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**Datasheet for the decision
of 24 November 2011**

Case Number: T 0694/09 - 3.3.09
Application Number: 02778806.6
Publication Number: 1448375
IPC: B32B 5/28, B65D 81/26
Language of the proceedings: EN

Title of invention:
Unitary absorbent multilayered core

Patentee:
Buckeye Technologies Inc.

Opponent:
The Procter & Gamble Company

Headword:
-

Relevant legal provisions:
EPC Art. 56, 83
EPC R. 103

Relevant legal provisions (EPC 1973):
-

Keyword:
"Sufficiency of disclosure - yes"
"Inventive step - yes"
"Reimbursement of appeal fee - no"

Decisions cited:
-

Catchword:
-



Case Number: T 0694/09 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 24 November 2011

Appellant: The Procter & Gamble Company
(Opponent) One Procter & Gamble Plaza
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Representative: L'Huillier, Florent Charles
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Respondent: Buckeye Technologies Inc.
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Representative: HOFFMANN EITLE
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
14 January 2009 concerning maintenance of
European patent No. 1448375 in amended form.

Composition of the Board:

Chairman: W. Sieber
Members: J. Jardón Álvarez
R. Menapace

Summary of Facts and Submissions

I. The grant of European patent No. 1 448 375 in respect of European patent application No. 02778806.6, in the name of BKI Holding Corporation (now Buckeye Technologies Inc.), which had been filed on 8 November 2002 as international application PCT/US2002/035965, was announced on 2 August 2006 (Bulletin 2006/31). The granted patent contained 28 claims, claim 1 reading as follows:

"1. A unitary absorbent core having a basis weight of about 45 gsm or greater comprising:

- i) a first fibrous absorbent layer comprising:
 - a) natural fibers, synthetic fibers or a mixture thereof, and
 - b) a binder which is a synthetic binder fiber or powder, a hydrophilic emulsion polymer binder or a mixture thereof, the fibrous absorbent layer having an upper surface and a lower surface, the lower surface in contact, optionally coextensively in contact, with
- ii) an upper surface of a natural or synthetic carrier which has a lower surface integral with
- iii) a first hydrophobic vapor-transmissive moisture barrier."

The set of claims included five further independent claims directed to:

- a unitary absorbent core where feature iii) is defined as "a first hydrophilic vapor-transmissive moisture barrier" (claim 2);
- a unitary absorbent core where feature iii) is defined as "a first hydrophobic or hydrophilic vapor-nontransmissive moisture barrier" (claim 9);
- a receptacle for containing a food product which tends to exude fluids (claim 14);
- a filter element (claim 15),
(both the receptacle of claim 14 and the filter element of claim 15 comprising the absorbent core of claim 1); and
- a continuous process for the production of a unitary absorbent core (claim 24).

The remaining claims were dependent claims.

II. A notice of opposition was filed by The Procter & Gamble Company on 26 April 2007 requesting revocation of the patent in its entirety on grounds pursuant to Articles 100(a) (lack of novelty and inventive step) and 100(b) EPC.

The opposition was supported by the following documents:

D1: WO 01/87215 A1; and

D2: WO 00/13637 A2.

III. By its interlocutory decision announced orally on 11 December 2008 and issued in writing on 14 January 2009, the opposition division found that the subject-matter of claim 1 of the then pending main request (the

patent as granted) was not novel having regard to the disclosure of example 13 of D1 and consequently rejected the main request.

However, the opposition division held that the claims of the proprietor's "new" first auxiliary request, which was filed during the oral proceedings before the opposition division, met the requirements of the EPC. The set of claims allowed by the opposition division included only four independent claims (granted claim 2 had been deleted), namely claims 1, 6, 11 and 12 reading as follows:

"1. A unitary absorbent core having a basis weight of about 45 gsm or greater comprising:

- i) a first fibrous absorbent layer comprising:
 - a) natural fibers, synthetic fibers or a mixture thereof, and
 - b) a binder which is a synthetic binder fiber or powder, a hydrophilic emulsion polymer binder or a mixture thereof, the fibrous absorbent layer having an upper surface and a lower surface, the lower surface in contact, optionally coextensively in contact, with
- ii) an upper surface of a synthetic carrier which has a lower surface integral with
- iii) a first hydrophobic vapor-transmissive moisture barrier,

wherein the core has an air permeability of from about 3 to about 7 m³/min/m² (11-22 ft³/min/ft²)."

