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D E C I S I O N
of 7 December 2004

Case Number: T 0252/02 - 3.2.6

Application Number: 94917406.4

Publication Number: 0700465

IPC: D04H 13/00

Language of the proceedings: EN

Title of invention:

Personal care article comprising a lightweight nonwoven web laminate with improved comfort and barrier properties

Patentee:

KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:

The Procter & Gamble Company

Headword:

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Relevant legal provisions:

EPC Art. 83

Keyword:

"Sufficiency of disclosure (no) - skilled person being not in a position to know whether he is working within the area covered by the claim"

Decisions cited:

T 0256/87, T 0387/01, T 0585/92, T 0109/91

Catchword:

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Case Number: T 0252/02 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 7 December 2004

Appellant:
(Opponent)

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Representative:

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Respondent:
(Proprietor of the patent)

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Representative:

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 18 January 2002
rejecting the opposition filed against European
patent No. 0700465 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. Pricolo
J. H. Van Moer

Summary of Facts and Submissions

I. The appeal is from the decision of the Opposition Division posted on 18 January 2002 to reject the opposition filed against European patent No. 0 700 465, granted in respect of European patent application No. 94917406.4.

Claim 1 of the granted patent reads as follows:

"A personal care article comprising a nonwoven fabric laminate (12;13;15), the nonwoven fabric laminate (12;13;15) comprising: a) a nonwoven component layer (32) comprising fine fibers having an average diameter in the range of up to about 10 μm (microns) and a basis weight in the range of from about 3 g/m^2 (gsm) to about 26 g/m^2 (gsm), and
b) a nonwoven component layer (36) comprising continuous filaments having an average diameter in the range of from about 12 μm (microns) to about 22 μm (microns) and a basis weight in the range of from about 10 g/m^2 (gsm) to about 30 g/m^2 (gsm),
wherein said layers (32;36) are intermittently bonded in a face-to-face relationship for a total basis weight not to exceed about 55 g/m^2 (gsm) and the percent of the weight of fine fibers layer to the laminate weight is at least 20%, and wherein said laminate (12;13;15) has a cup crush peak load value of no more than 150 grams, a cup crush energy value of no more than 2250 g/mm , a hydrostatic head of at least 15 cm, and a porosity of at least 0.0236 m^3/s (50 scfm)."

II. In coming to its decision the Opposition Division considered that the patent in suit disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. The Opposition Division stated that the opponent did not credibly demonstrate that the results of the test for measuring the cup crush peak load value and the cup crush energy value were affected by the absence in the patent specification of precise instructions on how to carry out the test and that there were no doubts that the person skilled in the art could measure the cup crush values on the basis of the information provided in the patent specification. The Opposition Division further noted that the parameters cup crush peak load value and cup crush energy value were known in the art as such, as shown for example by document

D0: EP-A-0 333 211.

As regards the fact that there was only one example in the patent specification of how the invention could be carried out the Opposition Division stated that the patentee should be given the benefit of the doubt in this respect despite the fact that the specification did not provide a general teaching of how the desired softness was obtained.

Finally, the Opposition Division held that the claimed subject-matter was novel and involved an inventive step.

III. The appellant (opponent) lodged an appeal against this decision, received at the EPO on 5 March 2002, and simultaneously paid the appeal fee. With the statement setting out the grounds of appeal, received at the EPO

on 17 May 2002, the appellant filed as "Attachment T", a report on cup crush tests that it had performed following the instructions given in the patent in suit.

IV. In an annex to the summons for oral proceedings pursuant to Article 11(2) Rules of Procedure of the boards of appeal the Board expressed its preliminary opinion that it had to be discussed whether the disclosure of the patent in suit was sufficient to enable the skilled person to carry out repeatable and comparable measurements of the values of the cup crush peak load and cup crush energy. In this respect the Board noted that the patent was silent in respect of the distance of travel of the measuring foot used in the cup crush test and drew the attention of the parties to document

E1: WO-A-03005874,

which, although not forming part of the state of the art, showed that the skilled person could choose a predetermined distance smaller than the height of the cup. Furthermore, the Board pointed out that the value of $0.0236 \text{ m}^3/\text{s}$ given in claim 1 for the porosity appeared to be a wrong conversion of the originally disclosed value of 50 scfm.

V. In response to the Board's preliminary opinion, the respondent (patentee) filed with letter dated 5 November 2004 new claims forming the basis for a main and first to fourth auxiliary requests of maintenance of the patent in amended form. With letter dated 24 November 2004, the respondent filed revised claims

replacing the claims of the previous second auxiliary request, and evidence in the form of a

Declaration of Mr Henning Roettger, dated 4 November 2004.

