements in Claim 1 as granted. Therefore, none of them, including Example 8 used to define feature (g), could form a basis for any amendment of the claims (letters of the Respondents, dated 12 July 2004: the paragraph bridging pages 1 and 2, and 28 July 2004: page 2, last paragraph, respectively, and statements at the oral proceedings, left uncommented by the Appellant).

In summary, the definition of new range limits by generalisation of selected measured values from individual examples contravened Article 123(2) EPC.

- (e) As regards the first Auxiliary Request, the Respondents referred to their arguments previously presented with regard to the Main Request.

- (f) Concerning the second Auxiliary Request, the Respondents argued that D1 as a whole was not remote from the claimed subject-matter, which could even be seen from the search report, wherein D1 had been identified as a D,X-document. Nor was its disclosure irrelevant for any further examination of the claimed invention. Moreover, Comparative example 30 was only comparative, because it did not fulfil the ratio of the short chain branching parameters of its two polymer components, which, however, was not relevant to the present question. Component A of that comparative example complied with all the

requirements of the high molecular weight component I according to Claim 1 of the patent in suit. In any case, Comparative example 30 was part of the disclosure of D1, which on its page 12 referred to the same properties as aimed at in the patent in suit: ESCR, impact strength, thermal resistance. The inventor, when working on his invention would have taken into account all the examples of D1, including Comparative example 30, which was, in any case, also a disclosure in itself.

- X. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 to 5 according to the Main Request as submitted with the letter dated 8 October 2003 or, in the alternative, on the basis of Claims 1 to 5 of the first Auxiliary Request or of the second Auxiliary Request as submitted with the same letter, respectively.

The Respondents requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. *Main Request*
 - 2.1 The amendment of Claim 1 consists of the incorporation of further technical features of the final composition, ie feature (g) in terms of Izod impact strength (IIS) measured according to JIS K 7110 at 23°C and at -40°C of at least 6.4, and feature (h) in terms of tensile

impact strength (TIS) measured according to ASTM D 1822 with 2 mm thick test pieces of 120 to 2000 (section IV, above; all quoted IIS and TIS values should be understood in terms of "kgf·cm/cm²").

- 2.2 The above feature (g), in fact, relates to two separate measurements of the IIS at different temperatures. Thus, apart from those samples which did not break in one or both of the above IIS tests (see eg Example 1), the results of the examples and comparative examples in the patent in suit as presented in Tables 5B, 6B, 7B, 8B, 13B and 14B clearly show that the IIS values of a given polymer depend on the measuring temperatures as demonstrated by the significant differences in the respective values of one polymer measured at different temperatures (ie at 23°C and at -40°C, respectively). Thus, in Example 8 referred to as the basis for the lower limit of feature (g), the IIS of component I was, in fact, "6.4", when measured at -40°C; the measurement at 23°C gave, however, a value of "50". Further samples in other examples, each having an IIS of "6" at 23°C, showed quite different values at -40°C of "3.0" (Example 11), "3.4" (Example 12) and "4.2" (Example 22), respectively.

Hence, new features (g) and (h) of Claim 1 relate, in fact, to *three* additional technical features of the claimed subject-matter, ie two IIS values and one TIS value.

The amendment is thus an incomplete representation of the data on which it is based and indeed inconsistent with those data to the extent that it refers to the IIS

value at 23°C. In other words, there is no basis for the lower limit of "6.4" with regard to an IIS at 23°C.

- 2.3 Apart from this deficiency of Claim 1, a question of principle concerning the allowability of a generalisation had arisen and had already been addressed in the first Communication (section VI, *supra*). This question concerned the allowability of a formulation of new range limits of the additional technical features (g) and (h) in Claim 1 on the basis of individual values of IIS and TIS measurements taken from selected examples (cf. section 2.2, above).

In other words, the allowability of this claim under Article 123(2) EPC depends at least and to a large extent on the answer to the question of whether one measurement of a selected characteristic or property of a sample disclosed only in an individual example can be relevant to the generality of the claimed subject-matter, separately from and irrespectively of the other parameters inherent to the same sample.

- 2.3.1 In support of the amendments concerning features (g) and (h), the Appellant referred to decision T 201/83 (above). In that decision, an amendment had been allowed on the basis of a particular value described in a specific example, provided the skilled person could readily have recognised this value as not so closely associated with the other features of the example as to determine the effect of that embodiment of the invention as a whole in a unique manner and to a significant degree (point 12 of the reasons in that decision). In that case, specific amounts of two components (Ca and Mg) were added to a lead alloy, each

component, however, playing therein a specific role on its own, so that, in view of the loose connection between the particular Ca and Mg contents, the expert would have treated them as features of the design that could be considered separately (point 9 of the reasons in that decision).