"6. A unitary absorbent core having a basis weight of about 45 gsm or greater comprising:

- i) a first fibrous absorbent layer comprising:
 - a) natural fibers, synthetic fibers or a mixture thereof, and
 - b) a binder which is a synthetic binder fiber or powder, a hydrophilic emulsion polymer binder or a mixture thereof, the fibrous absorbent layer having an upper surface and a lower surface, the lower surface in contact, optionally coextensively in contact, with
- ii) an upper surface of a synthetic carrier which has a lower surface integral with
- iii) a first hydrophobic or hydrophilic vapor-nontransmissive moisture barrier."

"11. A receptacle for containing a food product which tends to exude fluids comprising:

- (A) a tray for holding a food product; and
- (B) positioned in the tray, a unitary absorbent core having a basis weight of about 45 gsm or greater comprising:
 - i) a first fibrous absorbent layer comprising:

- a) natural fibers, synthetic fibers or a mixture thereof, and
 - b) a binder which is a synthetic binder fiber or powder, a hydrophilic emulsion polymer binder or a mixture thereof, the fibrous absorbent layer having an upper surface and a lower surface, the lower surface in contact, optionally coextensively in contact, with
- ii) an upper surface of a synthetic carrier which has a lower surface integral with
 - iii) a first hydrophobic vapor-transmissive moisture barrier."

"12. A filter element comprising:

an absorbent core having a basis weight of 45 gsm or greater comprising:

(A) a support matrix for supporting the core, and
(B) i) a first fibrous absorbent layer comprising:

- a) natural fibers, synthetic fibers or a mixture thereof, and
 - b) a binder which is a synthetic binder fiber or powder, a hydrophilic emulsion polymer binder or a mixture thereof, the fibrous absorbent layer having an upper surface and a lower surface, the lower surface in contact, optionally coextensively in contact, with
- ii) an upper surface of a synthetic carrier which has a lower surface integral with

iii) a first hydrophobic vapor-transmissive moisture barrier,

wherein the core has an air permeability of from about 3 to about 7 m³/min/m² (11-22 ft³/min/ft²)."

The opposition division found that the subject-matter of the claims of the first auxiliary request was novel over the disclosure of D1, and that the subject-matter of the claims involved an inventive step starting from D2 as the closest prior art document. With regard to claim 1, the opposition division found that there was no teaching in the cited prior art that would have prompted the skilled person, faced with the objective technical problem of providing an alternative absorbent core that can be easily manufactured while still providing significant moisture barrier property, to modify or adapt the disclosure of D2 and thereby arrive at something falling within the scope of claim 1.

The opposition division did not discuss in its decision the objections in relation to sufficiency of disclosure (Article 100(b) EPC), which were apparently discussed at the oral proceedings in the context of the main request and eventually lead to the deletion of granted claim 2.

IV. On 20 March 2009 the opponent (appellant) lodged an appeal against the decision of the opposition division and requested revocation of the patent in its entirety. The appeal fee was paid on the same day.

In the statement of grounds of appeal filed on 25 May 2009, the appellant argued that the subject-matter of claims 1, 6 and 12 was insufficiently disclosed and that the claimed subject-matter lacked inventive step. It also filed a fresh document in support of its arguments of lack of inventive step:

D3: WO 00/74620 A1.

The appellant further requested that the board considered applying Rule 103 EPC, because the ground of opposition under Article 100(b) EPC had not been discussed in the opposition division's decision.

- V. With its reply to the statement of grounds of appeal dated 27 October 2009, the patent proprietor (respondent) disputed all the arguments submitted by the appellant and requested that the appeal be dismissed (main request), alternatively, that the patent be maintained on the basis of one of auxiliary requests 1 to 39 filed with its reply.

