

BESCHWERDEKAMMERN  
DES EUROPÄISCHEN  
PATENTAMTS

BOARDS OF APPEAL OF  
THE EUROPEAN PATENT  
OFFICE

CHAMBRES DE RECOURS  
DE L'OFFICE EUROPEEN  
DES BREVETS

**Internal distribution code:**

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

**Datasheet for the decision  
of 26 January 2007**

**Case Number:** T 0014/05 - 3.2.06

**Application Number:** 95830255.6

**Publication Number:** 0749740

**IPC:** A61F 13/15

**Language of the proceedings:** EN

**Title of invention:**

Perforated dual topsheets for absorbent articles

**Patentee:**

THE PROCTER & GAMBLE COMPANY

**Opponent:**

Kimberly-Clark Worldwide, Inc.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

"Main request, inventive step (no)"

"Auxiliary request, inventive step (no)"

**Decisions cited:**

T 0279/89

**Catchword:**

-



Case Number: T 0014/05 - 3.2.06

**DECISION**  
of the Technical Board of Appeal 3.2.06  
of 26 January 2007

**Appellant:** Kimberly-Clark Worldwide, Inc.  
(Opponent) 401 North Lake Street  
Neenah, Wisconsin 54956 (US)

**Representative:** Davies, Christopher Robert  
Frank B. Dehn & Co.  
St Bride's House  
10 Salisbury Square  
London EC4Y 8JD (GB)

**Respondent:** THE PROCTER & GAMBLE COMPANY  
(Patent Proprietor) One Procter & Gamble Plaza  
Cincinnati, Ohio 45202 (US)

**Representative:** Boon, Graham Anthony  
Elkington and Fife LLP  
Prospect House  
8 Pembroke Road  
Sevenoaks  
Kent TN13 1XR (GB)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 20 October 2004  
rejecting the opposition filed against European  
patent No. 0749740 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** P. Alting Van Geusau  
**Members:** M. Harrison  
R. Menapace

## Summary of Facts and Submissions

- I. The appellant (opponent) filed an appeal against the opposition division's decision rejecting the opposition against European patent EP-B-0 749 740.

The appellant's grounds of appeal related to lack of inventive step and were based on the following references:

D1: EP-A1-0165807

D2: US-3 929 135

D3: US-4 324 246

D4: US-4 323 069

D5: US 4 342 314

- II. The respondent (proprietor) requested dismissal of the appeal.
- III. The Board issued a summons to oral proceedings, together with a communication stating its provisional opinion, including an analysis of the features of granted claim 1 in comparison to D1.
- IV. During the oral proceedings held on 26 January 2007, the respondent also filed an auxiliary request for maintenance of the patent in an amended form. In support of its inventive step arguments, the respondent provided a sheet summarising the ranges of apex diameters/areas relating to D2 and D5.
- V. Claim 1 of the main request (i.e. claim 1 as granted) reads as follows, whereby the lettering (a) to (p) has

been inserted by the Board to identify particular features for later reference:

- "**(a)** Absorbent article having fast liquid intake, low rewet, and good masking performance,
- **(b)** said article comprising a topsheet, a backsheet, and an absorbent structure placed between said topsheet and said backsheet, said topsheet having a wearer facing surface and a garment facing surface and said topsheet comprising
  - **(c)** a first passage layer, said first passage layer provides said user facing surface of said topsheet, and
  - **(d)** a second passage layer,
  - **(e)** said second passage layer is placed between said first passage layer and said absorbent structure,
  - **(f)** both said passage layer are preferably joined to each other,
  - **(g)** said first passage layer is provided by a film material having large apertures for liquid transport,
  - **(h)** said large apertures have an individual open area in the range from 1.4 mm<sup>2</sup> to 3.0 mm<sup>2</sup>,
  - **(i)** said large apertures have a total open area in the range from 5% to 20% of the total area of said first passage layer,
  - **(j)** said liquid transport apertures have a largest inner diagonal length and a smallest inner diagonal length, the ratio of said largest to said smallest inner diagonal length being in the range from 1 to 6 for any individual aperture,
  - **(k)** said liquid transport apertures have walls which depend at least 0.3 mm from the surface of said film, said walls depend in a direction towards said garment facing surface,

- (l) said film material being rendered hydrophilic such that it forms a contact angle of less than 90 degrees with distilled water upon first contact with distilled water, said absorbent article characterized in that:
  - (m) the second passage layer is provided by a high loft fibrous material,
  - (n1) said fibrous material having a void volume of more than 50%, and (n2) a thickness of at least 0.3 mm,
  - (o) said fibrous material being at least as hydrophilic as said film material of said first passage layer,
  - (p) said fibrous material having a basis weight from 20 g/m<sup>2</sup> to 100 g/m<sup>2</sup>."

