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**D E C I S I O N**  
**of 10 May 2004**

**Case Number:** T 1240/01 - 3.2.6

**Application Number:** 93116646.6

**Publication Number:** 0597273

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**Language of the proceedings:** EN

**Title of invention:**  
Garment shield

**Patentee:**  
McNEIL-PPC, INC.

**Opponent:**  
SCA Research AB

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 69, 123(3)

**Keyword:**  
"Amendments - extension of protection (yes)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1240/01 - 3.2.6

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.6  
of 10 May 2004

**Appellant:** McNEIL-PPC, INC.  
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**Respondent:** SCA Research AB  
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**Representative:** Hammond, Andrew David  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 26 September 2001  
revoking European patent No. 0597273 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** P. Alting van Geusau  
**Members:** H. Meinders  
R. T. Menapace

## Summary of Facts and Submissions

- I. European patent No. 0 597 273 was revoked by decision of the Opposition Division dated 13 September 2001 sent to the parties on 26 September 2001. According to this decision the subject-matter of claim 1 of the main request did not involve inventive step. The sole auxiliary request, filed in the oral proceedings before the Opposition Division, was not admitted as late filed for the reason that the subject-matter of claim 1 of that request involved features taken from the description which would necessitate an additional search.
  
- II. An appeal was filed by the patentee on 26 November 2001 with payment of the appeal fee on that same date. The statement of grounds of appeal was filed on 28 January 2002, with the main request and the auxiliary request 1 as filed before the Opposition Division and further auxiliary requests 2 to 7. Auxiliary request 1 was finally modified with letter of 10 October 2003, auxiliary request 4 with letter of 22 April 2004.
  
- III. The respondent (opponent) in his written submissions made formal objections pursuant to Articles 123 and 84 EPC against the claims of the auxiliary requests 1 and 4. In a communication in preparation of oral proceedings dated 7 April 2004 the Board indicated under the heading of: "Formal allowability of the amendments - Articles 123 and 84 EPC" that in addition to the points raised by the respondent it should be discussed whether the amendments of claim 1 according to the main and the auxiliary requests resulted in subject-matter being claimed which did not include the

causal relationship between the formation of the contiguous barriers at the perimeter and in the center of the pad and the resulting compartmentalized areas as required by the subject-matter of claim 1 as granted.

IV. Oral proceedings were held on 10 May 2004.

The appellant requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of independent claims 1 and 10 according to its main request or any of its auxiliary requests 1 to 5, or on the basis of the claims 1 to 3 according to the auxiliary requests 6 or 7.

The respondent requested that the appeal be dismissed.

V. **Product claim 1 as granted** reads as follows:

"An absorbent pad (10) comprising:

a fibrous, body-side, cover layer (11);

a fluid impermeable, garment-side backing layer (17);

and

a fibrous absorbent layer (16) therebetween;

wherein the cover layer (11) and the absorbent layer

(16) are each comprised of thermoplastic fibers, and

wherein the cover layer (11), the backing layer (17),

and the absorbent layer (16) are hermetically bonded to

each other at the perimeter;

characterized in that

the cover layer (11), the absorbent layer (16) and the

backing layer (17) are each comprised of at least two

thermoplastic materials having distinguishable melting points, and wherein

the cover layer (11), the backing layer (17), and the absorbent layer (16) are thermally bonded to each other also in the center of the pad (10) in such a way that the pad has two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing liquids and that the bonding of the different layers (11, 16, 17) takes place to such an extent that the fluid is at least hindered from flowing toward the edge of the pad (10)."

**Process claim 10** as granted reads as follows:

"A process for producing an absorbent article comprising the steps of:

- a. combining (i) a fibrous body-side, cover layer (11) comprising thermoplastic fibers, (ii) a fluid impermeable, garment-side backing layer (17) and (iii) a fibrous absorbent layer (16) comprising thermoplastic fibers, wherein the absorbent layer is positioned between the cover layer (11) and the backing layer (17) and
- b. subjecting the cover layer (11), absorbent layer (16), and backing layer (17) to heat and pressure to thermally bond said layers to each other at the perimeter,

characterized by

- c. combining in step a. (i) a body-side cover layer (11) comprising a mixture of at least two thermoplastic materials having distinguishable melting points, (ii) a fluid impermeable, garment-side backing layer (17) having at least two thermoplastic materials having

distinguishable melting points, and (iii) an absorbent layer (16) comprising a mixture of at least two thermoplastic materials having distinguishable melting points and

d. forming contiguous, densified liquid barrier areas (15a, 15b, 15c) by subjecting the cover layer, absorbent layer (16) and backing layer (17) to heat and pressure in a sealing station (24) sufficient to fuse lower melting point thermoplastic materials in the cover, absorbent, and backing layers (11, 16, 17) in a manner such that the flow of fluid to the edges of the article is prohibited or at least hindered; wherein said pressure and temperature are balanced to fuse the cover layer (11), absorbent layer (16), and backing layer (17) together while avoiding the formation of pinholes in the backing layer (17)."