The respondent requested further that document D3 be not admitted into the proceedings and that the ground of opposition concerning sufficiency of disclosure be not re-introduced into the proceedings. Finally, in the event that the board of appeal would decide to re-introduce the ground of opposition according to Article 100(b) EPC, it requested remittal of the case to the opposition division and an apportionment of costs in relation to the remittal.

- VI. With letter dated 3 December 2009, the appellant filed further arguments in support of its requests.

- VII. On 23 May 2011 the board dispatched a summons to attend oral proceedings scheduled to take place on 24 November 2011. In the annexed communication the board expressed its preliminary view that the ground of opposition under Article 100(b) EPC was not a fresh ground for opposition, that the absence of a detailed reasoning on sufficiency of disclosure did not appear to amount to a substantial procedural violation, and outlined the points to be discussed during the oral proceedings.
- VIII. With letters dated 22 June 2001 and 24 October 2011, the respondent further elaborated on its arguments.
- IX. On 24 October 2011 the appellant filed further arguments and informed the board that it "does not plan to attend the oral proceedings scheduled for November 24, 2011 and will instead rely upon its written submissions in continuance of the appeal." It withdrew its request for oral proceedings.
- X. Oral proceedings were held on 24 November 2011 before the board in the absence of the appellant. During the oral proceedings the respondent maintained the request that the appeal be dismissed and withdrew all other requests on file.

The claims under consideration were the claims maintained by the opposition division (see point III above).

- XI. The arguments presented by the appellant in its written submissions, insofar as they are relevant for the present decision, may be summarised as follows:

- The opposition division did not discuss the ground of insufficiency of disclosure in the appealed decision, although this ground of opposition had been discussed in writing and at the oral proceedings. The lack of reasoning on this subject amounted to a procedural violation and a refund of the appeal fee would be equitable.

- As regards sufficiency of disclosure, (i) the patent did not disclose how to obtain the air permeability value required in claims 1 and 12, (ii) the feature "vapor-transmissive moisture barrier" in claim 1 and (iii) the feature "vapor-nontransmissive moisture barrier" in claim 6 were not sufficiently disclosed for the whole range claimed. In fact, it was not credible that all hydrophobic materials suitable for coating would provide the alleged barrier benefits.

- Concerning inventive step, the appellant did not contest the finding in the appealed decision that the subject matter of the claims involved an inventive step in view of the disclosure of D2. It maintained, however, that the claimed subject-matter lacked inventive step starting from the newly filed document D3. Taking D3 as the closest prior art, the appellant saw the use of synthetic carriers as an obvious alternative to the cellulose carriers used in D3. Moreover, the further differences of claim 1 over D3, namely the presence of a first hydrophobic vapour-transmissive moisture barrier and an air permeability of from 3 to 7 m³/min/m² of the core

did not justify the presence of an inventive step. The first measure was obvious in view of the teaching of D2 which already used the same means, namely a barrier layer in the form of a backsheet comprising an open celled hydrophobic foam and the second measure was a mere optimization of a parameter which, according to EPO practice, could not provide an inventive step.

- Similar considerations applied to the remaining independent claims which either did not appear to solve any technical problem or were obvious for the skilled person.

XII. The arguments of the respondent in its written submissions and at the oral proceedings may be summarized as follows:

- With regard to sufficiency of disclosure the respondent emphasized that the appellant's assertions were based on a fundamental misinterpretation of the patent. The entire description indicated the factors that affected air permeability and all the working examples showed air permeability values within the claimed range. In its opinion the appellant ignored extensive details outlined in the patent providing the skilled person with a sufficient and broad teaching of the moisture barrier that corresponded to the scope of the claims and allowed him to practice the invention over the whole claimed range. Moreover the appellant had not provided any experimental evidence as to what subject-matter

falling within the scope of the claims was not sufficiently disclosed.

- The claimed subject-matter also involved an inventive step. The patent aimed at providing an absorbent core for use with food packaging and capable of absorbing all or substantially all of the fluid which might be exuded from a food product placed within a tray during its shelf life. This problem was solved by providing a unitary absorbent core comprising a fibrous absorbent layer in contact with a synthetic carrier that was integral with a moisture barrier. The claimed unitary core solved said problem in terms of improved absorbency and structural integrity. This solution was neither obvious from D3 alone nor from D3 in combination with D2. In fact D2 taught away from a unitary absorbent core as claimed because the only integral structure disclosed in D2 did not foresee an additional carrier. In this structure the absorbent layer and the backsheet were integrally formed by one and the same foam.