VI. In claim 1 of the auxiliary request, the following wording is inserted into claim 1 of the main request (between features (o) and (p)):

"said fibrous material comprises fibres which have a thickness from 1.5 to 10 x 10<sup>-7</sup> kg/m (decitex) and said fibres are selected from synthetic fibres, artificial fibres, or mixtures thereof."

VII. The appellant's arguments relevant to the decision may be summarised as follows:

*Main request:*

- (i) D1 disclosed all features of claim 1 apart from features "(k)" and "(p)". Contrary to the respondent's allegation, features (h), (i), (l), (n1) and (n2) were disclosed in D1 as follows:
  - feature (h) - see e.g. page 9, middle paragraph -

gross foramina diameter range of 1.25 to 9.53 mm, which at the lower end was very close to the claimed range when conical as taught in D2 (which was a part of the disclosure in D1) the apex would be exactly within the range; feature (i) - see e.g. page 10, first three lines - stating an open area of "5 to 30%"; feature (l) - see e.g. page 10, second full paragraph - stating "preferably, the apertured topsheet is hydrophilic"; feature (n1) - see e.g. page 15 second paragraph - disclosing a density of 0.01 to 0.5 g/cm<sup>3</sup> and - page 14, penultimate paragraph - disclosing polyester as the preferred fibres; feature (n2) - see e.g. page 13, fourth paragraph to page 15, second paragraph - disclosing the compressible, conformable and comfort enhancing nature of the resilient layer, as well as the example on pages 18 and 19 using an 11.4 mm thick layer.

- (ii) Although the Board had concluded that features (h), (i), (k), (n1) and (p) were not disclosed in combination in D1, these features in combination anyway involved no inventive step.

For the problem of improving rewet performance while at the same time providing large apertures (see patent paragraph [0008]), the skilled person would have turned to D2 as this was mentioned specifically on page 8 of D1 as being a preferred topsheet. D2 solved rewet problems, while still allowing free transfer of fluids into the absorbent core (col. 2, lines 27 to 33), by using conical, downwardly extending apertures. The provision of larger apertures than normally present in

porous topsheets was disclosed in D1 on page 9, first paragraph. The open area percentage of the topsheet was disclosed on page 10. The combination of D1 and D2 thus led to the combination of features (h), (i) and (k) together with the other features of claim 1 already in D1, because if rewet by use of simple cut-out apertures in D1 was deemed insufficient, the use of larger foramina with conical depending walls was the obvious solution. D2 notably also related to foramina diameters of up to 0.254 cm (see e.g. col. 4, line 27), even if these were not the preferred range in D2. The use of a depending wall of at least 0.3 mm was obvious from D2, because D2 disclosed a range from 0.008 to 0.404 mm, it being evident to use a value of 0.3 mm or greater with larger holes. The range of areas quoted in D1 for the large foramina at the lower end thereof was very close to the lower end of the range defined in claim 1; it would not be an inventive choice to operate just above the lower end of the disclosed range. The open area of 5 to 30% disclosed in D1 was simply an appropriate and obvious selection for allowing sufficiently fast intake.

The remaining features, (n1) and (p), were non-inventive selections from D1 and had nothing to do with solving rewet problems. These would be used respectively to optimise liquid uptake by providing a high void volume on the one hand and optimising the absorbent capacity, or selecting a desired product thickness, on the other. The basis weight was not a relevant factor in rewet consideration and was not even mentioned as an important quality; the preferred example was an isolated example of basis weight and thus of little significance.

Regarding the problem (paragraph [0008]) of "improving masking", the features of claim 1 did not provide a solution to this; the claim covered cases where all large apertures were in the topsheet central area, resulting in little if any masking. Neither masking nor its measurement was elucidated in the patent; the comparative tests did not prove masking improvement.

