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**D E C I S I O N**  
**of 25 January 2006**

**Case Number:** T 0235/03 - 3.3.10

**Application Number:** 94119851.7

**Publication Number:** 0658351

**IPC:** A61L 15/58

**Language of the proceedings:** EN

**Title of invention:**

Molten adhesive fibers and products made therefrom

**Patentee:**

McNEIL-PPC, INC.

**Opponent:**

SCA Hygiene Products AB

**Headword:**

Adhesive microfibres/McNEIL

**Relevant legal provisions:**

EPC Art. 54, 56

**Keyword:**

"Novelty (yes) - construction of a prior document in the light of a reference document - prior art silent about feature - no implicit disclosure"

"Inventive step (no) - improvement not shown - reformulation of problem - arbitrary range - obvious"

**Decisions cited:**

T 0020/81, T 0099/85, T 0153/85

**Catchword:**

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Case Number: T 0235/03 - 3.3.10

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.10  
of 25 January 2006

**Appellant:** SCA Hygiene Products AB  
(Opponent) S-405 03 Göteborg (SE)

**Representative:** Egeröd, Lisbeth  
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**Respondent:** McNEIL-PPC, INC.  
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**Representative:** Groening, Hans Wilhelm  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 28 November 2002  
rejecting the opposition filed against European  
patent No. 0658351 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** R. Freimuth  
**Members:** J. Mercey  
D. Rogers

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal on 10 February 2003 against the decision of the Opposition Division of 28 November 2002 rejecting the opposition against European patent No. 658 351 which was granted on the basis of ten claims, claim 1 of which reading as follows:

"1. A substrate coated on at least one surface with pressure-sensitive adhesive microfibers at a weight of about 1.70 to about 67.81 g/m<sup>2</sup> (0.05 to about 2 ounces/square yard), wherein said pressure-sensitive adhesive microfibers comprise about 100 parts of an elastomeric component; about 20 to 300 parts of a resin component; and about 0 to about 70 parts of a plasticizer, with parts expressed in parts per one hundred parts by weight of the elastomeric component; and said microfibers have an average diameter of less than about 100 µm (100 microns)."

II. Notice of Opposition had been filed by the Appellant requesting revocation of the patent as granted in its entirety on the grounds of insufficient disclosure, lack of novelty and lack of inventive step. *Inter alia* the following documents were submitted in opposition proceedings:

- (1) US-A-5 102 484,
- (2) US-A-4 650 829,
- (3) US-A-5 124 111,
- (9) Batra S. K. et al., "The Nonwoven Fabrics Handbook", Association of the Nonwoven Fabrics Industry, pages 89 and 92, and

(10) US-A-4 891 249.

- III. The Opposition Division held that the invention was sufficiently disclosed, was novel and involved an inventive step. The claimed subject-matter was novel over the disclosure of document (1), which was considered to incorporate the disclosure of document (2), since a selection from within several possibilities disclosed in document (2) had to be made to arrive at the pressure sensitive adhesive according to the invention. Furthermore, document (1) was silent with respect to the coating weight of the adhesive. With regard to inventive step, the patent in suit aimed at providing absorbent products with improved liquid transport properties. Although a clear difference between the filaments of documents (1) and (10) and the microfibres according to the claimed invention could not be made, the properties of the pressure sensitive adhesive microfibres according to the invention were considered to be non-obvious in the light of the teaching of these two documents.
- IV. The Appellant objected to the novelty of the claimed invention in view of document (1), which disclosed a method for generating a swirling filament of an adhesive or other thermoplastic and depositing said swirling filament on a substrate. Hot melt adhesives described as being suitable in document (1) included those disclosed in document (2), the disclosure of which was incorporated in document (1) by reference. Document (2) disclosed pressure sensitive adhesives comprising 100 parts by weight of an elastomeric polymer and 100 to 250 parts of a resin. The filaments in document (1) were described as having a diameter of

30 to 100 microns and were thus to be regarded as microfibrils as defined in the patent in suit. The only feature of present claim 1 not explicitly disclosed in document (1) was the coating weight of the adhesive microfibrils. However, this range was so broad that it basically covered the entire useful area when gluing substrates in an absorbent article together. Reference was made in this respect to the adhesive amount disclosed in document (3).

In the assessment of inventive step, the Appellant started from document (1), which incorporated the teaching of document (2), such that the only feature not explicitly disclosed was the coating weight. However, a coating weight of 1.0 to 6.0 g/m<sup>2</sup> was disclosed in document (3), thereby rendering the claimed subject-matter obvious. The Appellant further filed a test report dated 20 December 2005 to show that the adhesive compositions according to the patent in suit had no positive influence on the liquid inlet rate.

