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**Datasheet for the decision  
of 4 July 2017**

**Case Number:** T 1322/14 - 3.3.09

**Application Number:** 07805196.8

**Publication Number:** 2064052

**IPC:** B32B5/26, B32B27/12, D04H13/00

**Language of the proceedings:** EN

**Title of invention:**  
Nonwoven composite containing an apertured elastic film

**Patent Proprietor:**  
Kimberly-Clark Worldwide, Inc.

**Opponent:**  
SCA Hygiene Products AB

**Headword:**

**Relevant legal provisions:**  
EPC Art. 54, 56  
RPBA Art. 13(1)

**Keyword:**

Novelty (yes)

Inventive step (yes)

Late-filed document - admitted (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 1322/14 - 3.3.09

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.09**  
**of 4 July 2017**

**Appellant:** SCA Hygiene Products AB  
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**Representative:** Valea AB  
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**Respondent:** Kimberly-Clark Worldwide, INC.  
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**Representative:** Davies, Christopher Robert  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 16 April 2014  
rejecting the opposition filed against European  
patent No. 2064052 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman** M. O. Müller  
**Members:** J. Jardón Álvarez  
D. Prietzel-Funk

## **Summary of Facts and Submissions**

I. This decision concerns the appeal filed by the opponent against the decision of the opposition division to reject the opposition filed against European patent No. 2 064 052.

II. The granted patent contained 19 claims, independent claims 1, 14 and 17 reading as follows:

"1. A method of forming a nonwoven composite, the method comprising:

forming an elastic film from a polymer composition; passing the film and a nonwoven web material through a nip formed by at least one patterned roll; and at the nip, concurrently melt fusing the film to the nonwoven web material and forming apertures in the film without substantially softening a polymer of the nonwoven web material, wherein at least one of the apertures has a length of from about 200 to about 5000 micrometers, preferably from about 350 to about 4000 micrometers, further wherein the film is under tension at a stretch ratio of about 1.5 or more in the machine direction at the nip, wherein the stretch ratio is preferably from about 2.5 to about 7.0, and more preferably from about 3.0 to about 5.5."

"14. A nonwoven composite formed according to the method of any of the foregoing claims, wherein the elastic film is positioned adjacent and melt fused to the nonwoven web material at a plurality of discrete bond sites, the elastic film defining a plurality of apertures having a perimeter about which the discrete bond sites are proximately located, and wherein the

nonwoven web is generally unapertured at those regions adjacent to the apertures in the film."

"17. An absorbent article comprising an outer cover, a bodyside liner joined to the outer cover, and an absorbent core positioned between the outer cover and the bodyside liner, wherein the absorbent article includes the nonwoven composite of claim 14, 15 or 16."

The remaining claims were dependent claims.

III. The opponent had requested revocation of the patent in its entirety on the grounds of Article 100(a) EPC (lack of novelty and inventive step). The documents cited during the opposition proceedings included:

D1: US 2002/0016122 A1;

D2: EP 1 528 133 A1; and

D3: US 4 726 976 A.

IV. The opposition division's decision can be summarised as follows:

- The wording "a polymer" in the wording "without substantially softening a polymer of the nonwoven web material" (cf. claim 1) should be construed as meaning any polymer. That interpretation was supported by the contested patent which repeated that the polymers of the nonwoven web material did not soften during bonding.
- The subject-matter of claim 1 was novel over D1 because: (i) D1 did not disclose that the

polymer(s) of the nonwoven web were not substantially softened during bonding;  
(ii) there was no clear and unambiguous disclosure in D1 of a nonwoven composite comprising a nonwoven web and an elastic film, where the elastic film was melt-fused to the nonwoven web; and  
(iii) D1 did not disclose melt-fusing of the elastic layer when it passed through the nip.

- The nonwoven composite of claim 14 was novel over the product disclosed in D1, because the method of producing it (i.e. method claim 1) resulted in a product with distinguishing features over the product of D1.
- Starting from D1 as closest prior art, the opposition division acknowledged an inventive step essentially because D1 taught the opposite of the contested patent, namely softening the nonwoven web rather than the film. Consequently, it could not render the claimed subject-matter obvious.

V. This decision was appealed by the opponent (in the following: the appellant). The statement setting out the grounds of appeal included the following further document:

D6: US 4 692 368 A.