XIII. The appellant requested that the decision under appeal be set aside, that the European patent 1 448 375 be revoked and that the board considers applying Rule 103 EPC.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.
2. *Sufficiency of disclosure*
 - 2.1 The patent relates to a unitary absorbent core, mainly for use with packaging and displaying poultry, fish, meat and other foods which tend to exude fluid after packaging. The independent claims are directed to a unitary absorbent core including an absorbent stratum or strata and a synthetic carrier which has a lower surface integral with a moisture barrier (claims 1 and 6), to a receptacle for containing a food product (claim 11) and to a filter element (claim 12) both containing a unitary absorbent core.

The absorbent core is formed using materials and techniques well known in the art such as airlaid technology. The specification includes detailed information of the different elements which form the structure of the absorbent layer ([0016]-[0074]) and several working preparation examples ([0085]-[0108]).

- 2.2 The appellant asserts that the subject-matter of claims 1 and 12 is insufficiently disclosed because the patent does not disclose how to achieve the required air permeability value and the feature "vapor-transmissive moisture barrier" is not disclosed for the whole range claimed. Furthermore, the subject-matter of claim 6 is not sufficiently disclosed because the feature "vapor-non transmissive moisture barrier" is not disclosed in the whole range claimed.

2.3 The board finds these objections unjustified for the following reasons:

2.3.1 The entire specification and the detailed outline of test methods, examples and experimental runs from paragraph [0075] to paragraph [0108] of the patent specification provide the skilled person with sufficient information that enable him to realize the claimed subject-matter in the whole range as claimed. These passages clearly teach, for example, the effects of varying the amounts of material used to form the barrier. In particular paragraphs [0090], [0092] and [0096] to [0098] as well as table 3 show varying amounts of barrier material (basis weight) and varying air permeability (Frazier) within the claimed range of air permeability.

Contrary to the appellant's assertion that "it is not clear if the examples of cores disclosed fall within the scope of claim 1 or not", the air permeability of all the examples in the patent specification falls within the claimed range. Thus, in paragraph [0092] it is stated that the air permeability for the samples, reported in units of cubic feet per minute per square foot, ranges from 11 to 22 (which corresponds to the claimed 3 to 7 cubic meter per minute per square meter when converted to SI units). Additionally, paragraphs [0096] to [0098] as well as table 3, give the air permeability on the basis of "Frazier, cfm", and how it varies when varying the barrier material.

As to the comment of the appellant that paragraph [0034] of the granted patent indicated a different value for air permeability than the one now claimed, it is noted

that the passage cited by the appellant related to an embodiment no longer covered by the claims maintained by the opposition division and is therefore irrelevant for the subject-matter now claimed. In fact, this passage has already been deleted in the opposition proceedings when adapting the description to the amended claims.

The board thus concludes that the skilled person obtains sufficient instructions on how to form the claimed product with regard to the materials, structure, amounts and test methods for various parameters and, in combination with his general knowledge, is therefore able to achieve an air permeability value over the entire claimed range.

- 2.3.2 The board also finds the objection that the feature vapour transmissive moisture barrier is not disclosed for the whole range claimed unjustified. The patent specification includes a very detailed teaching as to the possible barrier materials and their composition (paragraph [0018]), namely froth, foam, dry powder or foam, the effect the barrier material should have when it is applied (paragraphs [0034] and [0036]), and the desired procedure to achieve specific contact angles to provide the vapour-transmissive barrier effect ([0047] to [0053]). Furthermore, in paragraph [0090] relating to the examples, it is stated that various emulsion polymer binders that are hydrophobic can make up "Layer 4", namely the barrier layer. Therefore, the appellant is incorrect in asserting that only a coating of a specific material is disclosed, which does not provide a sufficient teaching for the whole range claimed.