VI. Oral proceedings took place on 7 December 2004.

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

The respondent requested that the appeal be dismissed and that the patent be maintained on the basis of the main request filed with letter dated 5 November 2004 or alternatively on the basis of the first, third or fourth auxiliary requests filed with the letter dated 5 November 2004 or second auxiliary request filed with letter dated 24 November 2004.

VII. Claim 1 of the main request only differs from claim 1 as granted in that the expression "0.0236 m³/s" is replaced by "15 m³/(m².min)".

Claim 1 in accordance with all the auxiliary requests includes the requirement that the "laminate (12;13;15) has a cup crush peak load value of no more than 150 grams, a cup crush energy value of no more than 2250 g/mm".

VIII. The arguments of the appellant in respect of the objection of lack of sufficient disclosure (Article 83 EPC) can be summarized as follows:

The cup crush test, which was neither an usual nor a standardized test, was not disclosed in a manner sufficient for the skilled person to implement it in a reproducible manner allowing to ensure consistent and reliable evaluation of the parametric features defined in claim 1. In particular, the patent in suit included no information concerning the manner of shaping the test sample into a cup and the distance the foot had to travel when crushing the cup for determining the peak load and energy values. In fact, as shown by the test report of Attachment T, different results were obtained depending on whether the foot ran the distance of 6.5 cm corresponding to the height of the inverted cup and then crushed on the lab bench or whether it was allowed to run this distance plus an additional one by means of a second cylinder placed below the first cylinder in which the inverted cup was placed.

Furthermore, the single disclosure of one way of carrying out the invention was insufficient to allow the invention to be performed in the whole range claimed. The patent in suit also failed to teach what was essential in order to achieve the desired softness of the claimed article expressed in terms of cup crush peak load and energy values. Finally, the ranges claimed were arbitrary and open-ended on one side.

- IX. The respondent essentially submitted that when carrying out the cup crush test the skilled person would choose a measuring distance corresponding to the height of the inverted cup, i.e. 6.5 cm. Although a compression of the fabric took place when reaching the endpoint, this did not affect the measured values in an appreciable manner because fabrics of the kind according to the

patent in suit were very thin and compressible. Furthermore, if the skilled person realized that the descending foot could be damaged when reaching the endpoint by impacting onto the supporting surface, he would obviously modify the set-up, e.g. by providing a base plate having a recess with the shape of the foot. The manner in which the inverted cup was shaped was irrelevant for the measurements because the measured load only became appreciable after the foot had travelled a certain distance and the inverted cup had already started to collapse, i.e. when it had already lost its predefined shape. Accordingly, it was only essential for the reproducibility of the cup crush test to reproduce a shape but the shape per se was irrelevant. From the above it followed that the additional information given in the document E1 was irrelevant in respect of the determination of the cup crush peak load and energy values. Furthermore, evidence for the sufficient disclosure of the cup crush test was given in the form of the statement of Dr Roger Barker dated 23 October 2001, filed during the proceedings before the opposition Division, and the declaration of Mr Henning Roettger filed in appeal proceedings.

There were no difficulties for the skilled person to reproduce, on the basis of the information given in the patent in suit, further embodiments of the invention over the single example disclosed. In fact, the specific values of the example were in the middle of the claimed ranges and the skilled person could easily modify these values whilst still remaining in the ambit of the claim. Furthermore, the in-line process disclosed in the patent in suit where the laminate

layers were formed and then bonded together in a same continuous processing line resulted in laminates having improved softness as compared to laminates formed from rolls of nonwoven layers manufactured in advance. Finally, the ranges given in the claims were not arbitrary but based on a technical reasoning.

Reasons for the Decision

1. The appeal is admissible.

2. *The main request*

2.1 *Amendments*

Claim 1 differs from claim 1 as granted only by the replacement of the expression "0.0236 m³/s" by "15 m³/(m².min)", the former being a wrong conversion in SI units of the porosity value of 50 scfm (defined both in claim 1 as granted, between parentheses, and in claim 1 of the application as filed) and the latter being the correct value. Since it consists in the correction of an obvious error, the amendment made does not give rise to objections under Article 123(2) or (3) EPC.