- V. The Respondent (Proprietor of the patent) submitted that document (1) was not novelty destroying, since it did not disclose pressure sensitive adhesives having the claimed composition. It would be in clear contrast to generally established case law to combine document (1) with document (2) in order to judge novelty, particularly since document (2) was one out of four documents specifically incorporated by reference, document (2) not being emphasised. In any case, even if document (2) were to be considered as part of the disclosure of document (1), a selection had to be made from within document (2) to arrive at the specific composition of the pressure sensitive adhesives claimed

in the patent in suit. Furthermore, document (1) did not disclose microfibrres, but filaments, microfibrres being different from filaments by virtue of being of a discrete as opposed to of unending length. That the microfibrres of the invention were of a shorter length than the filaments of document (1) could be deduced from the description of the patent in suit which referred to the microfibrres being microsized. Furthermore, the method described in the patent in suit (see page 4, lines 39 to 45 and Example 3) to make the microfibrres would inevitably result in microfibrres which were of a length different from the endless filament of document (1), since the molten adhesive was extruded, the resulting filament was stretched by a gas stream and then torn into parts, namely fibres. Additionally, Figures 1 and 2 schematically represented microfibrres as dashed lines, i.e. as fragments of a potential filament. Finally, document (1) disclosed no coating weight of the adhesive.

The Respondent, starting from document (1) as closest prior art, submitted that the problem to be solved by the invention of the patent in suit was to provide an absorbent product having better liquid transport and absorbing properties whilst simultaneously ensuring an effective attachment system. The solution comprised essentially using microfibrres and not filaments. When continuous filaments of adhesive were deposited on an absorbent core, continuous areas of adhesive would be formed on the absorbent core surface which would impair the liquid transport. On the other hand, such impairment would be considerably reduced when microfibrres resulting from stretched and torn filaments were deposited, where gaps between the microfibrres

would improve liquid transport and absorbing properties of an absorbent product. Document (1) did not disclose the exact composition of the pressure sensitive adhesive, and the skilled person would not have combined document (2) with document (1), since document (2) was only one of several documents cited in document (1). With regard to the claimed coating amount, the skilled person would not have combined document (3) with document (1), since document (1) taught that it was essential that the thermoplastic filament be swirled, and in addition, document (3) was published later than document (1). It was further argued that even if documents (1), (2) and (3) could admissibly be combined, such a combination would still lack a teaching of microfibrils. Documents (1) and (3) disclosed continuous filaments only, and document (2) was silent with regard to any method of application. Furthermore, the narrow coating weight range disclosed in document (3) did not render the broader range claimed in the patent in suit obvious.

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

The Respondent requested that the appeal be dismissed.

VII. At the end of the oral proceedings held on 25 January 2006 the decision of the Board was announced.

### **Reasons for the Decision**

1. The appeal is admissible.

2. *Sufficiency of disclosure*

The Appellant submitted that the invention was insufficiently disclosed. In view of the negative conclusions in respect of the claimed invention for lack of inventive step as set out in point 4 below, a decision of the Board on this issue is unnecessary.

3. *Novelty*

3.1 The Respondent challenged the novelty of the claimed invention exclusively with regard to document (1). In the circumstances of this case, the Board limits its considerations with respect to novelty to this document.

3.2 The Board observes that it is a generally applied principle that for concluding lack of novelty, there must be a direct and unambiguous disclosure in the state of the art which would inevitably lead the skilled person to subject-matter falling within the scope of what is claimed.

3.3 In the present case, document (1) discloses a substrate coated with an adhesive in filament form, wherein said adhesive is of the hot melt type and said filament has an average diameter of 30 to 100 microns (see claims 17, 18 and 21). Filaments are a particular form of fibre, namely of endless length (see document (9)) and, thus, are encompassed by the claimed invention.

3.4 At column 6, lines 45 to 49, document (1) discloses that conventional hot melt adhesives useable in the invention include those disclosed in four particular documents, "the disclosure of which are incorporated



herein by reference". One of the documents referred to is document (2).

3.4.1 According to the jurisprudence of the Boards of Appeal, a specific reference in one prior document (the "primary document") to a second prior document, when construing the content of the primary document the presence of such specific reference may result in that part or all of the disclosure of the second document being considered as part of the disclosure of the primary document (see decision T 153/85, OJ EPO, 1988, 1, reasons for the decision, point 4.2, paragraph 3).