2.3.3 Finally, regarding the objection concerning the provision of the non-exemplified hydrophobic or hydrophilic vapour non-transmissive barrier, it is taught in paragraphs [0028], [0035] and [0047] that these embodiments are alternative embodiments for applications where water vapour transmission is irrelevant. Paragraph [0047] teaches that producing a continuous layer of film of polymer would block pores and render the barrier vapour non-transmissive. The description of the patent further gives details as to how to determine whether the barrier material is hydrophobic or hydrophilic and table 1 teaches materials by which either property can be obtained ([0048] to [0066]).

2.3.4 It should be added at this juncture that the appellant has not provided any experimental evidence showing that an embodiment covered by the claims cannot be carried out.

2.4 The board is therefore satisfied that the patent provides the skilled person with many details on materials, quantities and test methods in order to obtain structures with the claimed properties, in the whole area claimed and without undue burden.

Consequently, the requirements of sufficiency of disclosure are met.

3. *Inventive step*

3.1 The subject-matter of claim 1 relates to a unitary absorbent core, mainly for use with packaging and

displaying poultry, fish, meat and other foods which tend to exude fluid after packaging. The unitary absorbent core has the following features:

- a) a basis weight of about 45 gsm or greater comprising:
- b) a first fibrous absorbent layer having an upper surface and a lower surface comprising:
 - b1) natural fibres, synthetic fibres or a mixture thereof, and
 - b2) a binder which is a synthetic binder fibre or powder, a hydrophilic emulsion polymer binder or a mixture thereof,
 - b3) the lower surface of the fibrous absorbent layer being in contact with
- c) an upper surface of a synthetic carrier
 - c1) which has a lower surface integral with
- d) a first hydrophobic vapour-transmissive moisture barrier wherein
- e) the core has an air permeability of from about 3 to about 7 m³/min/m² (11-22 ft³/min/ft²).

Claim 6 is directed to a unitary absorbent core similar to the one of claim 1 without defining the air permeability (feature e) of claim 1) and wherein feature d) is defined as:

- d6) a first hydrophobic or hydrophilic vapour-nontransmissive moisture barrier.

Claim 11 relates to a receptacle comprising a tray and a unitary absorbent core having the features of claim 1 with the exception of feature e) and claim 12 is

directed to a filter element comprising an absorbent core having the features of claim 1.

- 3.2 The appellant contested the inventive step of all independent claims starting from D3 as closest prior art document.
- 3.3 Document D3 discloses a unitary absorbent structure comprising a fluid acquisition stratum, a fluid distribution stratum, and a fluid storage stratum (claim 1; see also page 2, lines 31-32). The basis weight of the composite structure is 100-720 gsm (page 4, lines 18-19). The fluid distribution stratum may include fluff cellulose and/or chemical modified cellulose fibre and thermal and/or latex binder resin (page 4, lines 12-13). The fluid distribution layer, which corresponds to the first fibrous absorbent layer of claim 1, is airlaid on top of a lightweight (*i.e.* 10-20 gsm) cellulose tissue or similar carrier (page 6, lines 14-15). The unitary absorbent structures of D3 are useful in providing improved disposable absorbent products, such as diapers, adult incontinence pads, and sanitary napkins (page 1, lines 7-8).

Undisputedly D3 does not disclose a synthetic carrier (feature c)), integral (feature c1) with a hydrophobic vapour-transmissive moisture barrier (feature d) of claim 1). D3 also does not disclose that the core has an air permeability of from about 3 to about 7 m³/min/m² (feature e)).

- 3.4 Having regard to this prior art the respondent saw the technical problem underlying claim 1 in the provision of a unitary absorbent core which is capable of

absorbing the fluid which may be exuded from a food product and which does not stick to the food product, or, in other words, in the provision of a unitary absorbent with good absorbing properties and presenting structural integrity when used (see paragraphs [0005], [0008]-[0009] of the patent specification).

3.5 Claim 1 solves this problem essentially by providing a unitary absorbent core comprising a fibrous absorbent layer in contact with a synthetic carrier that is integral with a hydrophobic vapour-transmissive moisture barrier (cf. claim 1, features c), c1) and d)).