2.3.2 In the present case, however, the situation is different. Whilst in the case of T 201/83 (above), each of the two metals (Ca and Mg) could be added to the lead alloy in an amount separately and freely chosen by the skilled person within certain limits (points 6, 7, 9 and 12 of the reasons in T 201/83; cf. section 2.3.1, above), each of the three technical features (g) and (h) of the final composition as presently claimed is, like its other properties, closely related to the specific constitution of one blend disclosed in one of Examples 1 to 22 or of Comparative Examples 1 to 17 in the patent in suit, as demonstrated by the data provided in its tables. Moreover, it is evident from the tables that the polymerisation conditions significantly affected the properties of each of the components used in the examples.

Thus, the TIS of "2000" is clearly correlated with and only with the combination of the particular components I and II (as referred to in Claim 1; or A and B, as referred to in the tables) in their respective amounts as disclosed in Example 10. Similarly, the TIS of "120" is the result of only the composition of Example 17, and the IIS (-40°C) of "6.4" is that of only Example 8, whereby these compositions differ from each other with regard to the individual components used and their respective amounts. In other words, these particular

values were not disclosed in clear conjunction with any other example disclosed in the tables of the patent in suit.

Formulating ranges of features (g) and (h) for Claim 1 on the basis of these particular items of information would, thus, mean a generalisation of each of the above specific values by its application to the generality of all compositions encompassed by Claim 1.

- 2.3.3 The argument of the Appellant that "the ranges of the features (g) and (h) introduced into claim 1 of the main request were taken as the lower and upper limits disclosed in **all examples** of the present invention. This means that all examples which **belong** to the **present invention** were used as a basis for these ranges (of IIS and TIS) rather than the separate single examples as asserted by the Opponent." (letter dated 8 October 2003, page 3, lines 13 to 20) is based on the assumption that the term of *disclosure* would have the same meaning as the *scope of the disclosure*.

By formulating a new range on the basis of individual values taken from selected examples, which are not at all directly related to each other (section 2.3.2, above), the reader is, however, confronted with new information not directly derivable from the text of the application as originally filed.

- 2.4 This situation is further compounded by the facts that (i) an example which does not clearly fulfil the requirements of a claim (here Claim 1 as granted) cannot serve to further amend this claim (even if the conditions as in T 201/83, *supra*, applied; sections

2.3.1 and 2.3.2, above) and (ii) four examples (ie Examples 11 to 13 and 22), all of which fulfilled this requirement (i), have been deleted, because they are no longer be considered by the Appellant as belonging to the claimed invention.

2.4.1 As regards item (i) of the previous paragraph, reference has to be made to the first Communication mentioned in section VI(b), above, and to the arguments of the Respondents in section IX(d), above.

Thus, in the examples listed in the communication, ie Examples 2 to 10 and 18 to 20, the N-value had been calculated from measurements at 210°C (see Tables 5B, 6B and 13B in conjunction with the explanation of the determination method on page 6, lines 25 to 39, in particular, lines 28 to 30, of the patent in suit).

Thus, the extrusion of the claimed final composition was carried out in these examples at 210°C, in order to obtain the apparent shear rates for the calculation of the N-value. As pointed out by the Respondents (section IX(d), above), no calibration nor calculation method was disclosed which would have enabled the skilled person to directly translate measurements obtained at 210°C into values valid for 170°C (as defined in Claim 1). Nor is it clear whether or that the apparent shear rate or the final N-value had indeed been recalculated. Rather, the argument of the Appellant presented at the oral proceedings, that the differences in the extrusion temperature would not have any significant effect on the result obtained, indicates, if anything, that no translation or recalculation, at all, of either the measurements at 210°C or of the N-

value calculated on the basis of such measurements at 210°C into values in accordance with the definition in Claim 1 had been carried out.

Hence, nothing has been disclosed which would allow a direct correlation of the N-values disclosed in Examples 2 to 10 and 18 to 20 of the patent in suit with the definition of this feature in Claim 1.

In view of these findings, of the arguments of the Respondents (section IX(d), above), and in the absence of any evidence in its support, the above argument of the Appellant at the oral proceedings is not convincing and, therefore, cannot be accepted by the Board.

