

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**Datasheet for the decision  
of 6 August 2009**

**Case Number:** T 1212/07 - 3.3.09

**Application Number:** 96945046.9

**Publication Number:** 0920379

**IPC:** B32B 27/08

**Language of the proceedings:** EN

**Title of invention:**

Multi-layer articles comprising a fluoropolymer

**Patentee:**

MINNESOTA MINING AND MANUFACTURING COMPANY

**Opponent:**

Evonik Degussa GmbH

**Headword:**

-

**Relevant legal provisions:**

-

**Relevant legal provisions (EPC 1973):**

EPC Art. 54(3), (4), 123(2)

**Keyword:**

"Main, first and second auxiliary requests: Disclaimer - not allowable - removes more than is necessary to restore novelty;  
Third auxiliary request: reformatio in peius - yes"

**Decisions cited:**

G 0001/03, G 0001/99

**Catchword:**

-



Case Number: T 1212/07 - 3.3.09

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.09  
of 6 August 2009

**Appellant:** Evonik Degussa GmbH  
(Opponent) Bennigsenplatz 1  
D-40474 Düsseldorf (DE)

**Representative:** Godemeyer, Thomas  
polypatent  
Postfach 1107  
D-51482 Overath (DE)

**Respondent:** MINNESOTA MINING AND MANUFACTURING COMPANY  
(Patent Proprietor) 3M Center  
P.O. Box 33427  
St. Paul  
Minnesota 55133-3427 (US)

**Representative:** Vossius & Partner  
Siebertstrasse 4  
D-81675 München (DE)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
21 May 2007 concerning maintenance of European  
patent No. 0920379 in amended form.

**Composition of the Board:**

**Chairman:** P. Kitzmantel  
**Members:** J. Jardón Álvarez  
M-B. Tardo-Dino

## Summary of Facts and Submissions

I. The grant of European patent No. 0 920 379 in respect of European patent application No. 96945046.9 in the name of MINNESOTA MINING AND MANUFACTURING COMPANY, which had been filed on 23 December 1996 as International application PCT/US96/20652 (WO - 98/08679), was announced on 23 April 2003 (Bulletin 2003/17) on the basis of 12 claims. Independent Claim 1 read as follows:

"1. A multi-layer article comprising  
a substantially non-fluorinated layer,  
and a fluorinated layer of fluoropolymer  
comprising interpolymers of monomeric units  
derived from:  
  
one or more of hexafluoropropylene and  
tetrafluoroethylene monomers,  
one or more non-fluorinated olefinically  
unsaturated monomer(s),  
and no vinylidene fluoride monomer, the multi-  
layer article further comprising an aliphatic di-,  
or polyamine, the aliphatic di-, or polyamine  
providing increased adhesion between the layers as  
compared to a multi-layer article not containing  
the aliphatic di-, or polyamine."

Independent Claim 9 related to a method for increasing the adhesive bond strength between a fluoropolymer and a substantially non-fluorinated polymeric material by a multi-layer construction corresponding to Claim 1.

Independent Claim 10 related to a method corresponding to Claim 9 wherein the aliphatic di- or polyamine is applied to one or more of the substantially non-fluorinated layer and/or the fluorinated layer.

Independent Claim 11 related to a method of using a multi-layer article corresponding to Claim 1 by contacting it with a fluid.

Claims 2 to 8 and 12 were dependent claims.

II. Notice of Opposition requesting the revocation of the patent in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC), was filed by Degussa AG (now Evonik Degussa GmbH) on 21 January 2004.

The opposition was supported by the following documents:

D1: WO - A - 97/05196

D2: WO - A - 96/05964, and

D3: WO - A - 96/05965

III. By its interlocutory decision announced orally on 31 January 2007 and issued in writing on 21 May 2007, the Opposition Division held that the grounds for opposition raised by the Opponent did not prejudice the maintenance of the patent in amended form. The claims allowed by the Opposition Division were Claims 1 to 12 of the then pending main request filed by the Patent Proprietor with the letter dated 8 October 2004.

The set of claims allowed by the Opposition Division corresponded to the granted claims but limited in order to restore novelty against the disclosure of D1. Thus, Claim 11 was reformulated as dependent on Claim 1 and granted Claims 1 and 9 were amended by incorporation of the following disclaimer:

"with the proviso that the substantially non-fluorinated layer is not a layer comprising

- (i) a first polymer comprising an uncured unsaturated polymeric adduct, formed by reacting a polymer having unsaturation in the backbone of the polymer chain with an unsaturated dicarboxylic acid or dicarboxylic acid anhydride, wherein the acid or anhydride moieties comprise at least three weight percent of said adduct;
- (ii) an elastomer, different from said first polymer;
- (iii) a compound selected from the group consisting of polyamino primary amines, wherein the number of equivalents of component (iii) is equal to or greater than the number of equivalents of carboxylic acid moieties or anhydride moieties present in component (i); and
- (iv) a curing agent for the elastomer of component (ii)."