3.5.1 The examples in the specification show that this problem has been credibly solved by the claimed absorbents. The unitary absorbent cores of examples 1 to 6, having the combination of features of claim 1, show good absorbency properties and structural integrity and are useful for food applications (see also paragraphs [0072]-[0073]). The use of a synthetic carrier is said to improve the structural stability of the core. The synthetic carrier contributes to increasing the web strength by creating a strong stable structure. Its presence in conjunction with the hydrophobic vapour-transmissive moisture barrier is important for the achievement of good barrier properties (see paragraphs [0053] and [0065]). In particular the test runs in example 1 show good hydrohead values at all barrier levels (table 1, paragraph [102]).

3.5.2 The board is therefore satisfied that the above-defined problem has been credibly solved. This finding was not challenged by the appellant.

3.6 It remains to be decided whether, in view of the available prior art documents, it would have been obvious for the skilled person to solve the technical problem identified above by the means claimed, in particular by providing a unitary absorbent core comprising a fibrous absorbent layer in contact with a synthetic carrier that is integral with a hydrophobic vapour-transmissive moisture barrier.

3.6.1 There is no hint to this solution in document D3 itself as this document does not disclose synthetic carrier and does not disclose a vapour-transmissive moisture barrier.

First of all, D3 only teaches a cellulose tissue or similar carrier as an optional feature that "serves to contain the SAP [superabsorbent polymer] powder during the web forming process and thus prevent plugging of the fiber collection wire with particles of SAP" (page 6, lines 14-17). No other technical effect, least of all those which are provided by the claimed subject-matter, is described in D3 and no reason has been given by the appellant why a synthetic carrier is an obvious alternative to cellulose tissue even if the optional presence of a cellulose tissue would be selected as the starting point in D3. Also the board sees no reason why the skilled person should replace the cellulose tissue in the unitary absorbent of D3 by a synthetic carrier in order to solve the above identified problem. Moreover, the appellant's argument that the use of a synthetic carrier is an obvious alternative appears to be based on hindsight

3.6.2 There is also no pointer to the claimed solution in D2. D2 discloses in claim 1 an air permeable absorbent article comprising two layers: an absorbent core, and a generally air permeable backsheet positioned on a first side of said core. The backsheet can be a laminate material *i.e.* it can comprise a combination with apertured film and/or non-woven material, and/or apertured formed film (page 10, lines 33-36) and comprises an open celled hydrophobic foam (page 11, lines 4-5; claim 1). In the only embodiment in which the backsheet forms an integral structure, it is made as a single foam substrate integral with the absorbent core (claim 8). Therefore D2 cannot give any hint to the claimed absorbent because the structure of D2 does not foresee any carrier between the absorbent layer and the backsheet. In fact, D2 teaches away from using any additional carrier between the absorbent layer and the backsheet when these are integrally formed of a single foam.

It follows from the above, that the combination of D3 and D2 cannot lead in an obvious manner to the claimed structure in which the hydrophobic moisture barrier is integral with a synthetic carrier that, in turn, contacts the fibrous absorbent layer. There is simply no motivation in the relevant prior art which would motivate the skilled person to modify the closest prior art structure in order to provide a unitary absorbent with good absorbing properties and structural integrity.

3.6.3 For these reasons the board is satisfied that the subject-matter of claim 1 involves an inventive step.

3.6.4 Regarding the unitary core according to claim 6, the receptacle according to claim 11, and the filter according to claim 12, also essentially the same considerations apply as already outlined in relation to claim 1. The subject-matter of these claims includes in principle the same combination of features, namely fibrous absorbent layer in contact with a synthetic carrier integral with a moisture barrier, which justifies the inventive step of claim 1.

3.7 In summary, the subject-matter of claims 1, 6, 11 and 12 found allowable by the opposition division, and, by the same token, the subject-matter of dependent claims 2-5 and 7-10 is based on an inventive step.

4. *Reimbursement of appeal fee (Rule 103 EPC)*

4.1 Rule 103(a) EPC stipulates that "the appeal fee shall be reimbursed where the Board of Appeal deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation, ...".

4.2 Since the appeal is not allowable, the appellant's request for reimbursement of the appeal fee cannot be allowed either.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

G. Röhn

W. Sieber