It follows that Example 8, on the basis of which feature (g) had been redefined, cannot be considered as belonging to the claimed subject-matter within the scope of Claim 1 as granted, and, therefore, it cannot form the basis for any amendment in this claim.

- 2.4.2 Although each of Examples 11 to 13 and 22 mentioned with regard to the above item (ii) satisfied all the requirements of Claim 1 as granted, they were now classified by the Appellant as not belonging to the claimed subject-matter.

As argued by the Respondents (section IX(d), above), another selection of additional parameters disclosed in the same way in the tables as a property of the components and final compositions, respectively, would have required, in accordance with the Appellant's above argument, to exclude other examples. Reference can be made eg to the yield tensile strength (YTS) or the

flexural (Olsen) strength (OS), ie two further mechanical properties. Thus, for the purpose of example, the compositions of Examples 11 to 13 and 22 show distinctly better results with regard to YTS (200, 240, 190 and 200, respectively) and OS (5800, 6200, 4700 and 5000, respectively) than a number of those examples maintained by the Appellant, such as Example 1 (YTS = 110, OS = 1870) and Example 15 (YTS = 105, OS = 2100).

However, since the Appellant has not convincingly explained why IIS and TIS within specific numerical ranges, rather than the above further properties, are to be deemed decisive, this deletion of Examples 11 to 13 and 22 is considered arbitrary by the Board and cannot, consequently, be accepted as supporting the Appellant's position.

2.4.3 Rather, within the broad diversity of experimental data presented in Examples 1 to 22 of the patent in suit, the Board can discern neither a clear disclosure, nor a clear teaching as to the appropriate selection of the components I and II from within those components fulfilling the definitions of features (a) to (f) of Claim 1 and as to the appropriate choice of weight ratios of these components in order to arrive at a final composition showing a specific combination of properties.

2.5 Hence, upon reading Claim 1 as amended, the skilled person is confronted with additional information which is not directly and unambiguously derivable from that previously presented in the patent application as originally filed. This additional information presented by the Appellant during these appeal proceedings in

order to support the amended wording of Claim 1, thus, extends beyond the content of the application as originally filed.

2.6 Consequently, Claim 1 according to the Main Request contravenes Article 123(2) EPC.

2.7 Since a decision can only be made on a request as a whole, the Main Request must be refused.

3. *First Auxiliary Request*

Whilst, in this request, no additional mandatory parameters have been added to Claim 1, the ranges of the intrinsic viscosities η_1 , η_2 and η , of the densities d_1 , d_2 and d and of the N-value in this claim have been narrowed on the basis of individual data extracted from particular examples as shown in the tables of the patent in suit and referred to in section VI(a), above. However, for the reasons given in sections 2.3.2 to 2.4.1, above, none of Examples 2 to 10 and 18 to 20 can serve as a basis for amending Claim 1 as granted.

Therefore, the above considerations and findings summarised in sections 2.5 to 2.7, above, are also valid for this request.

Hence, the first Auxiliary Request must also be refused.

4. *Second Auxiliary Request*

4.1 As mentioned in section IX(c), above, the Appellant conceded in view of D2 that Claim 1 as granted had not been novel over Comparative example 30 of D1, ie all

its intrinsic (inherent) properties and parameters had been made (explicitly or implicitly) available by the product of that comparative example, whether or not there had been any reason for looking for them (cf. Opinion G 1/92: OJ EPO 1993, 277, in particular, points 1.4 and 2 of the reasons).

4.1.1 Thus, D1 provides the intrinsic viscosities and the densities of both polymer components A8 and B8 and their respective amounts (50:50 in terms of % by weight) used to provide the composition according its Comparative example 30, ie features (a), (b), (e) and (f) of present Claim 1 (see D1: Tables 28, 29 and 34). Moreover, the intrinsic viscosity and the density of the final composition are shown in Table 35.

4.1.2 Features (c) and (d) of Claim 1 are not explicitly disclosed in D1. However, these features have been provided in D2.

According to the description in the patent in suit, "Feature (c) refers to ratio S, defining the distribution of branched chains in the composition (I)", and "the content (d) (ie the quantity W)... indicates the quantity of component which contains branched chains of very large quantity" (page 4, lines 17 and 31/32), ie both features relate to the "composition or internal structure of the product", which had become state of the art with the publication of D1, in the sense of G 1/92 (above, point 1.4 of the reasons).

