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**D E C I S I O N**  
of 17 November 1994

**Case Number:** T 0375/91 - 3.3.3

**Application Number:** 83305190.7

**Publication Number:** 0106496

**IPC:** D01F 6/12

**Language of the proceedings:** EN

**Title of invention:**  
Porus PTFE material

**Patentee:**  
W. L. GORE & ASSOCIATES, INC.

**Opponent:**  
SUMITOMO ELECTRONIC INDUSTRIES LTD

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 83, 84, 114(2)

**Keyword:**  
"Measuring method for a parameter in a claim (sufficiency disclosed in description; grounds 4 and 6) late filed written declaration and test report (disregarded; ground 3)"

**Decisions cited:**  
-

**Headnote/Catchword:**  
-



Case Number: T 0375/91 - 3.3.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.3  
of 17 November 1994

**Appellant:**  
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**Representative:**  
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**Respondent:**  
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**Representative:**  
Patentanwälte Grünecker, Kinkeldey,  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office dated 18 April 1991  
revoking European patent No. 0 106 496 pursuant to  
Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** F. Antony  
**Members:** W. Kaltenecker  
W. M. Schar

**Summary of Facts and Submissions**

I. The present appeal lies against the decision of the Opposition Division of 26 February 1991, issued in writing on 18 April 1991, to revoke European patent No. 106 496, which had been granted on 6 July 1988 on the basis of European patent application No. 83 305 190.7, filed on 7 September 1993 and claiming the priority of two applications filed in the United States of America on 10 September 1982.

The patent as granted contained four independent and thirtyfour dependent claims, the former reading:

"1. A porous material consisting essentially of PTFE polymer, which material has a microstructure having nodes interconnected by fibrils characterized in that, as measured along at least one direction, it has an average matrix tensile strength greater than 15,000 psi (103,5 MPa) and an average node height/width ratio greater than 3.

10. A porous material consisting essentially of polytetrafluoroethylene polymer, having nodes interconnected by fibrils, characterized in that said material has a matrix tensile strength greater than or equal to 3,000 psi (20.7 MPa) and less than or equal to 25,000 psi (172.5 MPa) and which has a corresponding coarseness index greater than or equal to the value on a line connecting the points A, D, C, and D defined in the following table:

	Matrix tensile strength		Coarseness index	
	psi	(MPa)	(gm/cc)/psi	(gm/cc/MPa)
A	3,000	20.7	0.40	57.97
B	12,000	82.8	0.40	57.97
C	16,000	110.4	0.20	29.0
D	25,000	172.5	0.20	29.0

18. A porous material consisting essentially of polytetrafluoroethylene polymer, having nodes interconnected by fibrils characterized in that it has an ethanol bubble point of less than or equal to 4.0 psi (27.6 kPa), said fibrils include first fibrils oriented substantially perpendicular to second fibrils, and the ratio of the matrix tensile strength as measured along the first fibril direction to the matrix tensile strength measured along the second fibril direction is between 0.4 and 2.5, and the matrix tensile strength in the weaker direction is greater than or equal to 3000 psi (20.7 MPa).

24. A process for producing a porous material of polytetrafluoroethylene polymer, which material is in accordance with any one of the preceding claims, the material having been produced from paste-extruded polytetrafluoroethylene extrudate from which all extrusion-aid lubricant has been removed, characterised in that the process comprises the steps:

(a) increasing the density of the dry extrudate to at least 1.75 gm/cc; and

(b) stretching said densified dry extrudate at an elevated temperature less than the crystalline melt temperature."

II. Notice of Opposition was filed on 5 April 1989 by Sumitomo Electric Industries Ltd. Revocation of the patent was requested on the grounds of Article 100(a) (novelty and inventive step) and (b) EPC. The objection to novelty was withdrawn later. In particular, the following documents were cited then and in the course of the opposition proceedings:

D1: US-A-3 962 153,

D2: Trans. Amer. Soc. Artif. Int. Organs, Vol. xx, 86-90 (1974),

D15: ASTM D882-79,

D16: Laboratory Products Catalogue, Millipore, (1982),

D17a: GB-A-1 505 591,

D17b: DE-A-2 514 231 (equivalent to D17a),

D17c: Enlarged version of Figures 1 and 2 of (17a) taken from corresponding US application, with pages 8-12.