*Auxiliary request*

Claim 1 defined that the fibrous layer "comprised" fibres of a particular decitex range; the amount of fibres was however undefined, thus claim 1 covered a layer with only a few such fibres. No technical effect would be achieved in such a case, showing that the introduced feature was an arbitrarily chosen parameter value. The subject-matter was obvious for the same reasons as applied to claim 1 of the main request.

VIII. The respondent's arguments relevant to the decision may be summarised as follows:

*Main request:*

- (i) D1 failed to disclose features (h), (i), (k), (l), (n1), (n2) and (p). While D1 notionally mentioned some of these features, no indication of their use in combination in the same context could be found. As regard feature (h), the patent defined in paragraph [0031] that aperture area was measured across the plane of smallest cross section; in D1 the large foramina were quoted in terms of equivalent hydraulic diameter, with no indication



of where this was measured; if the foramina were to be made in accordance with D2 with a depending walled conical aperture, which was anyway disputed, the smallest area would be at the apex. Whether the measurement should be taken at the base or the apex of such a conical aperture was unknown, but anyway the preferred range in D2 resulted in values laying outside the claim. Feature (i) was not disclosed in D1 apart from in specific relation to the presence of a sheet with 15% to 52% fine foramina, and also not in combination with several other elements of the claim. Feature (k) was undisputedly not disclosed in D1; no reason for choosing this feature existed in D2, which dealt with only small size apertures, even if D2 were to be incorporated into the inherent disclosure of D1. Regarding feature (l), D1 disclosed both hydrophilic and hydrophobic sheets, so the skilled person had to choose between these sheets and the only example in D1 notably used a hydrophobic sheet. In relation to feature (n1), the void volume was unspecified in D1, the absorbent layer was inadequately described and the desired properties of the resilient layer on page 15 were too vague to draw any conclusions on this value. The void volume calculation provided by the appellant was based on the preferred example, where the topsheet was anyway hydrophobic. The thickness of the sheet according to feature (n2) was not implied by D1 merely because the sheets were "compressible" and "conformable"; very thin sheets also provided these characteristics; the "comfort" aspect resulted from reduced rewet, not the sheet

thickness. The lack of feature (p) in D1 was not disputed by the appellant.

- (ii) Starting from D1, features (h), (i), (k), (n1) and (p) in combination involved an inventive step. The problems to be solved were fast liquid intake, good rewet and good masking, which together formed a single concept. Masking, although not defined in the patent, meant reducing visibility of exudates on or in the article when viewed through the topsheet. Fast intake could be provided by larger apertures, but no teaching regarding masking at the same time as fast intake was provided by D1 or D2. The reference to D2 in D1 had to be seen in context; page 8 of D1 discussed a film which was itself generally porous by small foramina and D2 was mentioned only in this context. D1 disclosed large foramina, but not with depending walls. The open areas in D1, even if circular foramina were present, varied between  $1.227 \text{ mm}^2$  and  $71.3 \text{ mm}^2$  and the preferred example was at about  $31 \text{ mm}^2$ . Thus, it would be understood that feature (h) in the claim was purposefully chosen for solving the problem of masking, since, together with feature (k), the fibrous layer beneath the outer surface of the topsheet was masked from view unless it were viewed directly through the apertures. Even when viewed directly, the light which entered through the topsheet could not freely illuminate the entire fibrous surface on which exudates would be present, because free reflection of light passing through the topsheet was blocked by the depending walls. This provided a type of "tunnel" effect whereby a smaller surface area was visible through

the extended apertures, and the smaller surface area was itself less illuminated. D2 was silent on this.

The values of the open area at the large foramina apex were too small to allow fast entry of fluid because the maximum preferred range value quoted in D2 corresponded to an apex area of about 0.2 mm<sup>2</sup>, well outside the claim. D2 thus did not teach large foramina with depending walls. Additionally, the incorporation of D2 in D1 was made in a section referring also to D3, D4 and D5; D1 did not teach the reader that each of D2 to D5 could be used in D1, but simply that a film as generally known from these documents could be used, namely one which was hydrophobic yet permeable due to small apertures.

Further, the feature (i) was specifically chosen in combination with features (h) and (k) because this limited the maximum area to an amount where the masking by such foramina was particularly effective.

The underlying second passage layer, defined in part by features (n1) and (p), contributed to masking since it was specifically constructed to allow removal of fluid quickly through it into the core beneath.