The Opposition Division in its decision acknowledged the novelty of Claims 1 and 9 because the disclaimer delimited their subject-matter against the disclosure of D1, a document relevant only under Articles 54(3) and (4) EPC, and the novelty of Claim 10 because the feature of "applying an aliphatic di-, or polyamine" was directed to a coating, a feature not disclosed in D1.

Concerning inventive step, the Opposition Division, pointed out that the subject-matter of the independent claims clearly excluded multilayer articles without interlayer adhesion. It acknowledged an inventive step for the claimed subject-matter essentially because both documents D2 and D3 taught that good adhesion to a fluoropolymer layer could only be achieved in the presence of aliphatic di- or polyamines in the multilayer structure if the fluoropolymer contained vinylidene fluoride units. It was therefore unexpected that this was also possible in the absence of such units in the fluoropolymer.

- IV. On 20 July 2007 the Opponent (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 20 September 2007, the Appellant requested the revocation of the patent in its entirety on the grounds of lack of novelty and lack of inventive step. The Appellant further contested the admissibility of the disclaimer allowed by the Opposition Division and pointed out that its deletion would contravene the principle of prohibition of *reformatio in peius*.

- V. With letter dated 4 April 2008 the Patent Proprietor (Respondent) requested that the appeal be dismissed and the patent be maintained with the claims in accordance with the decision of the Opposition Division (main request).

The Respondent further filed sets of claims for three auxiliary requests. Claims 1 - 9, 11 and 12 of the first and the second auxiliary requests are identical to the corresponding claims of the main request. The only amendment made to both sets of claims concerns Claim 10 which in the first auxiliary request specifies in step (c) that the aliphatic di-, or polyamine was applied as a "coating" to one or more "surfaces" of the non-fluorinated polymeric material and in the second auxiliary request was amended by insertion of the same disclaimer as introduced into Claims 1 and 9.

The claims of the third auxiliary request no longer include a disclaimer. The claims of this request correspond to the claims of the main request wherein Claim 1 has been replaced by amended Claims 1 and 2, and Claim 9 has been replaced by amended Claim 10. The remaining claims were renumbered. Amended Claims 1 and 2 of this request read as follows:

- "1. A multi-layer article comprising
- (a) a substantially non-fluorinated layer, and
  - (b) a fluorinated layer of fluoropolymer comprising interpolymers of monomeric units derived from:
    - one or more of hexafluoropropylene and tetrafluoroethylene monomers,
    - one or more non-fluorinated olefinically unsaturated monomer(s),
    - and no vinylidene fluoride monomer,
- the multi-layer article further comprising an aliphatic di- or polyamine, wherein the aliphatic di- or polyamine is applied as a coating to one or more surfaces of the substantially non-fluorinated

layer and/or surface of fluoropolymer and provides increased adhesion between the layers as compared to a multi-layer article not containing the aliphatic di- or polyamine.

2. A multi-layer article comprising
  - (a) a substantially non-fluorinated layer, and
  - (b) a fluorinated layer of fluoropolymer comprising interpolymerized monomeric units derived from:

one or more of hexafluoropropylene and tetrafluoroethylene monomers,  
one or more non-fluorinated olefinically unsaturated monomer(s),  
and no vinylidene fluoride monomer,

wherein the substantially non-fluorinated layer comprises a substantially non-fluorinated polymer selected from thermoplastic polyamides, polyurethanes, and polyolefins; optionally a tackifier; and further an aliphatic di- or polyamine, wherein the aliphatic di- or polyamine provides increased adhesion between the layers as compared to a multilayer article not containing the aliphatic di- or polyamine.

Independent Claim 10 of this third auxiliary request corresponds to Claim 9 as granted but amended by specifying the substantially non-fluorinated polymeric material in the same way as in amended Claim 2.

- VI. On 14 April 2009 the Board dispatched a summons to attend oral proceedings on 6 August 2009. In the attached communication the Board gave its preliminary



view on the case and drew the attention of the parties to the points to be decided during the oral proceedings.