Various experimental results and Affidavits were also submitted (see points V., VI., VII. below).

III. The Patentee defended the patent in suit on the basis of a main request Claim 1 of which was essentially a combination of granted Claims 1, 2, 5 and 9; the second independent claim, Claim 6, corresponded to granted Claim 10; the third independent claim, Claim 14, to granted Claim 18; and the fourth independent claim, Claim 21, to a combination of granted Claims 24 and 25; and of a series of eight subsidiary requests, each set of claims thereof containing the same Claim 14 as in the main request.

IV. The decision under appeal while acknowledging the novelty of all claims, revoked the patent on the ground that the subject-matter of Claim 14 (granted Claim 18) did not involve an inventive step, starting from D16 as

closest prior art, and considering the further documents D1 and D6. Thus neither the main request nor the subsidiary requests, which all comprised Claim 14, were held to be allowable and the patent was revoked as a whole.

The decision under appeal commented on the other claims essentially as follows:

While otherwise the disclosure of the patent was sufficient (9.1 and 9.2 of the Decision), Claim 20 according to the main request was insufficient in view of the density value of  $1.75 \text{ g/cm}^3$ ; it was however sufficient if limited to a value of  $2.0 \text{ g/cm}^3$ , in accordance with the first auxiliary request (9.3 of the Decision). Claims 15 to 19 were considered to lack inventive step (10 of the Decision), whereas each of Claims 1, 6 and 20 was held to comply also with this requirement, D1, D6, and D10, respectively, representing the closest state of the art for these three claims (11, 12 and 14 of the Decision).

- V. By letter dated 24 April 1991 (received on 26 April 1991) the Patentee (Appellant) lodged a Notice of Appeal against the above decision and paid the prescribed fee on 17 June 1991. A Statement of Grounds of Appeal dated 12 August was received on 19 August 1991, together with a new set of claims constituting the main request (largely corresponding to those on which the Opposition Division had decided), and with an Affidavit dated 7 August 1991 and supporting his arguments (Goel Affidavit). As auxiliary requests, several so called "Fall Back Positions" were formulated, two of them in the form of complete alternative sets of claims.

In his arguments the Appellant adopted the position of the decision under appeal where this was favourable to him, and concentrated on defending Claim 14 held unallowable by the first instance. In his view, neither did D16 represent the closest prior art, not did D1 or D6 constitute general technical knowledge, nor should all this prior art be combined in the way the decision under appeal did.

VI. In his submission dated 4 May 1992, the Respondent (Opponent) whilst having conceded novelty and largely also sufficiency of disclosure before the Opposition Division, again contested both. In particular, he contended insufficient disclosure of matrix tensile strength (MTS). To support this allegation he presented an Expert Opinion by "Süddeutsches Kunststoff-Zentrum" dated 9 June 1992 and demonstrating the dependency of MTS on certain parameters. Furthermore, the Respondent denied not only inventive step, but also the novelty of Claim 6, on the basis that it would cover products known from D6. He also argued that Claims 1 and 14 were lacking in inventive step, Claim 1 in view of the combined teaching of D1 and D2 or in view of D17, and Claim 14 essentially for the reasons given in the decision under appeal. In addition, he contended that Claim 14 was anticipated by prior art material, in support of which allegation he sought to introduce - with submission dated 30 September 1994 - an Affidavit dated 21 September 1994 with attached Test Report of an own employee, Mr Simotsuji (Simotsuji papers). The Respondent further objected that there was immense overlap of the subject-matter of the various independent product claims, such that with one of them not being patentable the others would automatically be invalid as

well. Finally, the main process claim was said to be unduly broad and to lack inventive step because in many cases the claimed process would yield products outside the scope of the product claims.

VII. In further written submissions, the Appellant denied the Respondent's right to reopen the discussion on novelty and sufficiency of disclosure and argued in favour of novelty, inventive step and sufficiency. In response to the Simotsuji papers, he presented two further Affidavits (Declarations of Mr Hubis dated 8 November 1994 and of Mr Lewis dated 4 November 1994).