VI. **Product claim 1** of the **main request** reads as follows:

"An absorbent pad (10), comprising:

- a fibrous, body-side cover layer (11) comprising a mixture of two or more types of thermoplastic fibers having different melting points,
- a fluid impermeable, garment-side backing layer (17) comprising a mixture of two thermoplastic materials having different melting points, and,
- between the cover layer (11) and the backing layer (17), a fibrous absorbent layer (16) comprising a mixture of two or more types of thermoplastic fibers having different melting points,

wherein the cover layer (11), the absorbent layer (16) and the backing layer (17) are thermally bonded to each other at the perimeter and in the center of the pad (10),

characterized in that

one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified aereas [sic] having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing liquids such that they are at least hindered from flowing toward the edge of the pad (10)".

**Product claim 1 of auxiliary request 1** differs from claim 1 of the main request only in its characterising portion, which is as follows:

"one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified aereas [sic] having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing liquids, and that one contiguous barrier is the outer fluid barrier (13) of the pad (10) and a second contiguous barrier is a closed inner barrier

seal (14), such that said liquids are at least hindered from flowing toward the edge of the pad (10)".

**Product claims 1 of the auxiliary requests 2 to 5** also only have different characterising portions in comparison with claim 1 of the main request, which are as follows:

**Auxiliary request 2:**

"an additional fibrous layer (16a) is placed between the absorbent layer (16) and the backing layer (17), said additional fibrous layer (16a) is made from the same material as the first hydrophobic layer (11), and

one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified areas having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing fluids such that they are at least hindered from flowing toward the edge of the pad (10)".

**Auxiliary request 3:**

"an additional fibrous layer (16a) is placed between the absorbent layer (16) and the backing layer (17), said additional fibrous layer (16a) is made from the same material as the first hydrophobic layer (11), and



one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified areas having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing fluids, and that one contiguous barrier is the outer fluid barrier (13) near the perimeter of the pad (10) and a second contiguous barrier is a closed inner barrier seal (14), such that said fluids are at least hindered from flowing toward the edge of the pad (10)".

**Auxiliary request 4:**

"an additional fibrous layer (16a) is placed between the absorbent layer (16) and the backing layer (17), said additional fibrous layer (16a) is made from the same material as the first hydrophobic layer (11), and

one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified areas having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing fluids such that they are at least hindered from flowing toward the edge of the pad (10)".

**Auxiliary request 5:**

"an additional fibrous layer (16a) is placed between the absorbent layer (16) and the backing layer (17), said additional fibrous layer (16a) is made from the same material as the first hydrophobic layer (11), and

one of the thermoplastic materials of each of the cover layer (11), the absorbent layer (16) and the backing layer (17) has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers (13, 14) in form of densified areas [sic] having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas (15a, 15b, 15c, 15d) for absorbing fluids, and that one contiguous barrier is the outer fluid barrier (13) near the perimeter of the pad (10) and a second contiguous barrier is a closed inner barrier seal (14), such that they are at least hindered from flowing toward the edge of the pad (10)".

**Process claim 1 of auxiliary request 6** now reads as follows:

"A process for producing an absorbent article, comprising the steps of:

- a. Combining (i) a fibrous, body-side cover layer (11) comprising a mixture of two or more types of thermoplastic fibers having different melting points, (ii) a fluid impermeable, garment-side backing layer (17) comprising a mixture of two thermoplastic materials having different melting points, and (iii) between the cover layer (11) and

the backing layer (17), a fibrous absorbent layer (16) comprising a mixture of two or more types of thermoplastic fibers having different melting points, and,

- b. Subjecting the cover layer (11), the absorbent layer (16) and the backing layer (17) to heat and pressure to thermally bonded [sic] siad layers (11, 16, 17) to each other at the perimeter and in the center of the pad (10),

characterized in that

during thermobonding the pressure and heat are balanced in a sealing station (24) such that the temperature exceeds the lower melting points of the thermoplastic materials in the cover layer (11), the absorbent layer (16) and the backing layer (17), but does not exceed the melting points of the remaining thermoplastic materials in each of the three layers (11, 16, 17), the melting thermoplastic materials are pressure forced into interstitial pore spaces forming contiguous, densified areas as liquid barriers (13, 14) having reduced ability to draw fluid into and through them by capillary action such that the flow of fluid to the edges of the pad (10) is prohibited or at least hindered, and the formation of pinholes in the backing layer (17) is avoided; and the process comprises the step of trimming excess material proximate the densified liquid barrier (13) to form an absorbent pad (10), leaving some portion of the unfused material along the outer perimeter."