Regarding rewet performance, D1 only disclosed that larger foramina could be used because a resilient layer was present. In D1, the resilient layer was exemplified only by a large "cushion"

layer of 11.4 mm thickness and 114 g/m<sup>2</sup> basis weight. A reduction of the basis weight below 114 g/m<sup>2</sup> was not taught and indeed was the only example in D1 to guide a skilled person. Further, page 9 of D1 did not imply that gross foramina should be formed by the same method used for fine foramina having depending walls as in D2. The broad range of apertures size in D2 (col. 2, lines 23 to 26) was merely a result of application drafting technique used to cover a very large range without any real intention of such a range being used, or providing a disclosure of how it would be used. The preferred range of aperture size in D2 was the only relevant range, as was evident from their method of manufacture. Finally, the "free transfer" of fluid by the apertures in D2 as mentioned in col. 2, lines 27 to 33 did not refer to the possibility of large apertures at the apex, but merely to the taper angle of the apertures allowing a free transfer.

A combination of D2 with D1 would therefore not lead to the claimed invention unless inventive skill were used.

*Auxiliary request*

The introduction of the fibre decitex range of 1.5 to 10 was a solution to the problem of masking. Since some fluids were held between fibres, the presence of these very fine fibres (as now defined) meant that there was less space between the fibres to store fluid, so that the visible fibre grid to fluid ratio was larger, thereby giving a better masking of the exudate. The

range of approximately 4.4 to 66 decitex in D1 was large and the only example was 16.7 decitex. Thus the claimed range was small compared to the prior art and also distant from the example value. Even though the value of 4.4 decitex might be regarded as a disclosure in D1 because it was an end point of the range, this approach to judging novelty of the feature was disputed.

Although the patent did not specifically indicate the exact amount of such fibres used, the skilled person had to properly construct the claim and thus the number of such fibres was not merely a trivial amount.

D1 and D2 nowhere disclosed or suggested solving a masking problem, let alone by the feature of fibre decitex selection as now claimed.

## **Reasons for the Decision**

### 1. *Main request*

#### *Inventive step*

1.1 The Board has to firstly decide the issue of which features of claim 1 are known in combination in D1.

1.1.1 Feature (h): D1 discloses on page 9, second paragraph, gross foramina with "equivalent hydraulic diameters" ranging from 1.25 mm to 9.53 mm. On page 10, second paragraph it is noted that the gross foramina can be circular; the Figures also depict circular foramina. The Board thus concludes that the foramina open area on

page 9 reliably relates to circular, tubular, foramina which have areas of  $1.227 \text{ mm}^2$  to  $71.3 \text{ mm}^2$ . The claimed range of  $1.4 \text{ mm}^2$  to  $3.0 \text{ mm}^2$  is thus considered to be narrow in relation to the disclosed prior art range; it is also far from the disclosed example on pages 18 and 19 where the area is approximately  $31.66 \text{ mm}^2$ , and the selection of the claimed range is purposeful in order to facilitate, not least, liquid transport and not so large that rewet characteristics are impaired. The Board thus considers that feature (h) is not disclosed in D1 (see also decision T 279/89, item 4.1).

The appellant had argued that the prior art range in D1 related to conical apertures as disclosed in the topsheet of D2, because the topsheet of D2 was incorporated by reference into the D1 disclosure, so that the large foramina in D1 when made conical would fall within the claimed range since the open area was to be measured at the apex of the cone. The Board does not share the appellant's viewpoint, since the disclosure on page 8, first paragraph, refers to D2 in the context of the last paragraph of page 7. Thus the foramina intended by the cross-reference to the D2 topsheet are the "fine foramina" of D1. It is neither stated nor implied that the gross foramina must be conical.

- 1.1.2 Regarding feature (i), although D1 quotes a range of 5 to 30% open area which overlaps with, and even shares a common end point with, the claimed range, the open area is not disclosed in D1 by itself but only in specific combination with a defined range of fine foramina open area of from 15% to 52%. Thus it cannot be determined with any certainty that the range 5 to 20% would necessarily be present unless a specific number of fine

foramina were also present in the D1 article structure and with other compensatory features of claim 1.

1.1.3 The parties agreed that feature (k) was not disclosed in D1. The Board also concludes that this feature is not disclosed in D1, even with regard to D2 and the extent to which D2 has been incorporated into D1.