VIII. During the oral proceedings held on 17 November 1994 the Board gave an interlocutory decision not to admit (i.e. to disregard) the Simotsuji papers and the further declarations (Hubis and Lewis) filed in response thereto (see ground 3.2 below).

The Appellant submitted a new set of claims constituting his main request, together with five auxiliary requests, and withdrew all his earlier requests.

Compared with the main request on which the Opposition Division had decided, the new main request differs as follows:

At the end of Claim 6, the following term has been added: "and also having a crushability of less than 10%";

Claim 11 has been deleted;

Claims 12 to 19 have been renumbered, becoming Claims 11 to 18, with dependencies changed accordingly;



In former Claim 20, now 19, the density value has been given as 2.02 g/cm<sup>3</sup>, with former Claim 21 deleted;

Former Claims 22 to 33 have been renumbered 20 to 31, respectively, with the dependencies amended as follows: new Claims 20 to 29 being dependent on Claim 19 only, Claim 30 on "any of Claims 19, 23 or 24", and Claim 31 on "any one of Claims 19 to 21".

- IX. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or on the basis of one of the first to fifth auxiliary requests.
  
- X. The Respondent requested that the appeal be dismissed, and as an auxiliary request, that the following point of law be referred to the Enlarged Board of Appeals: "Is a determination method for a numerical range of a parameter (in the present case the Matrix Tensile Strength) in a claim sufficiently disclosed if the determination is not conducted according to an acknowledged standard method, but to a method developed by the Patentee, and if the patent does not disclose all the conditions influencing the numerical result?"

#### Reasons for the Decision

- 1. The appeal is admissible.
  
- 2. *Amendments*
  - 2.1 Claim 6 is a combination of original and granted Claims 10 and 15.

2.2 Claim 19 finds its basis in original and granted Claim 24 and Table 2 of the description. The Board does not follow the Respondent's objection that, in Table 2, the limit of 2.02 g/cm<sup>3</sup> in Claim 19 was not specifically disclosed in isolation, but only in combination with specific values for several other parameters, hence could not form a valid basis for a generic claim like Claim 19. In fact, the density value of 2.02 is the only numerical process parameter specified in Claim 19, and at the same time, the density is the only parameter of Table 2 which can be chosen freely, all others relating to properties which are a **result** of the process. The Board therefore holds that a densification to 2.02 g/cm<sup>3</sup> was contained in the original application as a general disclosure.

2.3 As all other claims have clear support in the granted version (in turn based on the original disclosure) the amendments are in accordance with Articles 123(2) and (3) EPC.

### 3. *Evidence considered*

3.1 The Board has considered the Goel Affidavit and the opinion of Süddeutsches Kunststoff-Zentrum.

3.2 The Simotsuji papers (see point VI. above) were filed with submission dated 30 September 1994, that is more than two years after the Respondent's reply to the Appellants's Statement of Grounds of Appeal and only seven weeks before the date of the oral proceedings. The only explanation given by the Respondent for the late filing was, that he had not been able to obtain a sample of the film according to D16 as produced before the priority date of the patent in suit. The Board finds that explanation unconvincing, not least because the tested sample turned out in the end to be anyway of a

later date. The Board can see no reason why the Respondent did not present his tests timely, that is in prompt reply to the Appellant's statement and certainly before oral proceedings were appointed, thus leaving the Patentee enough time to reply, e.g. if necessary by filing countertests. To have waited with the presentation of this tests until only seven weeks before the oral proceedings jeopardizes the purpose of the oral proceedings, namely to make a case ready for decision at the conclusion of the oral proceedings (Art. 11(3) RPBA, OJ 1989, 361) and the right of the Appellant to file a detailed counterstatement. This is contrary to a fair and expedient procedure.

Furthermore due to the late origin of the tested material the weight to be given to the test results is uncertain at best. They could thus not be considered to constitute relevant evidence. The declaration of Mr Sumotsuji of 21 September 1994 and the attached test-results are therefore not to be further considered but to be disregarded (Art. 114(2) EPC).

