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**D E C I S I O N**  
**of 12 May 2005**

**Case Number:** T 0030/03 - 3.2.6

**Application Number:** 95928327.6

**Publication Number:** 0785762

**IPC:** A61F 13/15

**Language of the proceedings:** EN

**Title of invention:**

Laminate material and absorbent garment comprising same

**Patentee:**

Kimberly-Clark Worldwide, Inc.

**Opponent:**

The Procter & Gamble Company

**Headword:**

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**Relevant legal provisions:**

EPC Art. 84, 83, 54(2), 56

**Keyword:**

"Admissibility of amendment filed during oral proceedings

(yes) "

"Clarity (yes) "

"Sufficiency (yes) "

"Novelty (yes) "

"Inventive step (yes) "

**Decisions cited:**

T 1148/97

**Catchword:**

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Case Number: T 0030/03 - 3.2.6

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.6**  
**of 12 May 2005**

**Appellant:** The Procter & Gamble Company  
(Opponent) One Procter & Gamble Plaza  
Cincinnati, OHIO 45202 (US)

**Representative:** Bosotti, Luciano  
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**Respondent:** Kimberly-Clark Worldwide, Inc.  
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Neenah, Wisconsin 54956 (US)

**Representative:** Davies, Christopher Robert  
Frank B. Dehn & co.  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
6 November 2002 concerning maintenance of  
European patent No. 0785762 in amended form.

**Composition of the Board:**

**Chairman:** P. Alting van Geusau  
**Members:** G. Pricolo  
J. H. van Moer

## Summary of Facts and Submissions

I. The appeal is from the interlocutory decision of the Opposition Division posted on 6 November 2002 concerning the maintenance in amended form of European patent No. 0 785 762, granted in respect of European patent application No. 95 928 327.6.

In the decision under appeal the Opposition Division considered that the patent in suit as amended in accordance with the main request filed during the oral proceedings met the requirements of Articles 83 EPC and that claim 1 was in line with Article 84 EPC. Having disregarded document

D11: EP-A-0 106 473

because late filed and being prima facie not relevant, the Opposition Division held that the claimed subject-matter was novel and also involved an inventive step over the available prior art represented in particular by document

D1: EP-B1-0 140 560.

II. The appellant (opponent) lodged an appeal, received at the EPO on 18 December 2002, against this decision and simultaneously paid the appeal fee. With the statement setting out the grounds of appeal, received at the EPO on 12 March 2003, the appellant again filed document D11 and also filed affidavits of Mr L. R. Gilliam, Mr W. H. Hood, Ms N. M. Myers.

III. In an annex to the summons for oral proceedings pursuant to Article 11(1) Rules of Procedure of the Boards of Appeal the Board expressed its doubts concerning the clarity of the amended claim 1 as allowed by the Opposition Division. The Board then stated the reasons for which it considered that the conclusion of the Opposition Division in respect of sufficiency of disclosure could be followed and expressed its intention to admit document D11 into the proceedings.

IV. Oral proceedings took place on 12 May 2005.

The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent (patentee) requested that the patent be maintained on the basis of claims 1 to 29 and the description as filed during the oral proceedings, with the figures of the patent as granted.

V. Independent claims 1 and 25 of the appellant's sole request read as follows:

"1. A laminate material, said laminate material comprising a first layer of material having a colouration and a second layer of material having a different colouration than said first layer of material; said first layer of material having opaque and transparent areas; and whereby the colouration of said second layer of material is visible through said transparent areas of said first layer of material to a greater extent than through said opaque areas of said first layer of material; characterised in that said first layer of material is a fibrous polymeric nonwoven

material, and the opaque areas have a high surface area relative to said transparent areas, wherein said transparent areas are film-like and have been formed by application of heat."

"25. A process for forming a laminate material, comprising the steps of:

(i) forming a first layer of polymeric fibrous nonwoven material, the material having opaque areas and a colouration;

(ii) applying heat to portions of the first layer of material to reduce the surface area of portions of said first layer of material to form film-like light transparent areas; and

(iii) bonding a second layer of material to the first layer of material, the second layer of material having a different colouration than the first layer of material,

whereby the colouration of the second layer of material is visible through the transparent areas of the first layer of material to a greater extent than through the opaque areas of the first layer material."

VI. The appellant objected to the admissibility of the amended claims because filed very late, namely during the oral proceedings which was the final stage of the appeal proceedings.

