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**Datasheet for the decision
of 11 May 2011**

Case Number: T 1655/09 - 3.2.06

Application Number: 00311348.7

Publication Number: 1110527

IPC: A61F 13/514

Language of the proceedings: EN

Title of invention:

Absorbent article with back sheet, and method for
manufacturing the back sheet

Patentee:

UNI-CHARM CORPORATION

Opponent:

Paul Hartmann AG

Headword:

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Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Inventive step - obvious combination of known features - main
request, first and second auxiliary request"

"Inventive step - non-obvious combination of known features -
third auxiliary request"

Decisions cited:

-

Catchword:

-



Case Number: T 1655/09 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 11 May 2011

Appellant:
(Patent Proprietor)

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 4 June 2009
revoking European patent No. 1110527 pursuant
to Article 101 EPC.**

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. de Crignis
K. Garnett

Summary of Facts and Submissions

- I. European patent No. 1 110 527, granted on application No. 00311348.7, was revoked by the opposition division by decision announced during the oral proceedings on 7 May 2009 and posted on 4 June 2009.

The opposition division held that the subject-matter of claim 1 as granted lacked novelty at least with respect to

E1 EP-A-0 890 350,

and that neither the subject-matter of claim 1 of the first auxiliary request nor the subject-matter of claim 1 of the second auxiliary request - which was limited to the absorbent article being a sanitary napkin - involved an inventive step over

E2 WO-A-98/51475.

- II. On 12 August 2009 the appellant (patent proprietor) filed an appeal against this decision and paid the appeal fee. A statement setting out the grounds of appeal was received at the European Patent Office on 14 October 2009 together with a main request and a first auxiliary request.
- III. In a communication annexed to the summons to oral proceedings, the Board in particular pointed to the lack of convincing evidence and arguments provided with a view to overcome the reasons underlying the decision of the opposition division.
- IV. Oral proceedings were held on 11 May 2011. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the

basis of the main request filed with the grounds of appeal, alternatively on the basis of the first or second auxiliary request filed with the letter dated 11 April 2011, alternatively on the basis of the third auxiliary request filed during the oral proceedings. The respondent requested that the appeal be dismissed.

Claim 1 of the main request reads:

"An absorbent article comprising a liquid-permeable top sheet, a back sheet, and an absorbent core sandwiched between said top sheet and back sheet, wherein said back sheet is formed of a resin film containing an inorganic filler in a resin base material, wherein said back sheet includes:

- a) a stretched moisture-permeable region (a); and
- b) a high optical transmittance region (b) having a lower degree of orientation than that of said moisture-permeable region and/or left unstretched,

wherein the high optical transmittance region (b) is thicker than the moisture-permeable region (a),

wherein the mixing ration between said resin base material and said inorganic filler is 20 to 70% by mass : 80 to 30 % by mass,

wherein if the back sheet in the moisture-permeable regions (a) has a thickness T1 and if the back sheet in the high optical transmittance region (b) has a thickness T2, the values T1 and T2 satisfy the following Formulas:

$$20 \leq [(T2 - T1)/T1] \times 100 \leq 30,$$

wherein said moisture-permeable region (a) has a total optical transmittance of 50% or less according to JIS-K-7105, and

wherein said high optical transmittance region (b) has a total optical transmittance of 60% or more according to JIS-K-7105."

Auxiliary request 1 differs from the main request in that claims 9 to 15 are deleted.

Claim 1 of the auxiliary request 2 differs from claim 1 of the main request in that the subject-matter is limited to an absorbent article being a disposable diaper,

"wherein said high optical transmittance region (b) is positioned to cover the entirety or a portion of the back of said absorbent core,

wherein said high optical transmittance region (b) is provided in the generally widthwise central portion of the region having said absorbent core and in the region containing the widthwise center of said absorbent core and having one quarter of the width size of said diaper, and/or in the generally longitudinal central portion of the region having said absorbent core and in the region containing the longitudinal center of said absorbent core and in the region containing the longitudinal center of said absorbent core and having one quarter of the longitudinal size of said diaper,

wherein said moisture-permeable region (a) has a moisture permeability of $1000 \text{ g/m}^2\text{24h}$ or more."

Claim 1 of the auxiliary request 3 differs from claim 1 of the main request in that the subject-matter is limited to a sanitary napkin,

"wherein said absorbent article is a sanitary napkin (1E) including a pair of wing portions (10) disposed on the two sides of the region of said absorbent core and

extending outwardly in the widthwise direction, and wherein said moisture-permeable region (a) is positioned to cover the entirety or a portion of the back of said absorbent core whereas said high optical transmittance region (b) is positioned in at least said wing portions, said moisture-permeable region (a) is positioned in the generally widthwise central portion of the region having said absorbent core and over one half or more of the width size of said absorbent core, and/or in the generally longitudinal central portion of the region having said absorbent core and over one half or more of the longitudinal size of said absorbent core, wherein said moisture-permeable region (a) has a moisture permeability of 1000 g/m²24h or more."

