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**Datasheet for the decision
of 3 February 2016**

Case Number: T 1791/13 - 3.3.06

Application Number: 04751162.1

Publication Number: 1694916

IPC: D21H17/59, D21H27/02

Language of the proceedings: EN

Title of invention:

Tissue sheets containing multiple polysiloxanes and having regions of varying hydrophobicity

Patent Proprietor:

KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:

SCA Hygiene Products AB

Headword:

Hydrophobic-hydrophilic tissue/ KIMBERLY-CLARK

Relevant legal provisions:

EPC Art. 52(1), 54, 56, 83

Keyword:

Sufficiency of disclosure (yes)

Novelty (yes) -

Features of claim 1 not disclosed in combination

Inventive step (yes) - non-obvious alternative

Decisions cited:

T 0593/09

Catchword:



Beschwerdekammern
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Case Number: T 1791/13 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 3 February 2016

Appellant: SCA Hygiene Products AB
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
11 June 2013 concerning maintenance of the
European Patent No. 1694916 in amended form.**

Composition of the Board:

Chairman B. Czech
Members: L. Li Voti
C. Vallet

Summary of Facts and Submissions

- I. The present appeal by the Opponent is from the decision of the Opposition Division concerning maintenance of European patent no. 1 694 916 in amended form.
- II. The opposition had been filed on the grounds of lack of novelty and lack of inventive step (Article 100(a) EPC) and insufficiency of disclosure (Article 100(b) EPC).

The documents relied upon by the parties include the following:

D1: WO 2004/061237 A1;
D2: WO 2005/068716 A1;
D3: WO 02/066734 A2;
D5: US 6 432 268 B1; and
D6: US 6 054 020 A.

- III. The Opposition Division found that the set of claims according to the then pending 4th auxiliary request complied with all the requirements of the EPC.
- IV. In its statement of grounds of appeal, the Appellant (Opponent) contested the reasoning given by the Opposition Division and maintained that the invention was not sufficiently disclosed, that the subject-matter of claim 1 lacked novelty over document D1 and that it lacked an inventive step in the light of document D5 taken alone or in combination with document D3.
- V. In its reply of 6 March 2014, the Respondent (Patent Proprietor) rebutted all the Appellant's arguments. It nevertheless filed three sets of claims as main request and first and second auxiliary requests, respectively.

- VI. In a further letter the Appellant submitted *inter alia* that
- claim 1 according to the main request lacked clarity and the claimed invention was not sufficiently disclosed;
 - the subject-matter of claim 1 lacked novelty over documents D1, D2, D3, D5 and D6 and
 - the claimed subject-matter lacked an inventive step in view of documents D2, D3, D5 and D6.
- VII. By letter of 10 June 2015, the Respondent filed amended sets of claims as new main request and new first, second and third auxiliary requests. It also rebutted some of the Appellant's arguments.

The claims according to this new main request correspond to claims 1 to 10 of the 4th auxiliary request held allowable by the Opposition Division. Claim 1 thereof reads as follows:

"1. A method of making a tissue product having one or more plies of cellulose papermaking fibers and having two outer surfaces, said method comprising incorporating into the product a hydrophilic polysiloxane and a hydrophobic polysiloxane, characterised in that the hydrophilic polysiloxane and the hydrophobic polysiloxane are distributed differently within the product, wherein the hydrophobic polysiloxane is printed onto one or both outer surfaces of the product in a pattern and the hydrophilic polysiloxane is printed onto one or both outer surfaces of the product in a different pattern."

Dependent claims 2 to 10 concern specific embodiments of the method of claim 1.

VIII. In a further letter the Appellant maintained *inter alia* its novelty and inventive step objections against claim 1 of the new pending main request.

IX. Oral proceedings before the Board were held on 3 February 2016.

The parties were heard regarding the main request. The Appellant expressly no longer maintained a clarity objection raised in writing against claim 1. The debate then focused on the Appellant's objection under Article 83 EPC and on novelty over D1.

The Appellant expressly conceded that documents D2, D3, D5 and D6 could not be considered to be novelty-destroying for claim 1 in case the claim 1 were to be understood as requiring the use of two different polysiloxanes.

The Appellant also conceded that document D2, not published before the priority date of the patent in suit, was not relevant as regards inventive step. In this respect, it ultimately relied only on document D5.

X. Requests

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

The Respondent requested that the appeal be dismissed or, in the alternative, that the patent be maintained in amended form on the basis of the first, second or third auxiliary request, respectively, all of them submitted by letter dated 10 June 2015.

XI. The **Appellant's** arguments regarding the claims according to the main request of relevance here can be summarised as follows.

Sufficiency

- The patent in suit taught that hydrophilic and hydrophobic polysiloxanes can be distinguished by applying the Single Water Drop Test defined in the description, concerning the time taken for a drop of water to be completely absorbed on a test sheet uniformly sprayed topically with the given polysiloxane. However, the description failed to specify the nature of the test sheet to be used in carrying out the measurement.

- Moreover, it was known to the skilled person that the capacity of a sheet to absorb water is also influenced by some of its other characteristics such as its porosity and the associated capillary forces. Therefore, a polysiloxane found to be hydrophilic according to a Single Water Drop Test carried out on a given test sheet could be found to be hydrophobic when tested using a different sheet.