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

VI. With its reply the patent proprietor (in the following: the respondent) requested that the appeal be dismissed (main request) or, subsidiarily, that the patent be maintained in amended form on the basis of the claims

of one of auxiliary requests 1 to 8 as filed with the reply. Further, it requested that D6 not be admitted into the appeal proceedings.

- VII. In its communication in preparation for oral proceedings, the board noted that, of the prior-art documents in opposition proceedings, only D1 and D2 had been used by the parties in the appeal proceedings. Further, the board gave its preliminary view that the disclosure of D1 was not novelty-destroying for the subject-matter of claim 1, and indicated that the main point to be discussed during the oral proceedings would be inventive step.
- VIII. Oral proceedings were held before the board on 4 July 2017. During the oral proceedings the appellant withdrew its inventive-step attack starting from D1 as closest prior art. On the other hand, it requested that D3, filed with the notice of opposition but not relied on during the written appeal proceedings, be admitted into the proceedings.
- IX. The arguments of the appellant, insofar as they are relevant for the present decision, may be summarised as follows:
- The wording "without substantially softening a polymer of the nonwoven web material" did not require that there was no thermal bonding at all in the nonwoven web material, but that there was at least one polymeric component in that material that was not softened. The wording did not exclude there being other polymeric components that were softened.

- The subject-matter of claims 1 and 14 lacked novelty over D1. Claim 1 of the patent should be interpreted in its broadest sense; it covered the method disclosed in D1.
- The claimed subject-matter lacked inventive step starting from D2 as closest prior art in combination with D1 and/or D3. The only feature of claim 1 of the patent not disclosed in D2 was the stretch ratio of the film in the nip. This feature was obvious at least in view of D1, which disclosed appropriate stretch ratios within the range of claim 1.
- D3 should be admitted into the proceedings as it had already been filed with the notice of opposition. It was relied on only to show the common general knowledge of the skilled person as regards the formation of apertures.

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

- The wording "without substantially softening a polymer" in claim 1 of the patent meant that the process was carried out without substantially softening any polymer of the nonwoven web, whereas in D1 there was always melting of a polymer of the nonwoven web material. Additionally, there was no clear and unambiguous disclosure of an elastic film which became melt-fused to the nonwoven web material concurrently with forming apertures within the film.
- The claimed subject-matter involved an inventive step starting from D2 as closest prior art. In D2



the nonwoven web became melt-fused as a result of the polyester fibres melting. There was no disclosure in the prior art of a method as now claimed in which fusing of the film layer and aperturing were achieved without substantially softening a polymer of the nonwoven web layer. This included the embodiments in D2 with polypropylene as the nonwoven web material. More specifically, the softening point of polypropylene was not known and thus could well be below the heating temperature applied in this document. The claimed method made it possible to improve the softness, hand feel and permeability properties of the composite obtained. There was no hint in D2 alone or in combination with D1 to the claimed solution.

- D3 should not be admitted into the appeal proceedings as it had been filed too late, was not a reaction to an argument put forward for the first time in appeal, and raised complex new questions.

XI. The appellant requested that the decision under appeal be set aside, and that European patent No. 2 064 052 be revoked.

The respondent requested that the appeal be dismissed (main request) or, alternatively, that the patent be maintained in amended form on the basis of the claims according to any of auxiliary requests 1 to 8, all submitted with the letter dated 6 January 2015.

## Reasons for the Decision

MAIN REQUEST (granted claims)

### 1. *Interpretation of claim 1*

1.1 Claim 1 (see point II above) refers to a method of forming a nonwoven composite by melt-fusing and thus bonding an elastic film to a nonwoven web without substantially softening a polymer of the nonwoven web material.

1.2 The meaning of the wording "melt fusing the film" and "without substantially softening a polymer of the nonwoven web material" in claim 1 was a matter of dispute between the parties.

1.3 Concerning the wording "melt fusing the film", the appellant argued that the claim did not require the elastic film to be melt fused; it could also be any other film or material of the composite.

1.4 The board disagrees. The claim requires "concurrently melt fusing the film to the nonwoven web material" and the only antecedent of the word "film" in the claim is the "elastic" film (cf. "forming an elastic film from a polymer composition"). Thus, the wording of the claim mandatorily requires that the elastic film is melt-fused.

1.5 Concerning the interpretation of the wording "without substantially softening a polymer of the nonwoven web material", the parties had opposing views:

1.5.1 The appellant maintained that this wording "does not require that there is no thermal bonding at all in the

nonwoven web material, but that it simply states that there is at least one polymeric component in the nonwoven web material that is not substantially softened" (see first paragraph of page 2 of the statement of grounds of appeal, emphasis by the appellant). Thus, the claim should be interpreted broadly and included embodiments where the nonwoven web also comprised polymeric components which were softened in the claimed process of forming the composite.

