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**Datasheet for the decision
of 8 October 2024**

Case Number: T 1810/22 - 3.2.06

Application Number: 17192747.8

Publication Number: 3284449

IPC: A61F13/53, A61F13/535,
A61F13/533, A61F13/534,
A61F13/536

Language of the proceedings: EN

Title of invention:
DISPOSABLE DIAPERS

Patent Proprietor:
The Procter & Gamble Company

Opponents:
Kimberly-Clark Worldwide, Inc.
Essity Hygiene and Health Aktiebolag

Headword:

Relevant legal provisions:
EPC Art. 84, 123(2)

Keyword:

Claims - clarity - main request (no) - clarity - auxiliary requests 1 and 2 (no)

Amendments - auxiliary requests 3 to 5 - added subject-matter (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1810/22 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 8 October 2024

Appellant: Kimberly-Clark Worldwide, Inc.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
25 May 2022 concerning maintenance of the
European Patent No. 3284449 in amended form.**

Composition of the Board:

Chairman	M. Harrison
Members:	P. Cipriano
	W. Ungler

Summary of Facts and Submissions

- I. Appeals were filed by both opponents (opponent 1 and opponent 2, hereinafter appellants) against the interlocutory decision of the opposition division in which it found that European patent No. 3 284 449 in an amended form met the requirements of the EPC.
- II. The appellants requested with their respective grounds of appeal that the decision under appeal be set aside and the European patent be revoked.
- III. The respondent (patent proprietor) requested that the appeal be dismissed, or that the patent be maintained in amended form according to one of auxiliary requests 1 to 5 submitted with the reply to the statements setting out the grounds of appeal.
- IV. The following documents are relevant to the present decision:
D8 EP 1 609 448 A1
- V. The Board issued a summons to oral proceedings and a subsequent communication under Article 15(1) RPBA containing its provisional opinion, in which it indicated *inter alia* that claim 1 of the main request was not clear (Article 84 EPC) and none of the amendments made to auxiliary requests 1 and 2 were considered to overcome the objections under Article 84 EPC discussed for the main request. In addition, it was indicated that it might require discussion whether there was a basis in the application as filed for the expression "with respect to the total weight of said absorbent layer" added in auxiliary requests 3 to 5.

VI. Oral proceedings were held before the Board on 8 October 2024.

The appellants (opponents 1 and 2) requested that the decision under appeal be set aside and the patent be revoked. The respondent (patent proprietor) requested that the appeals be dismissed (main request), or that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 5 filed with the reply to the statements of grounds of appeal.

VII. Claim 1 of the main request reads as follows:

"A disposable diaper (1) having a transverse and longitudinal dimension comprising a backsheet (6), a topsheet (5) and an absorbent core (7) disposed therebetween, wherein said absorbent core comprises at least one absorbent structure (15) comprising a first substrate layer (16) and an absorbent layer (17) comprising absorbent polymer particles (50) and optionally cellulose, supported by, and immobilized on said substrate layer (16), wherein said absorbent layer (17) comprises more than 70 wt% of said absorbent polymer particles, and said absorbent polymer particles are immobilized by a thermoplastic adhesive material (40) on said substrate layer, said absorbent layer (17) having:

- i. a transverse (N) and longitudinal dimension (M); and
- ii. a pair of opposing longitudinal edges (18) extending in said longitudinal dimension; and
- iii. a pair of opposing transversal edges (19) extending in said transverse dimension; and
- iv. a front, crotch and back regions (21, 23, 22) arranged sequentially in said longitudinal dimension; and

v. two longitudinal portions delimited by a central longitudinal axis of said absorbent layer (17); wherein said absorbent layer (17) comprises at least two channels (26) substantially free of said absorbent polymeric particles extending through the thickness of said absorbent layer (17) in its longitudinal dimension, wherein each longitudinal portion of said absorbent layer (17) comprises one of said channels (26) and wherein each of said channels (26):

- a. has a width of at least 3 mm or of at least 4% of the transverse dimension of said absorbent layer (17); and
- b. extends over at least 15% of the longitudinal dimension of said absorbent layer (17); and
- c. is at least present in said crotch region (23) or part thereof;

wherein said absorbent layer (17) does not comprise channels substantially free of absorbent polymer particles extending in its transverse dimension in said crotch region (23), and

wherein said absorbent layer (17) does not comprise channels substantially free of absorbent polymeric particles extending up to its longitudinal and transverse edges (18,19)."