V. The arguments of the appellant may be summarised as follows:

The subject-matter of claim 1 of the main request involved an inventive step. A narrow range for the thickness relation was linked to the optical transmittance and moisture permeable regions. Neither of the cited documents disclosed or suggested the claimed combination of features and none of these documents had recognized the problem of the cost effective provision of such a backsheet.

The subject-matter of claim 1 of auxiliary request 2 specified the absorbent article as a diaper. The cost efficient manufacturing of the backsheet of a diaper was linked to the feature of inspecting the diaper during use. Neither this combination of features nor the intended purpose was suggested in E1 or E2.

With regard to the subject-matter of claim 1 of auxiliary request 3, the provision of the high optical transmittance region in the side parts of a sanitary napkin in combination with the central portion being moisture permeable was not derivable from any combination of cited documents. Such a claim had already been presented and discussed before the opposition division, formed part of the appealed decision and had also been submitted together with the grounds of appeal. Its re-submission in slightly amended form could have been expected. Therefore, the request should be admitted in the appeal proceedings.

VI. The arguments of the respondent may be summarised as follows:

The subject-matter of claim 1 of the main request was not so specific as suggested by the appellant. Neither was the subject-matter directly related to cost-efficiency nor was it related to the regions (a) and (b) positioned in a specific location. Broad ranges were defined for the optical transmittance of the moisture permeable region and the high optical transmittance region. The thickness relation was not different from the expected range. No selection invention was involved. The skilled person would be led to use the backsheet disclosed in E2 in an absorbent article and so would arrive in an obvious manner at the claimed product.

The subject-matter of claim 1 of auxiliary request 1 was identical to the subject-matter of claim 1 of the main request and the same arguments applied.

With regard to the subject-matter of claim 1 of auxiliary request 2, the skilled person could easily adopt the suggestion in E2 (p. 9, l. 1/2) to provide the side portions of the diaper with breathability. No inventive activity was necessary.

Auxiliary request 3 was filed late and should not be admitted. With regard to the subject-matter of claim 1, the skilled person could simply apply the breathable film of E2 in a sanitary napkin and would arrive at the claimed napkin because the regions (a) and (b) were not defined in the specific manner relied upon by the appellant.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 The subject-matter of claim 1 is a combination of originally filed claims 1, 3, 9, 10, 11, 19 and granted claims 1, 3, 9, 10 and 11. Accordingly, the requirements of Articles 84 and 123(2) EPC are met.
 - 2.2 Inventive step
 - 2.2.1 E2 represents the closest prior art. It discloses a breathable film which is particularly useful as a backsheet for disposable absorbent articles (p. 1, l. 9 - 12; p. 3, l. 15 - 17). The film is made of a blend of thermoplastic polymer with an inorganic material. The

thermoplastic polymer is chosen from different types of polyethylene (*inter alia* LLDPE, LDPE), polypropylene or other suitable polymers (p. 3, l. 26 - 34). The inorganic material or filler is selected from a group including calcium carbonate, clay and titanium dioxide (p. 3, l. 35-36). The inorganic filler constitutes preferably from 20 to 60 percent by weight of the blend (p. 4, l. 1/2). The film is fed through an apparatus comprising rolls such as to produce a plurality of formed and/or stretched portions which provide rib-like elements in the film in combination with portions of the film which will not be formed or stretched (p. 4, l. 7 - 21). Accordingly, the film (Figure 3) includes two regions which are visually distinct from each other, the first region (64) being substantially planar (not formed) and the second region including the rib-like structure (stretched). The stretched film is thinner than the first (planar, non-stretched/formed) regions (p. 6, l. 7 - 11; p. 8, l. 3 - 5). The moisture vapour transmission rate of the film should preferably be in the range of from 1000 to 5000 g/m²/24h (p. 6, l. 22 - 27).

2.2.2 The appellant considered the disclosure of E2 as referring neither to any optical transmittance characteristics of the film or its regions nor to any relation of the thickness of the stretched and non-stretched regions of the layer. However, such characteristics and relation are implicitly present in the film of E2 in view of the following considerations:

- The materials used for the polymer blend and for the filler are identical in E2 and in the patent

in suit. The manufacturing methods are consistent as well.

- The claimed total optical transmittances of less than 50% for the moisture-permeable region (a) and of more than 60% for the high optical transmittance region (b) cover very broad ranges which are not selected as specially limited ranges leading to an unexpected effect. The optical transmittance is directly linked to the stretching - respectively non-stretching - during manufacturing of the film. Hence, the claimed ranges are consistent with the values which can readily be obtained for stretched and non-stretched regions of film layers of the disclosed polymer resin blends. No data or evidence to the contrary was presented.