1.5.2 By contrast, the respondent agreed with the finding of the opposition division that the wording "a polymer" in the above expression should be interpreted as meaning "any polymer". Thus, the claimed method had to be carried out without substantially softening any polymer of the nonwoven web material. Contrary to the appellant's assertion, embodiments where some of the polymer components of the web were softened were thus not covered by the claim.

1.6 The board agrees with the respondent that the subject-matter of claim 1 is limited to embodiments carried out without substantially softening any polymer of the nonwoven web.

1.6.1 The language of the claim, correctly understood, limits the scope accordingly. As pointed out by the respondent, if, for example, there were two polymers present in the nonwoven web material, and one was softened and not the other, there would still be softening of a polymer of the web and the requirement that the process be carried out without substantially softening a polymer of the web would not be met. Hence, the board concludes that such embodiment is not covered by the language of the claim.

1.6.2 The specification itself confirms this understanding of the claim. The claimed process of forming a composite is explained in detail in section III, starting in paragraph [0051]. Thus, for instance in paragraph [0054] it is stated that:

"... adequate bond formation may be achieved without requiring substantial softening of the polymer(s) used to form the nonwoven web material. Thus, the nonwoven web material remains substantially unbonded to the film or other materials at those regions located directly adjacent to (e.g. above or below) the apertures" (emphasis added by the board).

and in paragraph [0063] that:

"...Because thermal bonding occurs at a temperature that is insufficient to substantially soften the polymer(s) of the nonwoven web materials 30 and 30a, as described above, they are not substantially melt fused to each other" (emphasis added by the board).

1.6.3 The appellant argued that its interpretation was supported by paragraphs [0042] to [0044] of the specification. The board does not agree. There is in fact nothing in the specification that would support the appellant's interpretation of the claim. Paragraphs [0042] to [0044] cited by the appellant describe the formation of the nonwoven web material used. In paragraph [0043] it is said that:

"Monocomponent and/or multicomponent fibers may be used to form the nonwoven web material. Monocomponent fibers are generally formed from a polymer or blend of polymers extruded from a single extruder. Multi-

component fibers are generally formed from two or more polymers..."

and in paragraph [0044] that:

"Although any combination of polymers may be used, the polymers of the multicomponent fibers are typically made from thermoplastic materials with different glass transition or melting temperatures where a first component (e.g., sheath) melts at a temperature lower than a second component (e.g., core). Softening or melting of the first polymer component of the multicomponent fiber allows the multicomponent fibers to form a tacky skeletal structure, which upon cooling, stabilizes the fibrous structure."

- 1.6.4 These passages do not refer to the claimed process of forming the composite but describe the formation of the nonwoven web material to be used to make the composite. More specifically, they describe that the nonwoven web can be made of a mixture of polymers with different softening temperatures but this information does not imply that a polymer of the nonwoven web would soften during the claimed formation of the composite.

In fact, the sentence in paragraph [0042]:

"In this manner, the polymers do not substantially soften during bonding to such an extent that the fibers of the nonwoven web material become completely melt flowable".

read in the context of the whole paragraph, confirms the above interpretation that the polymers of the nonwoven web material do not soften during bonding,

i.e. when the elastic film is melt-fused to the nonwoven web.

1.7 In summary, the board concludes that the wording "without substantially softening of a polymer of the nonwoven web material" in claim 1 means that the method is carried out without substantially softening **any** polymer of the nonwoven web material. For the reasons given above there is no room for a different interpretation, i.e. that a polymer of the nonwoven web material would soften.

## 2. *Novelty*

2.1 The appellant argued that the subject-matter of claims 1 and 14 lacked novelty over D1.

2.2 D1 discloses in paragraph [0049] an elastic laminate web comprising an elastic layer disposed between first and second outer layers. The first and second outer layers are preferably thermally bondable and of a nonwoven web material comprising a sufficient quantity of thermoplastic material. By "sufficient quantity" is meant enough of thermoplastic material to enable adequate thermal bonding, upon application of heat and/or pressure, to produce a unitary web (see lines 9 to 12 and 17 to 23 of paragraph [0049]).