3.4.2 In the present case, the technical content of document (2), insofar as it relates to hot melt adhesives, is thus incorporated by reference into the disclosure of document (1) with the consequence that the hot melt adhesives of document (1) may be *inter alia* those disclosed in document (2). That document specifically discloses a pressure sensitive adhesive composition comprising from 100 to 250 parts by weight resin per 100 parts by weight elastomeric polymer (see claim 9).

3.5 Therefore, in the Board's judgement, document (1) directly and unambiguously discloses a substrate coated with pressure sensitive adhesive microfibrils having a diameter within the claimed range and being made of an adhesive composition falling within the terms of claim 1 of the patent in suit.

3.6.1 To distinguish the subject-matter claimed from the disclosure of document (1), the Respondent argued that to arrive at an adhesive composition according to claim 1, a double selection was necessary, i.e.

initially a selection of the document (2) from the four documents incorporated by reference in document (1), followed by a further selection of a particular adhesive composition from within document (2).

However, in the Board's judgement, the incorporation by reference of the disclosures of four documents in document (1) with respect to hot melt adhesives is merely a short form of and equivalent to a listing in document (1) of the hot melt adhesives disclosed in all of these four documents. Said disclosure thus includes the particular adhesive composition of claim 9 of document (2), since said composition is specifically disclosed therein without the need for any selection to be made. Therefore, the Appellant's allegation of a double selection from within documents (1) and (2) to arrive at the particular adhesive composition according to the invention is devoid of merit.

- 3.6.2 To distinguish the subject-matter claimed further from the disclosure of document (1), the Respondent argued that the filaments disclosed in that prior art were different to the microfibres according to present claim 1 and therefore not covered by the claimed invention.

However, claim 1 relates to microfibres having an average diameter of less than 100 microns. Document (9), which is a standard textbook representing the common general knowledge in the field of nonwoven fabrics, defines a filament as being a fibre of unending length. Thus the generic term "fiber" in present claim 1 encompasses both unending and ending fibres, the former being also labelled "filament". Since the microfibres

of claim 1 are not limited by their length - the prefix "micro" in the microfibrils of claim 1 relating only to the diameter and not to the length of said fibres, as agreed by all parties - the microfibrils according to the invention cover the filaments of document (1).

3.6.3 With regard to the Respondent's construction that the microfibrils used in claim 1 were to be restrictively interpreted using the description, thereby excluding filaments, the Board holds that only the claims define the subject-matter of the patent in suit for which protection is sought. Furthermore, the definition of said well-known term is clear and unambiguous in the art, thereby leaving no room for any other interpretation than the one given in point 3.6.2 above. Notwithstanding this finding, the description provides no indication that the microfibrils in the sense of the invention should be given a definition different from that which it normally has in the relevant art, nor does it put any restriction on their length, rather the length of the microfibrils being indicated neither explicitly nor implicitly in the patent in suit. The word "microsized" at page 4, line 53 of the patent specification is used merely in the context of the diameter of the microfibrils. With regard to the method described in the patent in suit to produce the microfibrils, the method is essentially the same as that described in document (1), where an air stream is also used to attenuate the filaments. Finally, Figures 1 and 2 of the specification of the patent in suit are too schematic to be able to reveal any specific length for the microfibrils depicted therein. Therefore the Respondent's arguments do not convince the Board.

3.7 However, document (1) is silent about the coating weight of the adhesive applied. Thus there is no dispute between the parties that the claimed range of about 1.70 to about 67.81 g/m<sup>2</sup> is not explicitly disclosed in that document.

Nor is this coating weight range implicitly disclosed in document (1). With regard to the Appellant's argument that said range is not novel because it basically covers the entire useful area for gluing substrates in an absorbent article together, this argument cannot be followed. When assessing novelty, it is not sufficient for a range to "basically" cover the entire useful range, but rather it would have to represent the **only** range working successfully, a coating range outside that range necessarily failing (see decision T 99/85, OJ EPO, 1987, 413, point 2.2 of the reasons). Moreover, document (10) describes at column 2, lines 66 to 67 a method for applying hot melt adhesive coatings in the form of fibres/filaments at a coating weight of below 0.8 g/m<sup>2</sup>, thereby showing a successful operation outside the claimed range.

3.8 Since the claimed coating weight is not disclosed in document (1), the Board concludes that the subject-matter of independent claim 1 is novel over the disclosure of document (1) pursuant to Article 54 EPC.

4. *Inventive step*

4.1 According to the established jurisprudence of the Boards of Appeal it is necessary, in order to assess inventive step, to establish the closest state of the art, to determine in the light thereof the technical problem which the invention addresses and successfully solves, and to examine the obviousness of the claimed solution to this problem in view of the state of the art. This "problem-solution approach" ensures assessing inventive step on an objective basis and avoids an *ex post facto* analysis.