During the oral proceedings the appellant maintained, but did not comment further on, the objection of insufficiency of disclosure. The arguments presented in writing in this respect were based on the assumption made by the Opposition Division that the invention consisted in the thermal energy being "high enough" for

providing the desired reduction of the surface area. In fact, the person skilled in the art was not given precise indications in respect of how to determine whether the thermal energy was high enough when it was applied as a result of the mechanical action of embossing rolls only.

In claim 1 it was not clear what structural features of the product were obtained as a result of the process step according to which the transparent areas were formed by application of heat. Independent claims 1 and 25 did not clearly define whether they encompassed only application of heat from the outside or also application of heat as a result of a mechanical process such as the embossing process referred to in the description of the patent in suit. The definition of claim 25 that the opaque areas were formed first and the transparent areas afterwards was not clear because, considering that the terms "opaque" and "transparent" had no precise meaning, the opaque areas could only be identified when also the transparent areas were formed.

D1 disclosed a laminate material having the features defined in the preamble of claim 1. According to D1, transparent areas were formed by co-embossing a first layer of fibrous polymeric nonwoven material and a second layer of material. Since the co-embossing process generated heat within the materials, these transparent areas were indeed formed by application of heat. In fact, the embossed areas in the fibrous material could only be film-like, namely areas being continuous and non-fibrous, otherwise they would not be transparent. Moreover, the disclosure of D1 was to be regarded as incorporating, by way of citation, the

teaching of D11 concerning the use of heated embossing rolls. Therefore, the subject-matter of claim 1 was not novel over D1.

In any case, the subject-matter of claim 1 did not involve an inventive step in the light of the prior art represented by D1 and D11. As they originated from the same inventor, D1 and D11 should be seen in their historical sequence, i.e. starting with D11 which was antecedent to D1. In order to solve the problem of improving the visual contrast of the pattern on the laminate material of D11, the skilled person was taught by D1 to select a polymeric material for the first layer and different colourations of the first and second layers. Although D11 and D1 did not expressly refer to film-like transparent areas, these were obtained as a direct result of the use, in the embossing process according to D11, of a first layer consisting of fibrous polymeric nonwoven material. The skilled person would arrive at the subject-matter of claim 1 also starting from document D1. The problem underlying the patent in suit was already solved by D1 and the only feature not explicitly derivable from the disclosure of D1 was that the transparent areas were film-like. Whether the transparent areas were film-like or not depended on the particular selection of the material for the first layer. The skilled person would make this selection depending on the use for which the laminate material was intended. No inventive step could be recognized in the selection of a polymeric material which, when used in the first layer of the laminate material of D1, would directly provide film-like transparent areas. These arguments also applied, in an analogous manner, to the independent method claim 25.

VII. In support of its request the respondent relied essentially on the following submissions:

The amendments made in accordance with the request filed during oral proceedings were admissible because they did not introduce new issues. They resulted from the combination of granted claims and further restricted the claims previously on file.

When read in combination with the features that the first layer of material was a fibrous polymeric nonwoven material and that the transparent areas were film-like, the feature of claim 1 that these areas were formed by application of heat made clear that in the transparent areas the polymeric fibres were no longer present, having been melted by the application of heat. The wording of the independent claims was clear and encompassed both the application of heat from the outside as well as the development of heat within the material as a result of a mechanical process. As regards the appellant's objection based on the fact that claim 25 defined that the opaque areas were formed first and the transparent areas afterwards, there were no difficulties for the skilled person to understand the intended meaning of the claim.

D1 did not disclose to form film-like transparent areas by melting the fibres of a layer of material. The teaching of D1 was in fact restricted to the application of a gentle embossment to the first layer so as to maintain the capacity thereof to accept liquid. The application of pressure as disclosed by D1 would simply densify the material. Furthermore, the



materials disclosed in D1 for the first layer were not such to provide film-like areas because they either consisted of a mixture of polymeric and cellulosic fibres or of polyester/polyethylene conjugate fibres. In fact, the cellulosic fibers and the high melting point polyester portion of the conjugate fibres did not melt when carrying out the embossing step, even if it was carried out with heated rollers as disclosed by D11. Thus, since the provision of film-like transparent areas was neither disclosed nor suggested by the available prior art, the claimed subject-matter was novel and involved an inventive step.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Admissibility of amendments*

The appellant's objected to the admissibility of the respondent's request filed during the oral proceedings of 12 May 2005.

The respondent filed the amended request during the oral proceedings to overcome the objection under Article 84 EPC raised by the Board in the annex to the summons for oral proceedings, according to which it was not clear what features of the claimed laminate were implied by the expression "by the application of thermal energy".