- The claimed relation of the thicknesses of stretched/non-stretched regions specifies a range which has already been considered as comprising common individual values by the opposition division when taking account of the usual thickness (about 5 to 20 μm) of such layers. Moreover, the arguments of the respondent are convincing in that any different relation of the stretched and non-stretched layers would bear the risk of undesired characteristics concerning handling of the film layer during manufacturing and use. Consistently, no data or evidence concerning the effects or advantages of the claimed range for the relation were presented.

Accordingly, the claimed parametrical features correspond to the ranges implicitly present in the film of E2.

2.2.3 Hence, the subject-matter claimed in claim 1 differs from this disclosure in that it refers to an absorbent article.

2.2.4 Concerning the aim of the invention, the appellant relied upon cost-efficient and simple production methods and referred additionally to the regions (a) and (b) as providing the possibility to optically check whether a discharge of the wearer had occurred. However, none of the features of claim 1 is linked to simple manufacturing, to low cost manufacturing of the backsheet or to the regions being at a particular position with the intention to provide a possibility for inspection of a discharge. Hence, these issues have to be disregarded.

2.2.5 Accordingly, the objective technical problem underlying the patent in suit can only be related to the above cited distinguishing feature (see point 2.2.3 above), namely the choice of using the film material of E2 within an absorbent article. According to claim 1 of the patent in suit this problem is solved by using the film material as a backsheet in an absorbent article.

2.2.6 Hence, when starting from the disclosure in E2, it itself suggests the inclusion of such a breathable film as a backsheet in an absorbent article (see p. 1, l. 11/12 and p. 3, l. 15 - 18).

2.2.7 The skilled person looking for suitable materials as an alternative to any formerly used backsheet would thus obtain directly the information from the teaching of E2 that such polymer films having an inorganic filler material and being partially stretched are suitable as a backsheet for an absorbent article. Hence, no inventive step can be attributed to the claimed combination. Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step as required by Article 56 EPC.

3. *Auxiliary request 1*

The subject-matter of claim 1 of this request is identical to claim 1 of the main request. Accordingly, the arguments set out for the main request apply.

4. *Auxiliary request 2*

4.1 Amendments

The subject-matter of claim 1 is a combination of originally filed claims 1, 3, 4, 5, 8, 9, 10, 11 and 19, these claims corresponding to granted claims 1, 3, 4, 5, 8, 9, 10, 11. Accordingly, the requirements of Articles 84 and 123(2) and (3) EPC are met.

4.2 Subject-matter of claim 1

The subject-matter of claim 1 is limited to a disposable diaper. The high optical transmittance region (b) is specified as being positioned to cover the entirety or a portion of the back of the absorbent core. Additionally, the high optical transmittance

region (b) is provided in the width-wise center and/or longitudinal central portion of the region having the absorbent core and extends one quarter of the width and/or the length of the diaper.

4.3 Inventive step

4.3.1 When starting from E2, which again represents the closest prior art, the objective technical problem can only be related to the distinguishing features, namely to choose an article for the inclusion of the film of E2 and to specify the location of the film regions which have different transmittance and moisture-permeability characteristics.

4.3.2 Concerning the choice of including the film layer of E2 as a backsheet for an absorbent article, it has already been set out above in relation to the main request that E2 suggests such a choice and this reasoning is valid for the article being a disposable diaper as well (see p. 3, l. 15 - 17).

4.3.3 Concerning the location of regions having different moisture permeability, E2 specifies on page 8, l. 34 to page 9, l. 2 the fact that "*it may be desirable to provide specific portions of the diaper backsheet with breathability, such as the side portions, while leaving other portions, such as the central portion of the backsheet nonbreathable*". Consistently, it has to be taken into account that the portions having breathability correspond to the thinner portions which have been stretched and thus inherently having a lower optical transmittance. This suggests that the thicker portions of the film layer of E2 should be applied in

the central portion of the diaper and the backsheet, which central portion is not stretched and has a higher optical transmittance.

4.3.4 The skilled person would thus have a direct hint to provide a diaper having regions of different breathability and transmittance, and to provide these regions in the claimed design. Hence, no inventive step can be attributed to the claimed combination of features. Therefore, the subject-matter of claim 1 does not involve an inventive step as required by Article 56 EPC.