**Process claim 1 of auxiliary request 7** only differs from claim 1 of auxiliary request 6 by its characterising portion:

"during thermobonding the pressure and heat are balanced in a sealing station (24) such that the temperature exceeds the lower melting points of the thermoplastic materials in the cover layer (11), the absorbent layer (16) and the backing layer (17), but does not exceed the melting points of the remaining thermoplastic materials in each of the three layers (11, 16, 17), the melting thermoplastic materials are pressure forced into interstitial pore spaces forming contiguous, densified areas as liquid barriers (13, 14) having reduced ability to draw fluid into and through them by capillary action, and that one contiguous barrier is the outer fluid barrier (13) near the perimeter of the pad (10) and a second contiguous barrier is a closed inner barrier seal (14) such that the flow of fluid to the edges of the pad (10) is prohibited or at least hindered, and the formation of pinholes in the backing layer (17) is avoided; and the process comprises the step of trimming excess material proximate the densified liquid barrier (13) to form an absorbent pad (10), leaving some portion of the unfused material along the outer perimeter."

VII. The appellant argued essentially as follows:

The amended product claims 1 of the main request and the auxiliary requests 1 to 5 were allowable pursuant to Article 123(3) EPC, as the product claimed was identical to the product claimed in claim 1 as granted, with a number of further limiting features. In the

preamble of these claims it was mentioned that the cover-, absorbent- and the backing layers were thermally bonded to each other at the perimeter and in the center of the pad. In the characterising portions it was mentioned that thermobonding formed contiguous barriers as well as two or more compartmentalized areas. These contiguous barriers could not be anything other than the borders of these compartmentalized areas and could not be located anywhere else than at the perimeter and in the center of the pad, as mentioned in the preamble.

In auxiliary request 1 it was further specified that "one contiguous barrier is the outer fluid barrier of the pad" and that "a second contiguous barrier is a closed inner barrier seal". The first one could only have been achieved by the thermobonding at the perimeter, the second one only by the thermobonding in the center, as mentioned in the preamble.

In auxiliary requests 3 and 5, compared with auxiliary request 1, it was even further specified that this outer fluid barrier was located "near the perimeter of the pad", which made it clear that it was achieved by the thermobonding at the perimeter, as mentioned in the preamble.

In any case the other amendments further limited the subject-matter of product claim 1 as granted, thus there could not be an extension of protection involved.

The process claims 1 of the auxiliary requests 6 and 7 were in conformity with Article 123(3) EPC, as the presently claimed balancing of **pressure and heat** in the

sealing station was identical to the balancing of **pressure and temperature** as claimed in process claim 10 as granted. This claim 10 further mentioned that in the sealing station **pressure and heat** were applied to the cover-, absorbent- and backing layers to fuse the lower melting point thermoplastic materials in these layers. The description also referred to pressure and heat being controlled in the sealing station. Moreover, the other amendments further limited the subject-matter of this process claim, thus there could not be an extension of protection.

VIII. The respondent opponent brought forward the following:

In the product claim 1 as granted the cover-, absorbent. and backing layer were thermally bonded to each other at the perimeter and also in the center of the pad "in such a way that the pad has two or more compartmentalized areas for absorbing liquids and that the bonding of the different layers takes place to such an extent that the fluid is at least hindered from flowing toward the edge of the pad". This meant that the thermobonding led to the creation of compartmentalized areas surrounded by a barrier hindering the flow of the absorbed fluid to the edge of the pad and that one compartmentalized area had this barrier at the perimeter of the pad and that the other compartmentalized area had its barrier in the center of the pad. There was thus a direct link between the compartmentalized areas and the barriers as well as an indication where these barriers were located.

With the present wording of product claim 1 of the main request and the auxiliary requests 1 to 5, it was not

guaranteed that the thermobonding at the perimeter and in the center of the pad as mentioned in the preamble of these claims was the same as the thermobonding forming the contiguous barriers and the compartmentalized areas as mentioned in the characterising portions of these claims. Further, there was no longer a direct link between the compartmentalized areas and the barriers. Thus it was not guaranteed that any of the contiguous barriers was located in the center of the pad, nor that the compartmentalized areas had anything to do with the contiguous barriers.