- VII. By letters dated 3 June 2008 and 2 July 2009, the Appellant filed further arguments in support of its request.
- VIII. By letter dated 23 July 2009 the Respondent informed the Board that it would not attend the oral proceedings scheduled for 6 August 2009.
- IX. The arguments presented by the Appellant in its written submissions and at the oral proceedings insofar as they are relevant for the present decision may be summarized as follows:
- The Appellant contested the admissibility of the disclaimer added to the claims of the main, the first and the second auxiliary requests in view of G 1/03. The Appellant pointed out that the disclosure of Claim 29 of D1 which had been used by the Respondent to draft the disclaimer was not novelty destroying for the subject-matter of Claim 1 as granted. The reason for this was that the fluoropolymer layer B of Claim 29 of D1 did not anticipate the much narrower fluoropolymer definition of Claim 1 of the patent in suit, which was limited to polymers comprising units derived from "hexafluoropropylene and/or tetrafluoroethylene" and a "non-fluorinated olefin" without units from vinylidene fluoride. As a consequence the disclaimer removed more than was necessary to restore novelty and was therefore not allowable. Moreover the disclaimer did not in fact

restore novelty because the "polyamino primary amine carbamates" used in Claim 29 of D1 but not included in the disclaimer would form amines upon heating.

- The Appellant further argued that the third auxiliary request should not be allowed in view of G 1/99. The subject-matter of Claim 1 of this request, wherein the disclaimer had been deleted without adequate alternative restriction of the claim, put the Opponent/Appellant in a worse position than if it had not appealed. It pointed out that the three fallback positions suggested in G 1/99 to overcome the problem of an inadmissible amendment wrongly granted by the department of first instance should be narrowly construed, that independent Claims 1 and 2 of the third auxiliary request failed to adhere to the fallback position scheme offered by this decision and that the Patentee/Respondent would indeed have had the possibility to restrict the claim without putting the Appellant in a worse position than if it had not appealed. Under these circumstances these amended claims, whose scope was broadened with regard to the claims upheld by the Opposition Division, should not be admitted.
- X. The written arguments presented by the Respondent may be summarized as follows:
- The Respondent emphasized that neither the Opponent/Appellant nor the Opposition Division had raised an objection during the opposition proceedings against the suitability of the present disclaimer for delimiting granted Claims 1 and 9 over the

disclosure of D1. It stressed that the disclaimer was based on the disclosure of Claim 29 of D1 and that it was clear from the disclosure on page 11, lines 10 - 18 of D1 that the non-elastomeric fluoropolymer layer was only preferably composed of non-elastomeric tetrafluoroethylene polymers. Thus the disclaimer was drafted following the requirements of G 1/03 with respect to Article 123(2) and 84 EPC and should be allowed.

- The Respondent also filed auxiliary request 3 against the event that the Board of Appeal did not accept its arguments with respect to the disclaimer. Amended Claims 1, 2 and 9 of this request no longer included the disclaimer. Claim 1 was based on granted Claim 1 and required now that the di- or polyamine was applied as a coating; Claims 2 and 9 now required that the non-fluorinated layer comprised a non-fluorinated polymer selected from a short list of specific polymers. The Respondent did not comment on the principle of *reformatio in peius*, nor was any reason given why the claims of auxiliary request 3 fulfilled the criteria set out in G 1/99.

XI. The Appellant requested that the decision under appeal be set aside and that the European patent No. 0 920 379 be revoked.

The Respondent requested that the appeal be dismissed and the patent be maintained on the basis of the claims underlying the interlocutory decision of the Opposition Division (main request), or on the basis of amended claims as specified in the auxiliary requests 1 to 3 filed on 4 April 2008.

## Reasons for the Decision

1. The appeal is admissible.

### MAIN REQUEST AND AUXILIARY REQUESTS 1 AND 2

2. *Amendments (Article 123(2) EPC)*

- 2.1 The amendments made to the claims of these requests (cf. Claims 1 and 9 of the three requests and further Claim 10 of auxiliary request 2) comprise *inter alia* a disclaimer which excludes certain non-fluorinated layers (see point III, above).

- 2.2 This disclaimer has no basis in the application as filed and was introduced into these claims during the opposition proceedings in order to delimit the claims against the disclosure of D1, a document undisputedly forming part of the state of the art only according to Articles 54(3) and (4) EPC 1973.

- 2.3 According to decision G 1/03 of the Enlarged Board of Appeal (OJ EPO 2004, 413, Headnote II.1), an originally undisclosed disclaimer may be allowable and is considered as not extending the subject-matter of the application as filed within the meaning of Article 123(2) EPC if it restores novelty by delimiting a claim against state of the art under Article 54(3) EPC (see 2.1.3 of the reasons for the decision and 2.1 of the order). However, the disclaimer should not remove more than is necessary to restore novelty (see

point 3 of the reasons for the decision, 2.2 of the order and Headnote II.2).