The amendments of claims 1 and 25 result essentially from the combination of granted claims. Compared to the

claims of the patent in the form as allowed by the Opposition Division, the independent claims are restricted to the first layer of material being a fibrous polymeric nonwoven material, one of the various materials previously referred to in claim 1, and to the transparent areas being film-like in accordance with the definition of previous dependent claim 3. As regards this latter feature, its relevance was already underlined by the respondent in the written proceedings (under point 4 of the letter dated 17 October 2003 the feature is described as inherently present in the transparent areas). Furthermore, the expression "application of heat" was introduced in response to the objections raised by the appellant during the oral proceedings in respect of the expression "application of temperature" (which was present in the granted claims forming the basis for the proposed amendments). Accordingly, the new request does not contain any elements of surprise for the appellant.

Under these circumstances, the Board considers that the respondent's request should be admitted into the proceedings, despite it having been filed late (see in this respect for instance decisions T 1148/97, point 3.1, cited in the Case Law of the Boards of Appeal, fourth edition 2001, page 548).

3. *Article 123(2) and (3) EPC*

The independent claims result from a combination of granted claims in which "application of temperature" is replaced by "application of heat" in accordance with the disclosure in the application as filed (see in particular page 5, line 19). The dependent claims

likewise correspond to dependent claims of the patent as granted which are also supported by the disclosure of the original application.

The description was amended to reflect the amendments made to the independent claims.

Hence, the amendments made to the patent in suit do not give rise to objections under Article 123(2) and (3) EPC. In fact, this was not questioned in the appeal proceedings.

4. *Clarity (Article 84 EPC)*

The appellant objected to the presence in claim 1 of the process step according to which the transparent areas were formed by application of heat. In the Board's view, however, such reference to a process step in the product claim 1 does not render it unclear. On the contrary, taken in combination with the features of claim 1 that the first layer of material is a fibrous polymeric nonwoven material and that the transparent areas are film-like, it serves to clarify the structure of the first layer in the transparent areas. In fact, it is clear for a skilled person that film-like areas obtained in a fibrous polymeric nonwoven material by the application of heat can only be areas in which, due to the heat resulting in a softening or melting of the fibres (cf. par. [0017] of the patent in suit), fibres are no longer present but instead areas are provided in which the polymeric material forms substantially continuous agglomerates. In fact, this interpretation of the expression "film-like areas" was not contested by the appellant.

The appellant further objected that the independent claims did not clearly define whether they encompassed application of heat from the outside or also application of heat purely as a result of a mechanical process. Since the definition "by application of heat" is independent from the manner in which the heat is applied and the person skilled in the art knows that heat can be applied either directly (e.g. by means of a heated tool) or by means of a mechanical action (by friction; cf. also par. [0022] of the patent in suit) it is clear that the above-mentioned possibilities both fall under the definition of the independent claims.

Finally, the appellant objected to claim 25 defining that the opaque areas were formed first and the transparent areas afterwards. The Board accepts the appellant's view that the terms "opaque" and "transparent" have no precise meaning and that, therefore, the opaque areas can only be identified when also the transparent areas are formed. However, this definition does not result in a lack of clarity in the context of the claimed process, where it is clear for the skilled reader that before forming the transparent areas the first layer of material must be such to have areas which, after having formed the transparent areas and relatively to them, will be identifiable as opaque.

Therefore, the amendments do not introduce lack of clarity and accordingly meet the requirements of Article 84 EPC.

5. *Sufficiency of disclosure (Article 83 EPC)*

With the communication annexed to the summons for oral proceedings, the Board informed the parties of its preliminary opinion that the conclusion of the Opposition Division in respect of sufficiency of disclosure could be followed in view of the fact that the determination of the specific amount of energy to form the transparent areas did not require more than a reasonable amount of trial and the normal skills of the ordinary practitioner.

In the course of the oral proceedings the appellant decided not to comment further on the objection of insufficiency of disclosure. Since the Board does not see any reason to change its opinion, it is therefore justified in basing its decision on the above-mentioned reason given in the communication.

6. *Novelty*

- 6.1 Document D1 undisputedly discloses a laminate material having the features defined in the preamble of claim 1, namely a first layer of material (outer cover 16) having a colouration and a second layer of material (interior layer 21) having a different colouration than said first layer of material; said first layer of material having opaque and transparent areas (depressed areas 18); and whereby the colouration of said second layer of material is visible through said transparent areas of said first layer of material to a greater extent than through said opaque areas of said first layer of material (see column 2, lines 52 to 65).