In the appellant's view the wording "sufficient quantity" implies that "another quantity" of the nonwoven web in D1 might be of a material that is not thermoplastic and therefore not softened by the thermal bonding step. Hence, some (a sufficient quantity) components of the nonwoven web would soften and some (the remaining quantity) would not. Using a broad interpretation of the claim that would allow

embodiments in which some polymers of the nonwoven web material would soften and others not, the disclosure of D1 would anticipate the subject-matter of claim 1.

2.3 This novelty objection is based on a misinterpretation of the claim of the patent in suit. As discussed in point 1 above, the method of claim 1 is carried out without substantially softening any polymer in the nonwoven web material and it is therefore contrary to the method of D1 wherein melting of a sufficient quantity of the polymer of the nonwoven web material is an essential feature and always takes place.

2.4 At least for this reason, the subject-matter of claim 1 is novel over the disclosure of D1. Under these circumstances, there is no need for the board to investigate if there are other distinguishing features, as maintained by the respondent.

2.5 Claim 14, being directed to a nonwoven composite formed according to the method of claim 1, is novel over D1 for the same reasons given in relation to claim 1. It is clear from the discussion above for claim 1 that the claimed method results in a composite which is different from the composite prepared by the method of D1, essentially because the nonwoven web outer layers of D1 are melt-fused during lamination. The same applies to the absorbent article of claim 17, which includes the composite of claim 14, and to all remaining claims which are dependent on claims 1, 14 or 17.

### 3. *Inventive step*

3.1 The invention is directed to a nonwoven composite that contains an elastic film laminated to one or more

nonwoven web materials. The composite is formed by passing the film through a nip to bond it to the nonwoven web materials (see paragraph [00019]). It aims to provide improved laminates that overcome some drawbacks of known ones (see paragraph [0001]).

### 3.2 Closest prior art

3.2.1 The appellant relied in its written submissions on D1 or D2 as closest prior art. During the oral proceedings the appellant withdrew its attacks based on D1 and relied only on D2 as the closest prior-art document.

3.2.2 D2 discloses a process for making a composite elastic material by laminating an elastic film between two nonwoven webs wherein the layers are joined together by thermal bonding or ultrasonic welding and are simultaneously perforated (see claims 1 to 3; see also paragraph [0045]) in a nip between cylinders 5, 6 or ultrasonic equipment 7, 8 (see Figures 2 and 3). One of the cylinders has a pattern of protuberances to allow perforation whereby the size of the patterned segments on the patterned roll has a length in the range of 1 to 3 mm (see paragraph [0070]).

The nonwoven web material is made of any polymer material (see paragraph [0013]), preferably of a mixture of viscose and polyester (see paragraph [0033]). In this preferred embodiment, it is the polyester component of the nonwoven material that melts and contributes to the binding of the layers. The viscose fibres are not affected because viscose has no melting point (see paragraphs [0052] and [0039]).

3.2.3 It was undisputed between the parties that D2 does not disclose the feature of claim 1 that "the film is under



tension at a stretch ratio of about 1.5 or more in the machine direction at the nip".

- 3.2.4 It was, however, disputed whether the process of D2 was carried out "without substantially softening a polymer of the nonwoven web material" as required by claim 1 of the patent.

The parties agreed that in the preferred embodiment discussed above, using viscose and polyester, the polyester melted such that the process was not carried out without substantially softening a polymer of the nonwoven web material.

However, the appellant relied on the embodiment of paragraph [0062] wherein polypropylene was used as the nonwoven web material and the elastic film and nonwoven webs were joined by thermal bonding. In its view, no melting of the polypropylene could take place because thermal bonding was said in paragraph [0047] to be carried out at a temperature of 130 to 133°C, i.e. well below the melting point of polypropylene.

- 3.2.5 There is however no disclosure in D2 of an embodiment wherein the composite is obtained under process conditions in which no softening of any polymer of the nonwoven web material takes place. In the only embodiment for which information is given, namely when using polyester and viscose for the nonwoven web, the polyester is said to melt and to contribute to the binding of the layers.

The argument of the appellant that no softening could take place when using polypropylene is merely speculative and not supported by the teaching of D2. As pointed out by the respondent, the parameter relevant

for whether or not polypropylene would soften is not its melting point but its softening temperature, which is not given in D2.