1.1.4 As regard feature (l), the Board concludes that the topsheet is disclosed as being hydrophilic wherever desired within the content of D1. Not only does page 10 state "preferably the apertured topsheet is hydrophilic" as a general statement for the whole disclosure of D1, but it also explains on page 11, third paragraph, how topsheet hydrophilicity is to be obtained when the topsheet material itself is originally not hydrophilic (such as in the case of D2 to D5 for example).

The respondent's argument that the sole example in D1 uses a hydrophobic topsheet and thus requires a choice of topsheets, does not detract from the foregoing reasoning. Nowhere in D1 is a limitation made that hydrophilic sheets cannot be applied generally within the teaching of D1 in combination with any other features of claim 1. Moreover since D1 even discloses how to make a topsheet hydrophilic, even when it is not intrinsically rendered hydrophilic by means of its own structure, it is evident that a skilled person is generally instructed how to achieve this preference across the whole teaching of the document. The skilled person is also instructed what difference occurs in the structure if a hydrophobic sheet should be employed as an alternative, namely the requisite use of a wicking

layer (see page 11, last paragraph), such that in all situations the skilled person is aware how the structure is to be arranged when employing the preferred film material which is rendered hydrophilic.

1.1.5 In regard to feature (n1), D1 discloses on page 15, second paragraph, that the resilient layer "must be of relatively low density so that it will have sufficient void volume...". However, this terminology is insufficient to reach an unambiguous disclosure of a void volume always above 50%. Although a void volume based on PET polyester fibres could be calculated for the density range of 0.01 to 0.5 g/m<sup>3</sup> (as quoted on page 15 of D1) in connection with the sole example, it is not unambiguous that PET would be the polyester fibre always used in D1, even if this were likely due to its common use in the industry. This is further borne out since D1 discloses a thickness range for the fibres lying between 4 to 60 denier (see page 14, 3rd complete paragraph) and, even when applying this to the example on page 19, for which the density had anyway not been demonstrated by the appellant, it is not clearly the case that the example is representative for all structures within D1. Thus the sole example and the general disclosure of polyester cannot simply be added together to draw a conclusion applicable for the entire disclosure of D1 that the void volume must inherently always be above 50%.

1.1.6 As regard feature (n2), the thickness of the resilient layer in D1 is not stated explicitly, but the disclosure on page 14 second paragraph that the resilient layer "must be compressible and conformable" in a manner which conforms to the user's body without



causing discomfort, is a clear indication to the skilled person that compressibility by a noticeable amount is required, thus starting from a layer of sufficient thickness to provide compressibility in an amount leading to comfort. Feature (n2) defines a thickness only of 0.3 mm or above, i.e. including even extremely thin layers. The example, albeit non-limiting or indicative for the entire document, notably uses a layer of 11.4 mm thickness. Likewise, the disclosure in the paragraph bridging pages 13 and 14, which discusses the physical characteristics of the resilient layer whereby it should return to essentially its original size and shape after deforming forces are removed, are not reasonably commensurate with a sheet of less than 0.3 mm thickness, as such characteristics would then be essentially redundant. The Board thus concludes that, whilst D1 gives no specific value to the thickness, the properties disclosed require a thickness significantly greater than 0.3 mm thickness.

1.1.7 As regard feature (p), the only value which can be obtained from D1 is  $114 \text{ g/m}^2$  as calculated from the parameters in the sole example. This value lies outside the claimed range of 20 to  $100 \text{ g/m}^2$ . This feature is thus not disclosed in D1, nor is this a matter of dispute between the parties.

1.1.8 The Board thus finds that features (h), (i), (k), (n1) and (p) are the only features of claim 1 not disclosed in combination in D1. The disclosure of the remaining features of claim 1 is not in dispute and the Board agrees that these are disclosed in combination in D1.

1.2 In terms of the problem to be solved, three factors are involved, namely the factors of fast liquid intake, good rewet properties and good masking. This is also generally in line with the problem stated in paragraph [0008] of the patent.

Regarding fast liquid intake through the topsheet, D1 discusses this problem on e.g. page 7, third paragraph. The problem is then solved in D1 by providing gross foramina (i.e. large apertures) in sufficient number (i.e. a sufficient total open area).

The open area size range of the individual apertures defined by feature (h) is very close to the lower end part of the size range for large foramina in D1. The Board concludes that the skilled person would consider it obvious to operate in the whole area of the range in D1, to allow fast liquid intake, and not only in the size vicinity of 31.66 mm<sup>2</sup> given by the example in D1. In particular, no preference for size apertures at the higher end of the range is disclosed; D1 also discloses the suitability of using a distribution of sizes (page 9 middle paragraph).