In accordance with the teaching of D1, the first layer of material can consist of different materials, for example woven or nonwoven fabrics including cellulose fibres, synthetic fibres or mixtures thereof (see column 5, lines 16 to 22: in particular nonwoven fabrics consisting of synthetic fibres comprising polyolefins). D1 further discloses (see column 6, line 46 ff.) that it is essential that the first and second layers are co-embossed by placing the second layer (interior layer 21) into face-to-face relationship with the interior surface of the first layer (cover 21) and impressing the pattern of depression (18) into the exterior surface of the first layer, whereby the depressed areas are rendered relatively translucent (column 8, lines 22 to 33). Having regard to the fact that the materials disclosed in D1 for the first layer do not necessarily comprise only a polymeric material, but may consist of cellulose fibres or a mixture of cellulose fibres and polymeric fibres (column 5, lines 16 to 22), and that in such case the depressed areas cannot go film-like during the co-embossing step, it is clear for the skilled person that the general purpose of the co-embossing step is not to provide film-like depressed areas in which there are substantially continuous agglomerates of material, but merely to densify the fibrous material of the first layer so that the underlying coloured layer can visually show up. Moreover, there is no disclosure in D1 that, if a fibrous polymeric nonwoven material is selected from the list of equivalent materials given in D1 for the first layer, then the co-embossing step should be of such intensity to apply sufficient heat to the polymeric material as to form substantially continuous agglomerates of polymeric material. In fact,

as clearly shown also by the affidavits filed by the appellant with the statement of grounds of appeal (see in particular point 5 of the affidavit of L. R. Gilliam,) the fibres of a nonwoven web experience viscous and plastic flow only when the thermal energy applied reaches a certain threshold.

The appellant referred to the embodiment of Figure 6 where no fibres at all are shown in the depressed areas 18 thus making clear that film-like areas are formed there. Figure 6 illustrates a panty liner which does not utilize the teaching of D1 (see column 8, lines 34 to 46). As a matter of fact, the first and second layers are not co-embossed but the pattern of depressed areas is first imposed into the first layer and then the first and second layers are placed into face-to-face relationship. In the panty liner of Figure 6 the materials used are the same as in the embodiment of Figure 5 where the first layer (cover 16) comprises 35% wood pulp fibres and 65% conjugate fibres having a polyester core and a high density polyethylene sheath (column 7, lines 45 to 55). Due to the substantial amount of wood pulp fibres, film-like areas are not formed.

- 6.2 D11, which was disregarded by the Opposition Division because not filed in due time, was filed again by the appellant with the statement of grounds of appeal. The introduction of this document in the appeal proceedings, in accordance with the Board's intention announced in the annex to the summons for oral proceedings, was not contested by the respondent who in fact already extensively commented upon D11 in its letter of reply to the grounds of appeal. Accordingly, D11 is

introduced into the appeal proceedings pursuant to Article 114(1) EPC.

D11 discloses a laminate material (see Figure 2) comprising a first layer (sheet 28) and a second layer (insert 30). It does not disclose whether these layers have a different colouration. Nor does it disclose the formation of film-like transparent areas. In fact, according to the teaching of this document, a pattern of depressed areas (18) is embossed on the laminate when the first and second layers are superimposed (see page 12, lines 11 to 18). The embossment can be done by means of rolls heated to a moderate temperature from about 90 °C to about 125 °C (see page 11, last paragraph). The first layer can consist of different materials selected from (see page 9, line 12 to page 10, line 5) a mixture of wood pulp fibres and polymeric fibres and a thermal bonded nonwoven fabric comprising a mixture of absorbent fibres (such as wood pulp or other cellulosic fibres) and polyester/polyethylene conjugate fibres comprising a polyester core surrounded by a sheath of polyethylene. If wood pulp fibres are used, no film-like transparent areas are formed because the wood pulp fibres do not soften or melt during the co-embossing step. But also if the polyester/polyethylene conjugate fibres are used no film-like transparent areas are formed because the softening and melting temperatures of polyester are well above the "moderate temperature" of from about 90 °C to about 125 °C of the embossing rolls used in D11. Furthermore, the co-embossing step in D11 does not have the purpose of compressing the first layer to reduce its thickness to such an extent that a film-like area is formed. The appellant referred in this respect to



the disclosure in D11 of the depressions extending to a depth of at least 90% and even as much as 500% of the thickness of the uncompressed sheet (page 8, lines 5 to 15). However, the cited passage of D11 does not refer to the **reduction of thickness** of the layer in the depressed areas but to the **depth of the depressions** which extend into the second layer (the insert) as a result of the simultaneous embossing (co-embossing) of the first and second layers (see page 8, lines 3 to 5 and see Figure 2 where the depressions 18 clearly extend into the second layer 30).