5. *Auxiliary request 3*

5.1 Admissibility

Auxiliary request 3 was filed during the oral proceedings, hence at the latest possible state in the proceedings. According to Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA), it lies within the discretion of the Board to admit such a late filed request in the proceedings. The discretion is to be exercised in view of *inter alia* the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

A request including a claim 1 which limited the subject-matter to a sanitary napkin had already been part of the first instance proceedings and had also been submitted together with the grounds of appeal. Accordingly, all parties to the proceedings had already been able to consider such subject-matter. Accordingly, the re-submission of such a claim 1 was not entirely

unexpected. The requirements of Articles 84 and 123(2) and (3) EPC are also met: The subject-matter of claim 1 is a combination of originally filed claims 1, 3, 6, 7, 8, 9, 10, 11 and 19, corresponding to granted claims 1, 3, 6, 7, 8, 9, 10, 11. Hence, the Board exercised its discretion to admit this request into the proceedings.

5.2 Inventive step

5.2.1 The subject-matter of claim 1 is limited to a sanitary napkin. The sanitary napkin is to include a pair of wing portions and the high optical transmittance region (b) is positioned in at least the wing portions. The moisture-permeable region (a) is positioned to cover the entirety or a portion of the back of the absorbent core. Additionally it is specified that the moisture-permeable region (a) is positioned in the central portion of the region having the absorbent core of the width and/or the longitudinal size of the absorbent core and that the region (a) is positioned over one half or more of the width and/or the longitudinal size of the absorbent core.

5.2.2 When starting from E2, which again represents the closest prior art, the objective technical problem can only be related to the distinguishing features, namely the use of the film as a backsheet for a sanitary napkin and the specification of the location of the regions which have different transmittance and moisture-permeability characteristics. These problems are solved by the corresponding features of claim 1.

- 5.2.3 Concerning the use of the film as a backsheet in a sanitary napkin, E2 also suggests this on p. 3, l. 15 to 17.
- 5.2.4 Concerning the location of the different regions, it has set out above in relation to auxiliary request 2 that E2 suggests a specific location of these regions for a diaper. The suggested location of these regions is such that the high optical transmittance region should be in the central part of the diaper in order to allow inspection of whether discharge has occurred. Contrary to this suggestion, claim 1 now defines a contrary position of the regions, namely the high optical transmittance region (b) is to be positioned in at least the wing portions whereas the moisture permeable region (a) is to be positioned in the central portion of the napkin.
- 5.2.5 No mention of a sanitary napkin in E2 is linked to any specific location of the stretched and non-stretched regions. Hence, the skilled person could not derive any corresponding suggestion from E2. Moreover, the location of the high transmittance region in the wing/side portions of the sanitary napkin differs significantly from the location of the high transmittance region in the central portion of a diaper such as claimed in claim 1 of auxiliary request 2 and such as suggested for the diaper in E2.
- 5.2.6 Since no other documents were cited in this respect either, such specific location cannot be derived from the available cited prior art. Hence, an inventive step has to be attributed to the claimed combination.

Therefore, the subject-matter of claim 1 involves an inventive step as required by Art. 56 EPC.

5.2.7 The respondent's view was that regions (a) and (b) in the film of E2 are implicitly alternating and thus, at least partly, will be present in the central portion as well as in the wing portions if used as a backsheet in a sanitary napkin. Also the wording of claim 1 is not so specific as to exclude parts of one region being included in the other region and accordingly no inventive step should be accorded.

5.2.8 However, this view is not consistent with the wording of claim 1. Claim 1 specifically requires that region (a) is positioned in the central portion whereas region (b) is positioned in at least the wing portions. This specification can only meaningfully be understood as requiring that the central portion is formed only by the region (a) and that the wing portions are formed completely and only by the region (b). The fact that the region (b) can extend to a certain degree beyond the wing portions is to be understood such that it can extend into the neighbouring portions of the sanitary napkin but without extending into the central portion. Contrary to the backsheet of the claimed sanitary napkin, the film disclosed in E2 generally includes both types of region in an alternating design without specifying their position in an article. Only for the specific embodiment of a diaper is a particular position of the regions disclosed. Hence, neither the general disclosure in Figure 3 of E2 nor the specific disclosure for a diaper in E2 would lead the skilled person to the particular design of the claimed sanitary napkin.

5.2.9 Accordingly, there cannot be found in E2 any suggestion for designing particular portions in a back sheet of a sanitary napkin. Hence, when starting from E2 and trying to solve the objective technical problem set out above, the skilled person would have to select the moisture permeability and optical transmittance characteristics of central and wing portions. The patent in suit provides a solution which is not disclosed in any cited document. Hence, the claimed subject-matter is not arrived at in an obvious manner. The requirement of Article 56 EPC is thus fulfilled taking into account the prior art relied upon by the respondent and the patent can be maintained in such form.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of:
 - (a) The single claim according to the new third auxiliary request filed during the oral proceedings;
 - (b) Pages numbered 2 to 8 of the amended description filed during the oral proceedings; and
 - (c) Figures 1 to 9 as granted.

The Registrar

The Chairman

M. Patin

P. Alting van Geusau