3.3 The Simotsuji papers having been excluded (point 3.2 above), there was not point in considering the Appellant's further declarations filed in response thereto.

4. *Sufficiency of disclosure*

The Board has scrutinised the Respondent's position that the method for determining MTS (referred to in Claims 1, 6 and 13) was not sufficiently disclosed, because the tensile strength (TS), used to calculate MTS, was not measured according to an accepted standard, but according to a method defined in the patent in suit, without indicating all the parameters influencing the result of said measurement.

In fact, only two relevant parameters are not expressly indicated in the patent:

- (a) the way in which the gage length is defined; this can be taken between the grips or between reference marks;
- (b) the temperature.

In the patent in suit the Appellant specifically indicated the tester speed and the gage length (page 6, lines 52 to 55). The Board is satisfied that, in all other respects, the Appellant used usual procedures and conditions, in particular room temperature and the gage length considered the normal one in ASTM 882 (=D15), which constitutes general technical knowledge. From points 10.4 and 10.5 of D15 (page 377) it is clear that this "normal" definition is grip to grip rather than between reference marks. By way of further evidence, neither of the parties had any problems in measuring TS. Also the Test Report of Süddeutsches Kunststoff-Zentrum, Table, page 3, is convincing evidence that there is little difference even between the values obtained by measuring grip to grip and by measuring between marks, provided that it is done at room temperature.

Thus the Board is convinced that the way of determining MTS is sufficiently disclosed in the description of the patent in suit (see also ground 6. below).

5. *Novelty and inventive step*

The independent claims will be considered in the order chosen by the Opposition Division, i.e. commencing with Claim 13 (corresponding to Claim 14 before the Opposition Division; see points IV. and VIII.).

5.1 Claim 13 reads:

"A porous material consisting essentially of polytetrafluoroethylene polymer, having nodes interconnected by fibrils characterized in that it has an ethanol bubble point of less than or equal to 4.0 psi (27.6 kPa), said fibrils including first fibrils oriented substantially perpendicular to second fibrils, and the ratio of the matrix tensile strength as measured along the first fibril direction to the matrix tensile strength measured along the second fibril direction is between 0.4 and 2.5 and the matrix tensile strength in the weaker direction is greater than or equal to 3000 psi (20.7 MPa)."

5.1.1 The products of Claim 13 have the geometric and mechanical characteristics of biaxially drawn PTFE films with moderate MTS and a low ethanol bubble point (BP), i.e. high coarseness. The documents most relevant to this claim are D1, D6 and D16. Clearly none of these explicitly teaches all the features of the claim, whose novelty therefore has to be accepted, unless it could be shown by other evidence that the film described in any one of these documents indeed had all the features of Claim 13. No such showing has been made. They are therefore considered to be novel.

5.1.2 D16 is considered to represent the closest state of the art. It is a catalog of the Millipore company which discloses four different PTFE filters called "Fluoropore". One of these, Fluoropore FS, is shown by the Table on page 37 to have a methanol BP of 3. (Methanol BP and ethanol BP to be equalised for all practical purpose herein.) On page 32, D16 also shows a photomicrograph of an unspecified Fluoropore filter clearly lacking unidirectional orientation.

In spite of the Appellant's argument that the said photomicrograph could not be assigned to any particular Fluoropore filter, such as Fluoropore FS, and that the imperfect cutting technique used at the time the sample was prepared would cast doubt on any information about the structure of the film, the Board is convinced that the photomicrograph of D16 is representative for each of the four Fluoropore filters described there, and therefore also for Fluoropore FS; and that, notwithstanding any distortion owing to imperfect cutting, the photograph clearly reveals the twodimensional geometric features of Claim 13. From the fact that there was a need to back the Fluoropore products of D16 by a net of polyethylene (page 32, middle column, paragraph 2) it must be concluded that the PTFE film of these Fluoropores had rather low strength.

- 5.1.3 In the light of this prior art teaching, the problem underlying Claim 13 of the patent in suit can be seen in the provision of PTFE film-like products having acceptable mechanical strength in two perpendicular directions, thus requiring no additional reinforcement.