The present wording of the process claims 1 according to auxiliary requests 6 and 7 resulted in an extension of protection, contrary to Article 123(3) EPC as the balancing of pressure and **temperature** in claim 10 as granted had been replaced by the balancing of pressure and **heat**. The latter involved the control of more possible parameters than only temperature. The description did not provide a clear indication to the heat and pressure being balanced, they were "controlled such that the temperature exceeded the lower melting point of the thermoplastic materials" (column 7, line 35). However, the rest of the description made clear that it was the pressure and the **temperature** that were balanced, not the pressure applied on and **heat** supplied to the rolls (see e.g. column 7, line 41 to column 8, line 2).

It might be that the independent claims were further limited by the other amendments, however, this could not prevent an objection pursuant to Article 123(3) EPC if the claim thus amended covered embodiments of the

invention which were previously not covered by the independent claims as granted.

### **Reasons for the Decision**

1. The appeal is admissible.
  
2. *Amendments - Product claims - Extension of protection (Article 123(3) EPC) - Main request and auxiliary requests 1 - 5*

According to Article 123(3) EPC the protection conferred by the patent as granted may not be extended as a result of amendments.

The Board notes that the product claims 1 of the main request and the auxiliary requests 1 to 5 have been extensively redrafted, when compared with product claim 1 as granted, which necessitates close scrutiny in the examination whether the conditions of Article 123(3) EPC have been fulfilled.

- 2.1 In claim 1 as granted the cover-, absorbent- and backing layer were thermally bonded together at the perimeter and also in the center of the pad "in such a way that the pad has two or more compartmentalized areas for absorbing liquids and that the bonding takes place to such an extent that the fluid is at least hindered from flowing toward the edge of the pad". The pad of claim 1 as granted thus involves compartmentalized areas bounded by barriers which result from the thermobonding of the cover layer, the absorbent layer and the backing layer at the perimeter and in the center. Thus one barrier is at least at the



perimeter and one is at least in the center. These barriers hinder the flow of fluid to the edge of the pad.

- 2.2 Claim 1 according to the **main request** and the **auxiliary requests 2 and 4** now defines the cover-, absorbent- and backing layer on the one hand as having been "thermally bonded to each other at the perimeter and in the center of the pad" (preamble) and on the other in that "one of the thermoplastic materials in the cover-, absorbent- and backing layer has been melted during thermobonding to substantially fill interstitial pore spaces to form contiguous barriers in form of densified areas [sic] having a reduced ability to draw fluid into and through them by capillary action and two or more compartmentalized areas for absorbing liquids such that they are at least hindered from flowing toward the edge of the pad" (characterising part).

In the above citations from the claim the reference signs have been left out by the Board, as these cannot be construed as limiting the claim (Rule 29(7) EPC).

- 2.2.1 From the above the Board can only conclude that in the pad according to the product claims of these requests the thermobonding at the perimeter and in the center is not necessarily the thermobonding resulting in compartmentalized areas, as the "thermobonding" in the characterising part is not referred to as "the" or as "said" thermobonding, which would clearly have established the link with the thermal bonding at the perimeter and in the center of the pad as mentioned in the preamble.

2.2.2 Further, in the wording of claim 1 according to these requests, as a result of the thermobonding referred to in the characterising part there are formed **on the one hand** contiguous barriers and **on the other hand** compartmentalized areas. However, the wording of the claim is such that the relation required between these two features which existed in claim 1 as granted is no longer present. Thus the **contiguous** barriers are not necessarily the boundaries of the compartmentalized areas and thus do not necessarily have a function in hindering liquids from flowing toward the edge of the pad.

2.2.3 Finally, as a result of the reference to thermal bonding in the preamble, separate from thermobonding mentioned in the characterising part, the barriers resulting from the latter thermobonding are not necessarily located **in** the center of the pad, which also leads to an extension when compared with what is claimed in claim 1 as granted.

2.3 In claim 1 according to **auxiliary requests 1, 3 and 5** it has been **further** specified that "one contiguous barrier is the outer fluid barrier (which was further limited to "near the perimeter of the pad" in auxiliary requests 3 and 5) and a second contiguous barrier is a closed inner barrier seal, such that said fluids ("liquids" according to auxiliary request 1) are at least hindered from flowing toward the edge of the pad".