Feature (h) however also needs to be considered not only in regard to fast liquid intake as discussed above, but also in regard to the problem of rewet. The problem of rewet involves appropriate selection of the aperture open area size together with the aperture structure in the topsheet. A skilled person wishing to employ a larger aperture, as disclosed in D1, but wishing to maintain or improve rewet characteristics would turn to D2, since D2 specifically discusses the problem of rewet improvement in column 2, lines 27 to

33 ("inhibiting the reverse flow of these fluids thereby providing a relatively much dryer surface in contact with the user").

D2 discloses aperture apex sizes in the broad range of diameters of 0.01 to 0.254 cm (see col. 2, lines 25 and 26), i.e. also at the lower end of the range of gross foramina sizes in D1. The apex area in D2 is the plane of smallest cross section of the conical aperture in accordance with the definition given in the patent at paragraph [0031] and thus the diameter range 0.01 to 0.254 cm corresponds to open areas of 0.008 to 5.13 mm<sup>2</sup>, as confirmed by the first line of data in the sheet of values presented by the respondent during oral proceedings. The Board concludes further that the teaching of D2 is applicable to the entire range of apex apertures disclosed therein and not only to the preferred range of apertures in D2. No reason can be found in D2 which would limit the teaching of D2 to the preferred range only. Although the respondent argued that the broad aperture size range was only present in D2 because application drafting techniques were designed to cover a broader range than truly applicable, as allegedly proven by the fact that the method of manufacture of the apertures in D2 was only disclosed for smaller aperture sizes, the Board does not find the respondent's argument convincing. Whilst no specific method is described specifically for producing larger aperture sizes, there is no evidence or reason to suspect that the manufacturing method used in the examples in D2 would not be applicable to larger aperture sizes since these involve merely the use of a pin mould piercing the topsheet film, whereby the pin has a specific conical shape. Moreover, other suitable

manufacturing methods are disclosed in D2 in col. 5, line 51 to col. 6, line 10, and it is even disclosed that the apex diameter can be given the desired size by controlled abrasion or by melting open the apex. Thus there is no reason to suspect that the skilled person would have a reason to interpret an implied limitation of apex sizes into D1 so as to lie only within the "preferred range" disclosed in D2.

Based on the above, the skilled person, in wishing to solve a rewet problem but at the same time allowing good liquid intake, would find it obvious to use the large foramina of D1 at least across any part of the entire (non-preferred) range disclosed in D2 (i.e. 0.008 to 5.13 mm<sup>2</sup>), thereby also in the range defined in feature (h) of claim 1. To avoid rewet problems, such foramina would be provided with conical depending walls according to D2. The dependent extent of such foramina is stated in D2 to be 0.008 to 0.404 cm (col. 4, line 60). Consequently D2 discloses an end value of 4.04 mm which lies within the very large and open-ended range "at least 0.3 mm" defined by feature (k). Thus the Board finds that the skilled person would, without inventive skill, use a foramina size and a depending wall depth which lie within the claimed ranges, in order to solve the problem of rewet.

The use of features (h) and (k) are thus obvious when wishing to solve the problem of rewet improvement and also fast liquid intake.

Likewise, when comparing the open area of the topsheet provided by the gross foramina (5 to 30%) disclosed in D1, compared to the area defined in feature (i) of

claim 1, namely 5 to 20%, it is clear that a substantial portion of the prior art range *per se* is covered by the claimed range. When considering the purpose of this range, and the use of a certain amount of small apertures (both in D1 and in the patent), the Board concludes that the skilled person would seriously contemplate, when using foramina with features (h) and (k), operating in the area of D1 within the range of feature (i). The use of features (h), (i) and (k) in combination to solve the problems of providing fast liquid intake and reduced rewet would thus be obvious.