The appellant argued that according to paragraph [0042] of the patent specification, the polymers used in the patent, including polypropylene, had a softening temperature of 100°C to 300°C, and thus polypropylene would not soften at the temperature applied for thermal bonding in D2 (paragraph [0047]: 130°C to 133°C). This argument is not convincing. The range of 100°C to 300°C disclosed in the patent specification covers values below 130°C. Without any proof to the contrary, the softening point of polypropylene may thus well be below the temperature applied for the thermal bonding step in D2.

It thus must be concluded that the requirement in claim 1 that none of the polymers of the nonwoven web material substantially softens during bonding is a further distinguishing feature.

### 3.3 Problem to be solved and its solution

3.3.1 According to the respondent, the method of D2 suffers from the disadvantage that hardened areas within the laminate are formed due to the fusion of the polymer of the nonwoven web, to the detriment of the hand feel and permeability properties of the nonwoven layer.

3.3.2 In view of these drawbacks the respondent defines the problem to be solved by the invention as the provision of a method of preparing composites having improved softness, hand feel and fluid handling.

3.3.3 This problem is solved by the method of claim 1 wherein by tensioning the film while it is passed through the nip it is possible to achieve melt-fusing of the film to the nonwoven web, and aperturing of the film, without needing to use conditions which will result in the softening and thus fusing of any polymer of the nonwoven web material.

3.3.4 This avoids the creation of hardened fused areas in the outer nonwoven layer in the region of the apertures of the film. The composite thereby better retains the physical properties of the individual nonwoven web material, including its liquid permeability, softness and hand feel (see paragraph [0063], last sentence). In the examples in the patent specification, elastic composites are prepared showing good air flow and mechanical properties (see paragraph [0095]).

3.3.5 It is thus plausible that the above problem has been credibly solved by the method of claim 1. This finding was not contested by the appellant.

#### 3.4 Obviousness

3.4.1 It remains to be decided whether, in view of the available prior art, it would have been obvious for the skilled person to solve this technical problem by the means claimed.

3.4.2 Document D2 itself gives no hint to the claimed solution. As discussed above, there is no suggestion in D2 of an arrangement in which fusing and aperturing of a film layer is achieved without substantially softening any polymer of the nonwoven web layer.

3.4.3 The appellant also relied in the combination of D2 with D1, in particular because D1 discloses stretch-bonding when forming the composite. However, a combination of D2 with D1 would not result in a method as claimed, because in D1 melting of the nonwoven web is also an essential feature of the method disclosed (see D1, paragraph [0049]).

3.5 In view of the above, the board concludes that the person skilled in the art, starting from D2 as the closest prior art, would not have arrived in an obvious manner at the method of claim 1.

3.6 The fact that the claimed method results in a composite having the improved properties discussed above means that the composite of claim 14 is likewise inventive.

The subject-matter of claims 1 and 14 therefore involves an inventive step. For the same reasons, the subject-matter of claims 2 to 13 and 15 to 19, which are directly or indirectly dependent claims, also satisfy the requirements of Article 56 EPC.

#### 4. *Admission of D3*

4.1 D3 was used by the appellant in appeal proceedings for the first time during the oral proceedings before the board when discussing inventive step starting from D2 as closest prior art. It was argued that aperture formation by tensioning the film was obvious in view of D3.

4.2 The board has to examine its admissibility in view of the Rules of Procedure of the Boards of Appeal and more particularly their Article 13.

4.3 No reasons were given by the appellant, and none were apparent to the board, as to why this document could not have been relied on earlier in the appeal proceedings, in particular in the statement of grounds of appeal, in which the appellant challenged the opposition division's finding that the claimed subject-matter involved an inventive step. In fact, D3 was not used in reaction to any new argument or request of the respondent that might have justified its filing. It is not correct to say that D3 was filed as a reaction to the respondent's argument during the oral proceedings that aperture formation by tensioning the film was not obvious. More specifically, this issue had already been dealt with by the respondent in the second paragraph on page 6 of its reply to the statement of grounds of appeal.

4.4 D3 was filed late, only at the last possible stage of the appeal proceedings, namely during the oral proceedings, and constitutes a change in the appellant's case on inventive step. It raised new questions, e.g. whether the film disclosed in D3, which appears to be inelastic, would have behaved in the same way as an elastic film when subjected to tensioning.

4.5 In the light of these considerations, the board exercised its discretion according to Article 13(1) RPBA and decided not to admit document D3 into the appeal proceedings.

#### AUXILIARY REQUESTS

5. Since the main request is allowable, there is no need for the board to deal with these requests.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



M. Cañueto Carbajo

M. O. Müller

Decision electronically authenticated