2.2 *Sufficiency of disclosure (Article 83 EPC)*

2.2.1 In order to carry out the invention, the skilled person must be in a position to establish whether a product falls within the area covered by the claim and to reliably prepare the claimed product (see e.g. T 256/87, point 10 of the reasons). In the present case, in which

according to the definition of claim 1 the nonwoven fabric laminate must have a cup crush peak load value of no more than 150 grams and a cup crush energy value of no more than 2250 g/mm, this means that the skilled person must be in a position to establish whether the cup crush peak load value and the cup crush energy value which is measured for a given laminate can be effectively correlated to the respective limits of 150 grams and 2250 g/mm. This presupposes that the skilled person utilizes a method for determining said values which is either the same or one that gives essentially the same results as the method which has been used as a basis for arriving at establishing these limits in the patent in suit (see also T 387/01, point 2.2.1).

For determining the cup crush peak load value and the cup crush energy value of a given fabric laminate material there exists no standardized measurements procedure. In fact, none of these two parameters belonged to the skilled person's general knowledge at the priority date of the patent in suit. Since also the claim does not include any information about how to measure the two parameters, it is necessary to refer to the description of the patent in suit. The only passage describing the test procedure for determining the cup crush peak load value and the cup crush energy value is found on page 5, lines 32 to 38 of the patent in suit, where it is stated that "cup crush results were determined by measuring the peak load required for a 4.5 cm diameter hemispherically shaped foot to crush a 9"x9" piece of fabric shaped into an approximately 6.5 cm diameter opening by a 6.5 cm tall inverted cup while the cup shaped fabric was surrounded by an approximately 6.5 cm diameter cylinder to maintain a

uniform deformation of the cup shaped fabric. The foot and the cup were aligned to avoid contact between the cup walls and the foot which could affect the peak load. The peak load was measured while the foot was descending at a rate of about 0.25 inch per second (15 inches per minute) utilizing a Model FTD-G-500 load cell (500 gram range) available from the Schaevitz Company, Tennesse, N.J. which provides the energy value".

In accordance with this disclosure, when putting in practice the test procedure the skilled person must shape a piece of fabric into an approximately 6.5 cm diameter opening by a 6.5 cm tall inverted cup. However, no information is given in the patent in suit about how the piece of fabric is shaped. The skilled person would therefore need to find a manner of shaping the cup. Depending on the arbitrary choice of such a manner (e.g. by hand or with the help of a cup forming assembly consisting of two former cups as shown in E1, see page 53, lines 24 and 29 to 31), different geometrical forms are obtained (e.g. cylindrical, frustoconical, with rounded or flat top), with different amounts and arrangements of wrinkles and pleats in the walls of the cup (depending on how the fabric forming the walls is stretched and/or pleated). Since these factors affect the strength of the cup, different results are obtained for a given fabric depending on the arbitrary choice made by the skilled person. Furthermore, the test procedure requires the measurement of the load exerted by the cup onto the descending foot, on the basis of which the peak load value and the energy value are determined. However, the patent in suit is silent about where the cup shaped fabric and the surrounding

cylinder are placed and the distance which the foot is allowed to descend. If the cup shaped fabric is placed on a flat supporting surface, then it is clear that the descending foot should be stopped short before arriving at the flat surface, otherwise the measured load is no longer the load necessary for crushing the cup, but consists of the load for compressing the fabric against the surface and/or the load due to the impact of the foot thereon. This view is supported by the disclosure of document E1 referred to in the communication annexed to the summons of oral proceedings, which does not make part of the prior art but shows (see pages 53 and 54) that, in a practical approach to the cup crush test procedure, the skilled person would stop the descending foot at a distance of 0.7 cm from the supporting surface in case of a 3.2 cm tall cup. Since the patent in suit does not disclose when the descent of the foot should be stopped, the measurements of the cup crush peak load value and of the cup crush energy value will depend on the arbitrary choice made by the skilled person to either compress the fabric onto the supporting surface or to stop the foot at a certain distance from the supporting surface. In the latter case, the further arbitrary choice of a distance at which to stop the foot also affects the results of the cup crush test.

- 2.2.2 The respondent submitted that the manner in which the inverted cup was shaped was irrelevant for the measurements, in particular because the measured load only became appreciable after the inverted cup had already started to collapse, i.e. when it had already lost its predefined shape.

It can be accepted that the lowest values of the load are measured in the initial phase of the descent of the foot. However, as stated above, the formation of the cylindrical wall of the cup, and in particular the stretching that the fabric undergoes and the formation of longitudinal wrinkles and pleats thereon, depends on the manner of shaping the inverted cup. Since both the amount of stretching and the wrinkles affect the cup structural resistance, it is clear that the measured load values depend on the manner of shaping the inverted cup.