Although the void volume of the resilient layer in D1 (which corresponds to the second passage layer in claim 1), is not stated specifically as being above 50%, D1 nevertheless suggests that the void volume should be high. Page 15, second paragraph for example discusses relatively low density (e.g. 0.01 to 0.5 g/cm<sup>3</sup>) of the layer and "sufficient" void volume. When applying these values to the disclosed embodiment on pages 18 and 19, a high void volume results, namely with a value of about 99% when taking commonly used PET polyester fibres of density 1.38 g/cm<sup>3</sup> as an example. Thus, although other fibres such as quoted on page 14 could be used which would have a different density, it would at least be obvious to try the most common polyester fibres. Thus the teaching of D1 is to use a high void volume which can be expected to be well above 50%. Thus feature (n1) is considered obvious when considering D1 also in combination with the aperture features (h), (i) and (k) above.

Feature (p) is disclosed in paragraph [0040] of the description. No significance is attached to the basis

weight selected, in particular with regard to the problem of rewet. Further, no evidence has been supplied that feature (p) is more than just a suitable selection of an appropriate basis weight in order to achieve sufficient absorption capacity for any particular application. The Board thus finds that the selection of a basis weight lying between 20 and 100 g/m<sup>2</sup> is a matter of ordinary selection based purely on the desired absorbent capacity requirements and product thickness limitations required for any such product, and consequently not a matter requiring inventive skill. The fact that the only example in D1 uses a thickness of 11.4 mm, resulting in the basis weight of 114 g/m<sup>2</sup>, does not alter the above conclusion, because nowhere does D1 attach or imply any importance to the basis weight of the resilient layer. D1 merely mentions the necessity of a resilient layer being present when raising the foramina size above that normally used so as to maintain good rewet properties (see page 9, first paragraph). Additionally, the fibre thickness used in the example on pages 18 and 19 is 1.67 Tex (16.7 decitex), whereas page 14 penultimate paragraph discloses the possible use of much thinner polyester fibres with values down to 4.4 decitex (4 denier), in a resilient layer having a density range of 0.01 to 0.5 g/cm<sup>3</sup>. Therefore, the use of thinner fibre as disclosed in D1 would result in still lower basis weight, even if the thickness quoted in the example were to be maintained for other reasons. It is also noted that claim 1 allows the fibrous material to have a basis weight of 100 g/m<sup>2</sup> for 0.3 mm thickness or 20 g/m<sup>2</sup> for very high thicknesses due to the only definition of thickness being "at least 0.3 mm", thus

covering a very large range of densities without a technical reason for making any particular selection.

The other properties of the resilient layer also do not imply that a high basis weight is required in D1. Consequently, the skilled person would, without inventive skill, select, together with the features (h), (i), (k) and (n1) and the other features of claim 1 found in D1, the use of a basis weight lying between 20 and 100 g/m<sup>2</sup> according to feature (p).

Based on the above analysis, the Board finds that the subject matter of claim 1 does not involve an inventive step when considering the aspects of fast liquid intake and rewet performance considerations.

As regard the third aspect, namely masking, the patent contains no definition or explanation of masking, nor an objective measurement for same. The mere mention in paragraph [0060] that a visual inspection had resulted in no deterioration being detected adds nothing to define how objectively masking is judged, but merely confirms that it is the product's appearance in some way which is meant. Even if the respondent's own explanation of masking made during oral proceedings were accepted, the features of claim 1 which are included from D2 without inventive step into the disclosure of D1 to solve the problem of fast intake and rewet performance are the same features which apparently result in better masking. Thus the problem of masking becomes irrelevant to the consideration of inventive step, since the subject matter of claim 1 is already rendered obvious by the prior art in view of other problems posed in the patent. Masking

improvement, if present, can thus only be regarded as a bonus result of solving the problems of liquid intake speed and rewet performance.

The requirements of Article 56 EPC are consequently not met by the main request.

2. *Auxiliary request*

Claim 1 fails to define how many fibres having a thickness between 1.5 and 10 decitex are comprised within the fibrous material. The claim therefore includes the possibility that a minimal number of such fibres could be included, as a result of which no technical effect would be achieved. The features introduced into the claim cannot consequently be regarded as anything but an arbitrary selection, devoid of inventive step.

The Board also cannot concur with the respondent's argument, that a significant number of these fibres must be present which would have a technical effect on masking in order to make technical sense of the claim, because the patent is entirely silent on any technical purpose or effect of such fibres (see paragraph [0043] of the patent) and such an effect is not implicit to a skilled person based on the available disclosure, particularly when the concept of "masking" is itself entirely undefined in the patent.

The requirements of Article 56 EPC are therefore also not met by the auxiliary request.



**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:

M. Patin

P. Alting van Geusau