With these further amendments only the objection made under point 2.2.2 above may have been partly resolved, namely in that the contiguous barriers at least hinder the liquids (or fluids, for that matter) from flowing

toward the edge of the pad. However, the other objections mentioned in point 2.3 continue to apply.

- 2.4 Due to these amendments there are now embodiments of the pad being covered by claim 1 which were not covered by claim 1 as granted, namely pads having a compartmentalized area with a barrier hindering flow towards the edge of the pad, which barrier is **not** located **in the center of the pad**.

This is not altered by the fact that further amendments have been carried out in this product claim, further limiting its subject-matter.

Thus the requirements of Article 123(3) EPC are not fulfilled by the claims 1 of the main request and the auxiliary requests 1 to 5. These requests therefore cannot be allowed.

3. *Amendments - Process claims - Extension of protection (Article 123(3) EPC) - **Auxiliary requests 6 and 7***

The Board notes that the process claims 1 of the auxiliary requests 6 and 7 have been extensively redrafted, when compared with process claim 10 as granted, which again necessitates close scrutiny in the examination whether the conditions of Article 123(3) EPC have been fulfilled.

- 3.1 In process claim 10 as granted the cover-, absorbent- and backing layer are subjected "to **heat and pressure** to thermally bond said layers to each other at the perimeter" (point b.), are subjected "to **heat and pressure** in a sealing station sufficient to fuse lower

melting point thermoplastic materials in the cover, absorbent and backing layers in a manner such that the flow of fluid to the edges of the article is prohibited or at least hindered" (point d.) and "wherein **said pressure and temperature are balanced** to fuse the cover layer, absorbent layer, and backing layer together" (last part of point d.).

In the process claims 1 of auxiliary requests 6 and 7 it is now claimed that "during thermobonding the **pressure and heat are balanced** in a sealing station such that the temperature exceeds the lower melting points of the thermoplastic materials in the cover layer, the absorbent layer and the backing layer, but does not exceed the melting points of the remaining thermoplastic materials in each of the layers, the melting thermoplastic materials are pressure forced into interstitial pore spaces forming contiguous, densified areas as liquid barriers having reduced ability to draw fluid into and through them by capillary action such that the flow of fluid to the edges of the pad is prohibited or at least hindered..".

- 3.2 From the above it results that in process claim 10 as granted the **pressure and the temperature** were balanced in the sealing station.

For the purposes of determining the extent of protection of a granted claim pursuant to Article 123(3) EPC, the requirements of Article 69 EPC and the Protocol on its interpretation need to be taken into account, i.e. the subject-matter of the claim should be interpreted in the light of the description.

According to the description of the patent in suit, column 7, line 33 to column 8, line 2, the pressure and heat in the sealing station are controlled such that the temperature in the pad exceeds the melting point of the lower melting thermoplastic materials in the cover-, absorbent- and backing layer, but not the melting point of the higher melting remaining thermoplastic materials in each of these three layers. For production speeds of up to 400-600 pads per minute it is said to be important to keep the temperature of the lower pattern roll of the sealing station within the range of 200 to 400 °F, preferably between 250 and 350 °F, and the temperature of the upper anvil roll between 100 and 200 °F, preferably between 125 and 175 °F. The pressure should be kept between 100 and 600 psi, preferably between 200 and 500 psi.

Thus, according to process claim 10 of the patent as granted, the temperature of the rolls is the parameter which is measured, controlled and balanced with the pressure on the rolls in the sealing station. In the opinion of the Board this can only be performed by control of the heating power and the pressure.

3.3 According to claim 1 of auxiliary requests 6 and 7 the **pressure and heat** are balanced in the sealing station.

This means that the parameters to be measured and controlled are both the heat and the pressure applied to the rolls, no longer the pressure on and the temperature of the rolls. The amount of supplied heat depends, however, on the amount of supplied **heating power** or on the **duration** of the application of heating

power, thus involves a further possibility of control: duration of heating power application.

The above means that the process according to present amended claim 1 of auxiliary requests 6 and 7 covers a process which was previously not covered by process claim 10 as granted, namely one in which in the sealing station the **duration** of the application of heating power is controlled and balanced with the pressure applied to the rolls.

This is not altered by the fact that further amendments have been carried out in this process claim, further limiting its subject-matter.

Such an amendment does not fulfil the requirements of Article 123(3) EPC. Auxiliary requests 6 and 7 therefore cannot be allowed.

3.4 None of the requests being allowable, the appeal is to be dismissed.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

M. H. A. Patin

P. Alting van Geusau