Furthermore, the respondent submitted that any compression of the fabric taking place just before reaching the endpoint of the measuring distance did not affect the measured values in an appreciable manner, because a fabric of the kind according to the patent in suit was very thin and compressible.

However, even if it can be accepted that the fabrics referred to in claim 1 of the patent in suit are generally "thin", it is clear that if the foot is driven such as to contact the supporting surface, then the measured load will be affected by the compression of the fabric and/or the impact of the foot onto the supporting surface. Because of such an impact, damage of the foot might effectively occur as submitted by the appellant (see Attachment T, page 3, first paragraph referring to Trial 1).

The respondent further argued that in case the skilled person realized that the descending foot could be damaged when reaching the endpoint, he would obviously modify the set-up, e.g. by providing a base plate

having a recess with the shape of the foot. However, the skilled person could also consider to stop the descent of the foot at a distance from the supporting surface, as explained above, in order to avoid this problem. Different values of the cup crush peak load and of the cup crush energy values are obtained depending on which alternative is chosen, in particular because the deformation of the cup in the presence of a recess in the supporting surface is different from that in absence thereof. In fact, the fabric can slip into the recess before the foot reaches the endpoint, in analogy with the description of trial 2 of attachment T, where to allow foot run at 65 mm an additional cylinder was placed below the 65 mm tall cylinder surrounding the inverted cup.

- 2.2.3 The respondent referred to the statement of Dr Roger Barker dated 23 October 2001 and the declaration of Henning Roettger dated 4 November 2004 filed in appeal proceedings. In both declarations there is essentially stated that the skilled person would have no difficulties to carry out the cup crush test. However, this is not the point at issue, and in fact the Board concurs with the declarations that the skilled person would be able to find a manner of carrying out the cup crush test. The essential point is whether such a manner, which determination as explained above involves some arbitrary choices, always leads to the same results in a reliable manner, and in this respect the declarations are silent. Furthermore, the declarations do not address the question of whether the skilled person effectively had no difficulties to carry out the cup crush test prior to the relevant date of the patent in suit, as additional information (such as e.g. the

disclosure of E1) might have been available to the skilled person at the time of writing the declarations.

2.2.4 As regards the statement of the Opposition Division in the decision under appeal according to which the opponent did not credibly demonstrate that the results of the test for measuring the cup crush peak load value and the cup crush energy value were affected by the absence in the patent specification of precise instructions on how to carry out the test, the following remarks are made. In accordance with established case law, in opposition proceedings the burden of proving that the objections raised under Article 100 have been substantiated normally lays with the opponent-appellant (see e.g. T 585/92, OJ 1996, 129). However, in the presence of serious doubts, such as those raised by the appellant and by the Board in its communication accompanying the summons to oral proceedings, based both on theoretical considerations and on factual evidence (Attachment T filed by the appellant and E1 referred to by the Board), it is justified to shift the burden of proof to the patentee-respondent (see e.g. T 109/91, unpublished). In the present case, the respondent's contrary assertions were neither supported by theoretical consideration nor by direct evidence but only by allegations of what was "believed" to occur when performing the cup crush test.

Finally, the Opposition Division noted that the parameters "cup crush peak load value" and "cup crush energy values" were known in the art as such, as shown for example by document D0. It is true that D0 refers to the cup crush test (see column 13, lines 4 to 13 and table 1); its disclosure in respect of the manner of

carrying out the cup crush test suffers however of the same deficiencies mentioned above in respect of the patent in suit. D0 is therefore irrelevant for the question of sufficiency of disclosure dealt with in this decision.

- 2.2.5 Therefore, since the results of the cup crush test depend from arbitrary choices, the skilled person is not in a position to establish whether the cup crush peak load value and the cup crush energy value which are measured for a given laminate can be effectively correlated to the respective limits of 150 grams and 2250 g/mm defined in claim 1 of the patent in suit. Accordingly, the skilled person is not in a position to know with certainty, and for any given laminate, whether he is working within the area covered by the claim, and therefore the disclosure of the patent in suit is to be regarded as insufficient within the meaning of Article 83 EPC.

3. *The auxiliary requests*

Claim 1 of all the auxiliary requests includes the requirement of claim 1 of the main request that the laminate has a cup crush peak load value of no more than 150 grams and a cup crush energy value of no more than 2250 g/mm. Since the main request is considered to be not allowable because of the presence of this requirement in claim 1, all the auxiliary requests are consequently not allowable under Article 83 for the same reasons given above in respect of the main request.

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. Eickhoff

P. Alting van Geusau