- 2.4 In the present case, the disclaimer is based essentially on the disclosure of Claim 29 of D1. However, the fluoropolymer layer (B) of this claim does not anticipate the much narrower fluoropolymer definition of the patent, which is limited to polymers comprising units derived from "one or more of hexafluoropropylene and tetrafluoroethylene monomers" and "one or more non-fluorinated olefinically unsaturated monomer(s)" without units of "vinylidene fluoride". The only fluoropolymer composition of document D1 falling under the definition of the patent is the "copolymer of tetrafluoroethylene and ethylene" (cf. D1, page 11, lines 13 - 14).

The disclaimer thus removes subject-matter which does not anticipate the subject-matter of the present claims in the absence of the disclaimer. It thus inevitably removes more than is necessary to restore novelty vis-à-vis D1 and hence, does not amount to an allowable disclaimer.

- 2.5 The Board cannot accept the argument of the Respondent that the disclaimer should be allowed in view of the fact that according to the disclosure of D1 the copolymers of tetrafluoroethylene and ethylene are only preferred fluoropolymers because this issue has no bearing on the relevance of the respective disclosures, which is a matter to be judged independently. Just as unconvincing is the further argument of the Respondent that the disclaimer should not be attacked in appeal because it was not objected to during the opposition

proceedings. The fact that the Appellant did not object to the allowability of the disclaimer before the Opposition Division neither amounts to a surrender of the right to object nor has any legal effect as to the allowability of the disclaimer. Whether the disclaimer is allowable or not is a legal requirement and the very purpose of appeal proceedings is to check the correctness of conclusions drawn by the department of first instance in the decision which is now challenged by the Appellant.

- 2.6 For these reasons the introduction of the disclaimer into Claims 1 and 9 of the main and first auxiliary requests and into Claims 1, 9 and 10 of the second auxiliary request extends the subject-matter claimed beyond the content of the application as filed, contrary to the requirements of Article 123(2) EPC, with the consequence that the main request and auxiliary requests 1 and 2 are not allowable.

#### AUXILIARY REQUEST 3

#### 3. *Admissibility; Reformatio in peius*

- 3.1 Auxiliary request 3 was filed by the Respondent against the event that the Board did not accept the arguments with respect to the disclaimer. Claim 1 of this request is based on granted Claim 1 with:

- (i) addition of the feature that the "di- or polyamine is applied as a coating to one or more surfaces of the substantially non-fluorinated layer and/or surface of fluoropolymer" and
- (ii) deletion of the disclaimer.

3.2 The Appellant objected to the admissibility of this request having regard to the principle of *reformatio in peius*, reference being made to the findings of G 1/99 (OJ EPO 2001, 381).

3.3 It has to be decided whether the amended feature (i) meets the fallback positions in the way suggested in G 1/99, namely that in order to overcome the deficiency, the Patent Proprietor/Respondent should be allowed to file requests as follows (see point 15 of the reasons for the decision):

- in the first place, an amendment introducing one or more originally disclosed limiting 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, an amendment introducing one or more originally disclosed features, which extends the scope of the patent as maintained, but within the limits of Article 123(3) EPC; or
- finally, if such an amendment proves impossible, deletion of the inadmissible amendment maintained by the Opposition Division, but within the limits of Article 123(3) EPC, even if, as a result, the situation of the Opponent/Appellant is made worse.

3.4 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 exception should be construed narrowly.

3.5 In the present case the amendment proposed according to the third auxiliary request certainly does not

contravene Article 123(3) EPC, but it is undisputable that it would have been possible to limit the claim to subject-matter which would not put the Appellant in a worse situation than it was before it appealed, for example, by limiting the definition of the non-fluorinated layer to those non-fluorinated polymers not covered by D1 (i.e. by an amendment following the first and most preferential fallback position according to G 1/99). Hence, a claim where the non-allowable disclaimer is merely deleted and the non-fluorinated layer is not further restricted does not comply with the principles laid down in G 1/99 (supra). Therefore, Claim 1 of auxiliary request 3 is not allowable.

- 3.6 As noted under point 3.2, the Respondent was aware of this objection. Thus, in accordance with Article 15(3) of the Rules of Proceedings of the Boards of Appeal the Board was not obliged to delay its decision merely because the Respondent chose not to attend the oral proceedings, since it should have expected that the claims of auxiliary request 3 would be examined for compliance with the principle of *reformatio in peius*, because the Appellant had already raised this issue (see also appeal statement, page 5, under point 4 in relation to a possible deletion of the disclaimer).
- 3.7 For these reasons auxiliary request 3 must be rejected as inadmissible.



**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

G. Röhn

P. Kitzmantel