4.1.3 As regards the relevance of the N-value which might be regarded as an extrinsic characteristic in the sense of point 3 of the reasons in G 1/92 (above), the Board has,

however, come, on the basis of the above discussion about this value (section 2.4.1, above), to the conclusion that the N-value has not been defined in a clear and unambiguous way and, therefore, it cannot provide a distinct definition of the claimed subject-matter. Consequently, the N-value cannot be taken into account as a relevant feature of the composition claimed in Claim 1 which could serve to distinguish it from other compositions.

- 4.1.4 Consequently, the Board accepts, as conceded by the Appellant, that Comparative example 30 had anticipated the subject-matter of Claim 1 as granted and that, therefore, the disclaimer was necessary to exclude its disclosure from the claimed subject-matter and, thus, to impart novelty to Claim 1 over D1 (G 1/03, above, Order: point 2.1, first sub-item, and point 2.2).

In fact, it was not in dispute between the parties that this first requirement for the allowability of the disclaimer is fulfilled. Nor does the Board have any reason to take a different view in this respect.

- 4.2 Since D1 is comprised in the state of the art in the sense of Article 54(2) EPC, the parties disputed, however, whether or not the anticipation of the subject-matter of Claim 1 as granted by D1 had been accidental and, thus, met the second requirement as established in G 1/03 (Order: point 2.1, second sub-item).

- 4.2.1 Whilst the Appellant argued that the anticipation of the claimed subject-matter had been accidental and, to this end, strictly distinguished between, on the one

hand, the teaching of D1 and, on the other hand, its Comparative example 30 (section IX(c), above), the Respondents emphasised that the comparative example was part of the disclosure of D1 and they referred to the search report to show that the Appellant, itself, had already considered D1 when drafting its application (section IX(f), above).

In fact, reference is made on page 2, line 49 (and in the application: page 4, lines 7/8) to JP-B-64-7096, which derived from Japanese patent application 14039/81, mentioned under item "(30) Priority" on the front page of D1.

- 4.2.2 Whilst in T 1071/97 (above), the Board had used a wording "without there being a common or related technical field, or a common technical problem or solution" to define what is to be understood as an "accidental" anticipation, to which the Appellant referred in order to support its position (see section IX(c), paragraph 5, above), the Enlarged Board of Appeal used a different wording:

"... a disclosure is accidentally novelty-destroying, if it was disregarded by the skilled person faced with the problem underlying the application, either because it belonged to a remote technical field or **because its subject-matter suggested it would not help to solve the problem. Thus, according to these decisions, the disclosure has to be completely irrelevant for assessing inventive step.** ... The fact that the technical field is remote or non-related may be important but is not decisive because there are situations in which the skilled person would also

consult documents in a remote field. Even less decisive, as an isolated element, is the lack of a common problem, since the more advanced a technology is, the more the problem may be formulated specifically for an invention in the field. Indeed, one and the same product may have to fulfil many requirements in order to have balanced properties which make it an industrially interesting product. Correspondingly, many problems related to different properties of the product may be defined for its further development. When looking specifically at improving one property, the person skilled in the art cannot ignore other well-known requirements. Therefore, a 'different problem' may not yet be a problem in a different technical field. **What counts is that from a technical point of view, the disclosure in question must be so unrelated and remote that the person skilled in the art would never have taken it into consideration when working on the invention. ...**" (G 1/03, above: number 2.2.2 of the reasons; emphasis added by the Board).

- 4.2.3 Therefore and in view of the above arguments and findings (sections 4.1 to 4.1.4, above), the Board takes the view that the comparative examples in D1, although teaching what not to do, nevertheless serve to elucidate the teaching of the document as a whole, and they are closely related to the other experiments disclosed in the document (cf. the numerous experiments in the examples and comparative examples of the patent in suit).

Whilst it can be said that a comparison example contained in a document has a negative relevance, it is,

nevertheless, neither remote from nor unconnected with the disclosure in this document.

Hence, the Board has come to the conclusion that the comparative examples of D1, including Comparative example 30, although providing a teaching not to be followed, does not mean that their information is not part of the disclosure of D1 or would not be considered by an inventor working on his invention (Decision G 1/03, above: numbers 2.2 to 2.2.2 of the reasons; cf. section 4.2.1, above).

Consequently, neither D1, nor its Comparative Example 30 is an accidental anticipation and, therefore, the disclaimer in Claim 1 of the second Auxiliary Request contravenes the requirements of Article 123(2) EPC.

4.3 Since, a decision can only be made for a request as a whole, the second Auxiliary Request must also be refused.

5. Thus, none of the requests of the Appellant on file meets the requirements of the EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

E. Görgmaier

R. Young