VIII. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that feature d reads as follows: "d. [wherein each of said channels (26):]has a width of from 6 to 10 mm; and"

IX. Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the first paragraph reads "A disposable diaper (1) having a transverse and longitudinal dimension comprising a backsheet (6), a topsheet (5) and an absorbent core (7) disposed therebetween, wherein said absorbent core comprises

first and second absorbent structures (15, 15') each of said first and second absorbent structures (15, 15') comprising:

a substrate layer (16,16') and an absorbent layer (17, 17') comprising absorbent polymer particles (50, 50') and optionally cellulose, supported by, and immobilized on said substrate layer (16, 16'), wherein said absorbent layer (17, 17') comprises more than 70 wt% of said absorbent polymer particles, and said absorbent polymer particles are immobilized by a thermoplastic adhesive material (40, 40') on said substrate layer, said absorbent layer (17, 17') having:",

and the following features have been appended at the end of the claim:

"wherein said first and second absorbent structures (15, 15;) form a laminate, wherein said substrate layers (16, 16') of said first and second absorbent structures (15, 15') are images of each other and are combined such that the channels (26') of said absorbent layer of said second absorbent structure (15') superpose the channels (26) of said absorbent layer of said first absorbent structure (15) to form channels through the thickness of said laminate, and wherein the substrate layers (16, 16') of said first and second absorbent structures (15, 15') bond through the channels."

- X. Claim 1 of auxiliary request 3 and 4 differ from claim 1 of the main request and auxiliary request 1 respectively in that the first paragraph reads:
"A disposable diaper (1) having a transverse and longitudinal dimension comprising a backsheet (6), a topsheet (5) and an absorbent core (7) disposed therebetween, wherein said absorbent core comprises at least one absorbent structure (15) comprising a first

substrate layer (16) and an absorbent layer (17) comprising absorbent polymer particles (50), supported by, and immobilized on said substrate layer (16), wherein said absorbent layer (17) comprises more than 70 wt% of said absorbent polymer particles, with respect to the total weight of said absorbent layer, and said absorbent polymer particles are immobilized by a thermoplastic adhesive material (40) on said substrate layer, said absorbent layer (17) having:"

XI. Claim 1 of auxiliary request 5 differs from claim 1 of auxiliary request 2 in that the first paragraph of claim 1 of auxiliary request 2 has been replaced by the following paragraphs:

"A disposable diaper (1) having a transverse and longitudinal dimension comprising a backsheet (6), a topsheet (5) and an absorbent core (7) disposed therebetween, wherein said absorbent core comprises first and second absorbent structures (15, 15') each of said first and second absorbent structures (15, 15') comprising:

a substrate layer (16, 16') and an absorbent layer (17, 17') comprising absorbent polymer particles (50, 50'), supported by, and immobilized on said substrate layer (16, 16'), wherein said absorbent layer (17, 17') comprises more than 70 wt% of said absorbent polymer particles, with respect to the total weight of said absorbent layer, and said absorbent polymer particles are immobilized by a thermoplastic adhesive material (40, 40') on said substrate layer, said absorbent layer (17, 17') having:"

XII. The appellants' arguments relevant to the present decision may be summarised as follows:

Main request and auxiliary requests 1 and 2 - Article 84 EPC

Claim 1 of the main request was not clear.

Claim 1 of the main request defined that the absorbent layer comprised more than 70 wt% of the absorbent polymer particles. However, it was not specified in the claim how the weight percentage of the absorbent polymer particles was to be determined, e.g., in relation to the total weight of the absorbent layer, in relation to the weight of the cellulose or in relation to the total weight of absorbent polymer particles present in the diaper.

Auxiliary requests 3 to 5 - Article 123(2) EPC

Claim 1 of auxiliary requests 3 to 5 did not fulfil the requirement of Article 123(2) EPC.

Paragraph [0039] did not specify that the wt% referred to the total weight of the absorbent layer and it was technically both possible and logical that it could refer to something else, such as the weight of cellulose or the total weight of absorbent particles.

XIII. The respondent's arguments relevant to the present decision may be summarised as follows:

Main request and auxiliary requests 1 and 2 - Article 84 EPC

It was clear to the skilled person that the weight percentage of the absorbent polymer particles was to be determined in relation to the total weight of the absorbent layer.

No other interpretation was plausible. The expression "said absorbent polymer particles" meant that the particles were the ones defined previously in the claim as being comprised in the absorbent layer, when the claim was read in a natural way.

Claim 1 also defined that these absorbent polymer particles were immobilized on the substrate layer, which implied that the absorbent polymer particles could not be in or part of the substrate layer.

In addition, it was standard practice in the technical field (and also in EPO practice in general) for weight percentages to be defined with respect to the total weight of the entity being defined.