4.2 The patent in suit is directed to a substrate coated at a specific coating weight with pressure sensitive adhesive microfibres of a specific composition and diameter.

A similar substrate already belongs to the state of the art: document (1) discloses a substrate coated with pressure sensitive adhesive microfibres having an average diameter of 30 to 100 microns, and said adhesive comprising from 100 to 250 parts by weight resin per 100 parts by weight elastomeric polymer (see points 3.3 to 3.5 above).

The Board thus considers, in agreement with the Appellant and the Respondent, that document (1) represents the closest state of the art, and hence the starting point in the assessment of inventive step.

4.3 In view of this state of the art, the problem underlying the patent in suit was formulated in the patent specification on page 2, lines 39 to 40 and as

submitted by the Respondent during the appeal proceedings, as providing a coated substrate having better liquid transport properties.

- 4.4 As the solution to this problem, the patent in suit proposes the pressure sensitive adhesive coated substrate according to claim 1 which is characterised by the coating weight of about 1.70 to about 67.81 g/m<sup>2</sup>.
- 4.5 There are however no examples in the specification of the patent in suit of a coated substrate according to the invention, let alone comparative examples, such that better liquid transport properties have not been shown. According to the jurisprudence of the Boards of Appeal, alleged but unsupported advantages cannot be taken into consideration in respect of the determination of the problem underlying the invention (see e.g. decision T 20/81, OJ EPO 1982, 217, point 3, last paragraph of the reasons). Since in the present case the alleged improvement, namely better liquid transport properties, lacks the required experimental support, the technical problem as defined in point 4.3 above needs reformulation.
- 4.6 In view of the teaching of document (1), the objective problem underlying the patent in suit cannot even be seen as providing a coated substrate with good liquid transport properties, as subsequently submitted by the Respondent during the oral proceedings before the Board, since the Respondent has not provided any evidence at all regarding the liquid transport properties of the coated substrates of the invention. The objective problem can thus merely be seen in providing a further pressure sensitive adhesive coated substrate.

4.7 Finally, it remains to decide whether or not the proposed solution to that objective problem underlying the patent in suit is obvious in view of the state of the art.

4.7.1 The adhesive coating amount of 1.70 to 67.81 g/m<sup>2</sup> is neither critical nor a purposive choice for solving the objective problem underlying the patent in suit, since no unexpected effect has been shown to be associated with this particular weight range. The act of picking out at random a range for the adhesive coating weight is within the routine activity of the skilled person faced with the mere problem of providing a further pressure sensitive adhesive coated substrate. In the present case, the skilled person is all the more guided to pick out a coating weight within the range claimed, since a coating weight of 4.0 to 5.0 g/m<sup>2</sup> is preferred in document (3) (see column 21, lines 3 to 6) which relates to spraying hot melt adhesive as a continuous filament onto a substrate layer to construct a diaper. Therefore, the arbitrary choice of a coating weight already taught in the state of the art for a pressure sensitive adhesive cannot provide the claimed coated substrate with any inventive ingenuity.

4.7.2 For the following reasons, the Board is not convinced by the Respondent's submissions in support of the presence of an inventive step.

In view of the fact that the microfibres of the invention cover the filaments of document (1) (see points 3.6.2 and 3.6.3 above), all of the Respondent's

arguments in support of inventive step based on such an alleged difference are devoid of merit.

With regard to the claimed coating weight, the skilled person would not have been deterred from combining document (3) with document (1) as the Respondent alleged, since both documents relate to the use of swirled filaments, which are embraced by the present invention. Documents (3) and (1) are prepublished, and are thus state of the art within the meaning of Article 54(2) EPC, and as such, both documents were available to the skilled person at the priority date of the patent in suit. Therefore, both documents are to be taken into account pursuant to Article 56 EPC when assessing inventive step, regardless of which one was published first. The Respondent's requirement that these documents should be published in a particular chronological order if they were to be used to object to inventive step is at variance with the EPC.

The Respondent's argument that the claimed range of the coating weight rendered the subject-matter of the patent in suit inventive since it was broader than the one taught in document (3) is beside the point. The coating weight range disclosed in document (3) renders the subject-matter claimed obvious, at least to the extent that the broader range claimed covers the range taught in that document.

- 4.8 For these reasons, the subject-matter of claim 1 is obvious in the light of document (1), either taken alone, or in combination with document (3).



5. As a result the Respondent's request is not allowable for lack of inventive step pursuant to Article 56 EPC.

## **Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

C. Moser

R. Freimuth