According to Claim 13 of the patent in suit this problem has been solved by providing coarse PTFE films with fibrils, the films containing first fibrils oriented substantially perpendicular to second fibrils, wherein the ratio of the MTS measured along the first fibril direction to the MTS measured along the second fibril direction is between 0.4 and 2.5 and the MTS in the weaker direction is greater than or equal to 3000 psi (20.7 MPa).

- 5.1.4 The Board cannot follow the Respondent's view that it was obvious to combine D16 with D1 and D6 so as to arrive at the solution of Claim 13. While some of the

films of D6 do have MTS and BP within the range given in Claim 13 of the patent in suit, they clearly are unidirectionally stretched (see photo 1 of D6). D1 (Examples 3a and 3f) does teach products with MTS values falling under the definition of Claim 13, but in this connection it is totally silent as to coarseness in terms of BP. Thus there are three different documents teaching films which apparently are different. The properties of these films could only be combined in an obvious manner if there were evidence that films combining all these properties could have been produced using technology available at the given point in time. The Respondent has failed to present such evidence.

While the skilled person might well have recognised the desirability of combining the properties of the Fluoropore filters of D6 with those of Claim 13 of the patent in suit, there is no means to tell if they actually had these properties or if at least products having these properties could have been made, once this desirability was recognised. Furthermore, in the Board's view, the unidirectionally drawn PTFE films with high MTS and low BP of D6 provided no pointer to produce similar biaxially drawn films, and especially how to produce these.

The Board therefore holds that the subject-matter of Claim 13 was not obvious to a person skilled in the art and does involve an inventive step (Art. 56 EPC). The same applies to Claims 14 to 18 dependent upon Claim 13.

5.2 Claim 1 reads:

"1. A porous material consisting essentially of PTFE polymer, which material has a microstructure having nodes interconnected by fibrils characterized in that, as measured along at least one direction, it has an

average matrix tensile strength greater than 40,000 psi (276 MPa) and an average node height/width ratio greater than 3, an average fibril length greater than 15µm, and the material is in filament form."

5.2.1 The documents of particular relevance to this claim are D1, D2 and D17. D1, which is considered to be the closest state of the art, discloses filaments of porous PTFE material having a microstructure of nodes interconnected by fibrils, which filaments have a MTS greater than 40,000 psi. This material, however, has rather fine pores which make it unsuited for certain medical applications (patent in suit, page 2, lines 39 to 43 in conjunction with page 5, lines 48 to 50. In the light of that shortcoming the technical problem underlying Claim 1 of the patent in suit can be seen in providing PTFE filaments of this type having a coarse microstructure, while essentially retaining the MTS of the fibres of D1. According to Claim 1 this problem is solved by the provision of such filaments with an average node height/width ratio greater than 3 and an average fibril length greater than 15 µm.

5.2.2 While certain features of this solution are briefly mentioned in D2 (reference to "nodes interconnected by thin fibrils, see page 87, lines 4 to 5 of last paragraph), this disclosure is anyway rather vague. More important, in the absence of any indication that it was technically feasible at that time to combine these features with those of D1 in one product, such a combination is purely theoretical and cannot jeopardise the inventive step of Claim 1.

5.2.3 D17a discloses porous PTFE tubings for medical use having nodes and fibrils with a length of 6 to 80 µm (Claim 1). Figure 2 shows that the material has nodes with a height/width ratio greater than 3. Numerical



values for MTS are not explicitly given, but can be calculated from indicated values of density and TS (0.2 to 0.5 g/cm<sup>3</sup> and 2500 to 6500 psi, respectively; page 5, lines 86 to 91). The total possible range of MTS thus would be from 11,000 to 71,500 psi, that is definitely above the minimum value of 40,000 psi stated in Claim 1 of the patent in suit. However, these two figures are obtained only by combining the upper limit of the density with the lower limit of TS and the lower limit of the density with the upper limit of TS, which selection from two numerical ranges is not the correct way to proceed. (If, on the other hand, the two lower limits and the two upper limits, respectively, were combined, MTS values around 28,000 psi would be obtained.) Thus there is certainly no clear disclosure of relevant MTS values in D17a. This conclusion is fully in line with an Affidavit of Mr Lewis of 19 February 1991, (page 2, paragraph 3) asserting that no PTFE vascular grafts (=tubes) with MTS above 20,000 psi were known to him before the invention of the patent in suit was made. Furthermore, even if - for the sake of argument - the complete range of MTS from 11,000 to 71,500 psi were supposed to be disclosed in D17a, one still had to select the upper, clearly less preferred part of that range and replace tubes by filaments (two mental steps) in order to arrive at the subject-matter of Claim 1 of the patent in suit.