Auxiliary requests 3 to 5 - Article 123(2) EPC

Claim 1 of auxiliary requests 3 to 5 fulfilled the requirement of Article 123(2) EPC.

Paragraph [0039] of the published application (which corresponded to the paragraph bridging pages 8 and 9 of the description as filed) provided a basis for the amended feature "said absorbent layer (17, 17')

comprises more than 70 wt% of said absorbent polymer particles, with respect to the total weight of said absorbent layer".

The wt% could not refer to the weight of cellulose or to anything else besides the weight of the absorbent layer.

Reasons for the Decision

1. Main request and auxiliary requests 1 and 2 - Article 84 EPC
 - 1.1 Claim 1 of the main request defines *inter alia* that "said absorbent layer (17) comprises more than 70 wt% of said absorbent polymer particles".
 - 1.2 It is not clear that the weight percentage in claim 1 refers to the weight of the particles with respect to the total weight of the absorbent layer, as argued by the respondent. The weight percentage could equally refer to something else, such as the percentage of the total weight of absorbent polymer particles present in the diaper, i.e. including particles present, for example, in the substrate layer.
 - 1.3 The respondent argued that the expression "said absorbent polymer particles" meant that the particles were the ones defined previously in the claim as being comprised in the absorbent layer, when the claim was read in a natural way.

This argument does not persuade the Board. Claim 1 defines (before the expression "said absorbent polymer

particles") that "said absorbent core comprises at least one absorbent structure (15) comprising a first substrate layer (16) and an absorbent layer (17) comprising absorbent polymer particles (50)". The skilled person reading this passage would not consider that the absorbent polymer particles are comprised only in the absorbent layer. Such a cascading clause/ expression can also be interpreted by the skilled person in a way that both a first substrate layer (16) and an absorbent layer (17) comprise absorbent polymer particles (50).

Contrary to the respondent's argument, the Board finds that this would also be a natural way of reading the expression. The wording of the claims should typically be given its broadest technically sensible meaning by such a skilled reader and the wording of the claim does not exclude this interpretation, i.e. this interpretation is not illogical. Additionally, the terminology "70 wt% of said absorbent polymer particles" would seemingly more logically be understood to mean a wt% with respect to some quantity of absorbent polymer particles, rather than being related to another component.

- 1.4 The respondent further argued that claim 1 also defined that "said absorbent polymer particles are immobilized by a thermoplastic adhesive material (40) on said substrate layer", which implied that the absorbent polymer particles could not be in or part of the substrate layer. The wt% could therefore not refer to the total weight of absorbent particles, as it would then necessarily have to be 100% since the absorbent layer was the only layer comprising absorbent particles.

Also this argument is not accepted. The fact that absorbent polymer particles are immobilized by a thermoplastic adhesive material on said substrate layer does not exclude that these particles are also part of the substrate layer. For example, as described in paragraphs [0090] to [0093], some of the thermoplastic adhesive material may penetrate into/be in contact with the substrate layer and be in contact with the absorbent particles such that at least those particles which are in contact with the adhesive material also form a substrate (and a support) for the absorbent layer and may be considered to be part of the substrate layer. Likewise, even the absorbent particles in the substrate layer which are not in contact with the adhesive (but in contact with absorbent particles directly immobilized thereby or fibres in this area) may still be (indirectly) immobilized on said substrate layer by (i.e. as a result of) the adhesive thereon.

The claim therefore does not exclude that some of the "said" absorbent polymer particles are also comprised in the substrate layer.

- 1.5 The respondent also argued that it was standard practice in the technical field (and also in EPO practice in general) to define weight percentages with respect to the total weight of the entity being defined such that the skilled person would have no doubt that it referred to the weight of the absorbent layer.

The Board cannot concur. Irrespective of whether it is more common practice to define percentages by weight with respect to the total weight of the entity being defined (in this case the absorbent layer), this cannot serve to exclude interpretations of the wording of claim 1 which are equally possible and not technically

meaningless to a person skilled in the art. In claim 1, the reference for the wt% is not specified in such a way that the weight percentage should necessarily be understood to be referring to another entity, as is often the case (e.g. paragraph [0104] of the patent or paragraph [0019] of D8); see also the explanation given at the end of point 1.3 above.