6.3 The appellant further referred to the cross-reference to D11 in D1 (column 7, lines 6 to 10) being such as to incorporate in D1 the teaching of using heated rolls for embossing. In the Board's view the cited reference to D11 in D1 is not so specific to consider this teaching to be part of the disclosure of D1 (see e.g. T 153/85, OJ 1988, 001). However, even in such a (hypothetical) case the disclosure of D1 could only be regarded as including the use of embossing rolls heated at a moderate temperature from about 90°C to about 125°C, whereby there would still be no disclosure of film-like areas in D1 as this document does not mention the use of fibres of polymeric material which soften or melt at such moderate temperatures.

6.4 Since also the other available documents do not disclose a layer of fibrous polymeric nonwoven material having transparent film-like areas formed by application of heat, the subject-matter of claim 1 is novel over the available prior art.

7. *Inventive step*

7.1 Document D1 represents the closest prior art because it is directed to the same object underlying the patent in suit of providing indicia on the external surfaces of absorbent products (par. [0004] of the patent in suit) and it achieves this object in the manner which is the most similar to the solution in accordance with the patent in suit, namely by means of first and second layers having a different colouration, the colouration of the second layer being visible through transparent areas of the first layer.

Since the combination of features of claim 1 of the patent in suit does not result in any technical effects going beyond those obtained with the laminate material according to D1, nor has the respondent referred to any such effects, the objective technical problem solved by the laminate material according to claim 1 can only be seen as providing an alternative method of imposing indicia on the external surface of a laminate material.

7.2 In accordance with the definition of claim 1 of the patent in suit, this alternative manner of providing the indicia comprises the provision of film-like transparent areas that have been formed by application of heat.

The available prior art does not disclose this distinguishing feature (see above point 6). It also does not include any indications that would suggest to the skilled person the provision of this feature in the laminate material according to D1. In fact, as explained above, D1 refers to the provision of

transparent areas by means of an embossing step having as an effect to densify the fibres of the nonwoven layer, whereby the colouration of the underlying layer becomes visible due to the reduced thickness of the nonwoven layer. There is no hint in D1 to obtain this same result by modifying the structure of the nonwoven layer such that, in the depressed areas, the fibrous characteristics are no longer present but instead a film-like structure is provided as a result of the softening or melting of the fibres by means of the application of heat. As regards D11, it is not concerned with the formation of transparent areas at all, because the deep depressions imposed in the body-facing side of the absorbent article do not have the purpose of making visible an underlying layer: the pattern indicia on the surface of the absorbent article is visible because of the visual contrast due to the deep depressions themselves (page 8, lines 1 to 5).

- 7.3 The appellant's arguments in respect of inventive step are based on the assumption that by selecting a polymeric material for the first layer, either in the laminate material of D1 or in the laminate material of D11, a skilled person would directly arrive at the formation of transparent film-like areas.

However, the formation of such transparent film-like areas does not merely require a selection of a polymeric material, but the **combination** of such selection with the selection of appropriate process conditions resulting in an application of heat sufficient to soften or melt the fibres of that polymeric material. As explained above, D1 and D11 do not give any hint for such combination.

- 7.4 For these reasons, the subject-matter of claim 1 is not obvious in the light of the available prior art and therefore involves an inventive step (Article 52(1), 56 EPC).
8. Since the process for forming a laminate material according to claim 25 directly results in a laminate material having all the features of claim 1, the subject-matter of claim 25 of the patent in suit is novel and involves an inventive step on the same grounds.
9. Dependent claims 2 to 24 and 26 to 29 define further embodiments of the laminate material of claim 1 and of the process of claim 25 and likewise involve an inventive step.
10. Therefore the patent specification amended in accordance with the respondent's request forms a suitable basis for maintenance of the patent in amended form.

**Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:

**claims:** 1 to 29 filed during the oral proceedings of 12 May 2005;

**description:** columns 1 to 10 filed during the oral proceedings of 12 May 2005;

**drawings:** figures 1 to 3 as granted.

The Registrar:

The Chairman:

M. Patin

P. Alting van Geusau