- 5.2.4 The Board therefore does not consider Claim 1 of the patent in suit to be obvious in view of the prior art discussed. The same applies to the dependent Claims 2 to 5.

5.3 Claim 6 reads:

"A porous material consisting essentially of polytetrafluoroethylene polymer, having nodes interconnected by fibrils, characterized in that said material has a matrix tensile strength greater than or equal to 3,000 psi (20.7 MPa) and less than or equal to 25,000 psi (172.5 MPa) and which has a corresponding coarseness index greater than or equal to the value on a line connecting the points A, D, C, and D defined in the following table:

	Matrix tensile strength		Coarseness index	
	psi	(MPa)	(gm/cc)/psi	(gm/cc)/MPa
A	3,000	20.7	0.40	57.97
B	12,000	82.8	0.40	57.97
C	16,000	110.4	0.20	29.0
D	25,000	172.5	0.20	29.0

and also having a crushability of less than 10%."

5.3.1 D6 is considered to be the most relevant state of the art for this claim. It discloses PTFE films having a rather high MTS and a high coarseness index (CI), the latter being defined as the density of the porous material divided by the ethanol BP.

The Appellant previously defended Claim 6 with a scope not limited to any particular crushability, contesting some of the data of D6 on the basis of experimental data according to which the products Fluoropore FP-500 and FP-1000 would lie outside the range claimed in granted Claim 6. However, for two reasons, the Board assigned more weight to the data derived from D6 itself and expressed considerable doubt as to the novelty of Claim 6 in its granted version: (a) because information

taken from a single document generally is more reliable than information obtainable only by combining a document's teaching with other evidence; and (b) because (Respondent's submission of 4 May 1992, attached Fig. 3) the points of the samples as calculated from D6 lie far inside the claimed field, so that even a rather large experimental error would not shift them to outside the field, whereas a much smaller shift of the position of the points according to the Affidavit of Mr Lewis could bring them within the field. The Appellant then limited Claim 6 to its present form by combining it with the feature of granted Claim 11. There being no reference whatsoever in D6 to crushability, the so limited claim is clearly novel.

5.3.2 The Board does not share the Respondent's unsupported misgivings to the introduction of the term "crushability" as a limiting feature of a claim, this being allegedly not a term generally known and accepted in the art. In the Board's view this term is sufficiently well defined in the patent in suit, to be permissible as a claim feature. The Board does not see which objection under Article 83 of 84 EPC could stand in the way of that term.

5.3.3 In the light of the disclosure of D6 the technical problem underlying Claim 6 of the patent in suit can be seen in the provision of porous PTFE films having high coarseness and moderate to high MTS which, in addition, possess high mechanical stability under a load acting on the surface of the film.

According to Claim 6 this problem is to be solved by such films having CI and MTS within the boundaries of the field defined by the table in said claim as well as a crushability of less than 10%. (Crushability is

explained in the patent in suit, page 7, lines 53 to 61.) The Board is satisfied that the above problem is indeed solved by films with the features given in Claim 6.

- 5.3.4 Since D6 is silent as to the problem as well as the solution given in Claim 6, and since there is no pointer to this solution to be found in any other citation, this claim is not rendered obvious by the cited art.

Claim 6 in its present form therefore is not only novel but also inventive. The same holds true for the dependent Claims 7 to 12.

- 5.3.5 The Respondent raised the question of mutual overlap between the product claims, and in particular suggested that lacking novelty of one such claim would result in lack of novelty of some or all other product claims because of such an overlap. This is however moot because, as shown above, all the product claims are novel and allowable as they stand.