- 1.6 The respondent argued additionally that since absorbent polymer particles were by definition absorbent, the skilled person would unambiguously allocate them to the absorbent layer. This argument also fails, since an absorbent structure of an absorbent product often comprises several layers, many of which may be given names which do not include the term "absorbent", but which nevertheless absorb. Nor has it been shown to be the case, for example, that absorbent polymer particles are only ever present in only one absorbent layer of a (multi-layer) absorbent structure. Consequently the Board cannot conclude on this basis either that the first substrate layer cannot also comprise absorbent polymer particles.
- 1.7 Claim 1 of the main request is consequently not clear as required under Article 84 EPC such that the main request is not allowable.
- 1.8 Claim 1 of auxiliary requests 1 and 2 also includes the feature "wherein said absorbent layer (17) comprises more than 70 wt% of said absorbent polymer particles".
- 1.9 The respondent presented no additional arguments concerning auxiliary requests 1 and 2 and the Board can also see no reason why the amendments made to claim 1 of auxiliary requests 1 and 2 would overcome the objection under Article 84 EPC against the main

request, as had already been stated in item 6.1 of the preliminary opinion of the Board.

- 1.10 Claim 1 of auxiliary requests 1 and 2 is therefore not clear as required under Article 84 EPC such that auxiliary requests 1 and 2 are also not allowable.
2. Auxiliary requests 3 to 5 - Article 123(2) EPC
- 2.1 Claim 1 of auxiliary requests 3 to 5 defines *inter alia* that "said absorbent layer (17, 17') comprises more than 70 wt% of said absorbent polymer particles, with respect to the total weight of said absorbent layer".
- 2.2 The respondent argued that paragraph [0039] of the published application (which corresponds to the paragraph bridging pages 8 and 9 of the description as filed) provided a basis for this amendment. This paragraph deals with the absorbent layer, such that the skilled person, when reading the sentence "In some embodiments, the absorbent layer comprises more than 70%, or more than 80%, or more than 90%, or more than 95% or even 100% by weight of absorbent polymer particles", at least implicitly understood that the wt% necessarily referred to the total weight of the absorbent layer.

The Board, however, finds that there is no basis in the originally filed application for this amendment. As argued by the appellants, the foregoing sentence does not state to which weight the wt% refers. Thus, the skilled person could not know from the sentence alone which weight is referred to.

In addition, paragraph [0039] also discloses the use of other materials (e.g. cellulose) in addition to the absorbent polymer particles in the absorbent layer in

the first and third sentences of the paragraph such that it would at least be reasonable for the skilled person to establish, for example, the wt% of absorbent polymer particles with regard to other materials of the absorbent layer instead of the total weight of the absorbent layer.

- 2.3 In this regard, the respondent argued that the wt% could not refer to the weight of cellulose as a range of 70 wt% of the total cellulose weight would mean that there would be less absorbent material than cellulose and this would not make technical sense in regard to the broader disclosure, i.e. in the field of absorbent articles.

This argument is, however, not persuasive. First, the corresponding volume of material depends on the specific basis weight/density of the absorbent material and cellulose. Second, as the appellants pointed out, the total cellulose weight is only one possible example, but there are others, such as the total weight of absorbent polymer particles in the (whole) absorbent core, used in paragraph [0104].

Even though paragraph [0039] refers to the absorbent layer, this paragraph is part of a more general section describing the absorbent structure as a whole ranging from paragraphs [0032] to [0044], in which the substrate layer and its materials are also described in paragraphs [0037] and [0038].

As mentioned above in section 1.4, it is not ruled out that absorbent polymer particles are also present in the substrate layer and, in addition, due to the word "comprising" at several junctures, the claim allows more than one absorbent structure and therefore more than a single "absorbent layer". Consequently the %wt

of absorbent polymer particles in an absorbent layer in relation to the total weight of absorbent particles would not necessarily be 100% of the weight of the absorbent layer (17) itself. Expressed differently, the %wt of absorbent polymer being at e.g. 100% by weight could equally mean that all the polymer particles of the absorbent structure are in one specific absorbent layer but that the 100% relates to the %weight of the total weight of polymer particles in the entire structure being present in that particular absorbent layer, rather than the percentage being with respect to the weight of the absorbent layer, not least because the paragraph refers to the absorbent layer "In some embodiments" without specifying which embodiments might be meant.

- 2.4 To summarise, it is therefore not the only option making technical sense for the skilled person reading the description that the % by weight of absorbent polymer particles described in paragraph [0039] should refer to the total weight of the absorbent layer as defined in claim 1 of auxiliary requests 3 to 5.
- 2.5 The subject-matter of claim 1 of auxiliary requests 3 to 5 thus fails to meet the requirement of Article 123(2) EPC. Auxiliary requests 3 to 5 are hence not allowable.
3. Absent any set of claims complying with the requirements of the EPC, the patent has to be revoked (Article 101(3) (b) 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:



D. Grundner

M. Harrison

Decision electronically authenticated