- 5.4 Claim 19 reads:

"A process for producing a porous material of polytetrafluoroethylene polymer, which material is in accordance with any one of the preceding claims, the material having been produced from paste-extruded polytetrafluoroethylene extrudate from which all extrusion-aid lubricant has been removed, characterised in that the process comprises the steps:

- (a) increasing the density of the dry extrudate to at least  $2.02 \text{ g/cm}^3$  at an elevated temperature less than the crystalline melt temperature of PTFE; and
- (b) stretching said densified dry extrudate at an elevated temperature less than the crystalline melt temperature."

5.4.1 The closest state of the art with regard to this process claim is considered to be D10, which describes microporous PTFE-tubes made by an extrusion process including a combined compressing and stretching step, by which the tube is drawn between a die and a plug. The tubes so produced have a high BP, high porosity and a low wall thickness/inside diameter ratio.

5.4.2 In the light of this prior art teaching, the technical problem underlying Claim 19 of the patent in suit can be seen in the provision of a process for the preparation of microporous PTFE products which are at the same time coarse and strong.

According to Claim 19 this problem is to be solved by providing an extrusion and drawing process for PTFE materials with an extra densification step preceding the stretching, in which the material is compressed to a density of at least  $2.02 \text{ g/cm}^3$ . In view of the existing, unchallenged evidence, the Board has no doubt that the claimed proposal indeed solves the existing problem.

5.4.3 D10 does not teach any densification to a specific value of density and even less to a density of  $2.02 \text{ g/cm}^3$ . In the process of D10, modest compression occurs during the drawing step, but no isolated compression or densification step before drawing is disclosed or suggested.

In addition, the effects of the process of D10 and the process of Claim 19 of the patent in suit are just opposite: According to D10 the BP increases when die and plug are used (page 3, lines 27 to 30, and Table 1, experiments 1 vs. 3 and 2 vs. 4, see BPs); according to the patent in suit densification is performed in order to increase the pore size, that is to decrease the BP.

- 5.4.4 Nor can any pointer to a separate step to increase the density prior to stretching be found in any of the other cited documents.

Thus the subject-matter of Claim 19 is novel and inventive. The same applies to the dependent Claims 20 to 31.

- 5.4.5 Nor can the Board accept the Respondent's attack against Claim 19 on the basis that its process may also be carried out such that products not within any of the product claims are obtained. On the one hand, the phrase "which material is in accordance with anyone of the preceding claims", at least when taken literally, would seem to exclude the possibility envisaged by the Respondent; on the other hand, this phrase may well be an unnecessary limitation, because a new and inventive process may also lead to known products.

6. The Respondent requested that the question be referred to the Enlarged Board of Appeal whether a measuring method developed/defined by the patentee for a parameter (appearing in a claim) is sufficiently disclosed if it is no generally known standard method and if the patent does not disclose all its necessary elements (see text of the question cited in point X above).

Article 112(1)(a) EPC provides for a referral if the competent Board considers that a decision by the Enlarged Board is required to ensure a uniform application of the law, or if an important point of law arises. This is not the case here because the question starts out on the wrong premise. As was explained in ground 4 above the measuring method was found to be sufficiently disclosed in the patent. Text and purpose of Article 83 EPC leave no doubt that its requirements are thus met. Even if one would consider the question in

the light of the requirements of Article 84 EPC the Board finds that a measuring method underlying a feature in a claim (a parameter) does not directly refer to the scope of the claim, that it does as such not constitute an essential feature and that it is therefore rightly put into the description (see also Rules 27(1)(c) and 29 EPC).

7. The minutes of the order of the decision given orally on 17 November 1994 and upholding the patent contained the term "to grant a patent". This must obviously have read: "to maintain the patent" and is to be considered corrected in that sense. The order therefore reads as follows:

#### **Order**

#### **For these reasons it is decided that:**

1. The Respondents' request concerning the referral of a point of law to the Enlarged Board is rejected.
2. The decision under appeal is set aside.
3. The case is remitted to the first instance with the order to maintain the patent on the basis of the main request as filed during the oral proceedings and a description to be adapted.

The Registrar:

The Chairman:

P. Martorana

F. Antony