- Therefore, the Single Water Drop Test disclosed in the patent in suit did not enable the skilled person to identify with certainty whether a given polysiloxane was hydrophilic or hydrophobic for the purpose of the invention, and to draw a clear demarcation line between the classes of hydrophilic and hydrophobic polysiloxanes to be used according to the method of claim 1 at issue in order to solve the posed technical problem of providing a spatial distribution of softness and absorbency properties across a tissue sheet.

- Even though polysiloxanes considered as hydrophobic or hydrophilic were known, the hydrophobicity or hydrophilicity of a given polysiloxane depended also on the characteristics of the tissue material to be treated. Therefore, absent a specific teaching to this end, it was not possible for the skilled person to decide whether a given polysiloxane was hydrophilic or hydrophobic for the purpose of carrying out the method of claim 1 at issue.

- The structural formulae contained in the description of the patent in suit and illustrating compounds suitable as hydrophilic and hydrophobic polysiloxanes, respectively, overlapped and were also of no help in selecting, at least in the range of overlap, suitable hydrophilic and hydrophobic polysiloxanes for carrying out the claimed method.

- Therefore, the disclosure of the patent in suit did not enable the skilled person to choose, across the whole ambit of claim 1, pairs of hydrophilic and hydrophobic polysiloxanes suitable for carrying out the claimed method, i.e. for solving the technical problem consisting in providing a spatial distribution of softness and absorbency properties on a tissue sheet. In this respect, reference was made also to decision T 593/09 of 20 December 2011.

- The invention of claim 1 at issue was thus not sufficiently disclosed.

Novelty and inventive step

- Taking into account the disclosure of claims 41 and 52 of D1, combined with various parts of its description,

the subject-matter of claim 1 according to the Respondent's main request lacked novelty.

- The claimed invention did not bring about any unexpected advantage over the method disclosed in document D5, representing the closest prior art. Therefore, the technical problem underlying the invention consisted only in the provision of an alternative method for obtaining a spatial distribution of softness and absorbency properties on a tissue sheet.

- In putting into practice the method of D5, it would have been obvious to the skilled person to sequentially print, offset and not exactly in the same patterns, the hydrophobic and hydrophilic polysiloxanes onto the tissue, in order not to neutralize the softening effect of the hydrophobic polysiloxane applied to the sheet.

- Moreover, since the suitability of hydrophobic and hydrophilic polysiloxanes for conferring softness and absorbency, respectively, to a tissue product was known to the skilled person, it would have been obvious to him to apply these polysiloxanes to different regions of a tissue sheet in order to obtain a spatial distribution of different properties.

- Claim 1 at issue thus lacked an inventive step.

The counter-arguments of the **Respondent** can be summarised as follows.

- Hydrophilic and hydrophobic polysiloxanes were known to the skilled person, as also indicated in the patent in suit. Furthermore, the patent in suit disclosed suitable commercially available hydrophilic and hydrophobic polysiloxanes and described at least one

example of a method according to claim 1. Also the structural formulae of suitable hydrophilic and hydrophobic polysiloxanes reported in the patent in suit, even though theoretically overlapping with each other, would be understood by the skilled person to relate to two different classes of polysiloxanes and not to encompass identical compounds belonging to both classes. Therefore, even if the exact boundary between the two classes of hydrophilic and hydrophobic polysiloxane compounds might be considered unclear, the skilled person would still be able to carry out the claimed invention.

- Moreover, if necessary, the skilled person would be able to apply the Single Water Drop Test defined in the patent in suit in order to assess whether a given polysiloxane was hydrophilic or hydrophobic for the purpose of the invention. In fact, the skilled person, by reading the description with common sense, would understand that this test had to be carried out on a tissue sheet prepared according to the claimed method or on a similar one, as shown in the examples of the patent in suit.

- Therefore, the claimed invention was sufficiently disclosed.

Novelty and inventive step

- Document D1 did not disclose directly and unambiguously the combination of features of claim 1 at issue. Claim 1 at issue was thus novel over the cited prior art.

- Document D5 taught to blend a hydrophobic polysiloxane with a hydrophilic one in order to balance the

hydrophobicity of the resulting sheet. Therefore, when these polysiloxanes were printed, according to one teaching of this document, separately and sequentially onto a tissue sheet, they had to be printed in a way allowing their blending. Moreover, considering the teaching of D5, the skilled person would not expect, in doing so, that the softening effect of the hydrophobic polysiloxane applied first would be completely neutralized but, to the contrary, he would expect an optimization of the resulting properties.

- Therefore, D5 did not contain any suggestion for the skilled person to apply hydrophobic and hydrophilic polysiloxanes in different patterns so that they are distributed differently within the tissue product and provide a balance of softness and absorbency properties.

- The other cited documents of the prior art did not disclose the application of hydrophobic and hydrophilic polysiloxanes in different patterns on a tissue sheet in order to obtain a balance of softness and absorbency properties.

- Therefore, the subject-matter of claim 1 according to the main request involved an inventive step.

Reasons for the Decision

Respondent's main request

Sufficiency of disclosure

1. Claim 1 (see point VII, *supra*) concerns a method of making a tissue product having one or more plies of cellulose papermaking fibers and having two outer surfaces, said method comprising incorporating into the tissue product a hydrophilic polysiloxane and a hydrophobic polysiloxane so that they are distributed differently within the product and that they are printed in different patterns onto one or both of said outer surfaces.
2. Elements of disclosure in the patent in suit
 - 2.1 It is undisputed that the patent in suit shows in example 3 at least one way of performing the method according to claim 1.
 - 2.2 It is also undisputed that the skilled person, following the teaching of the patent in suit and relying on common general knowledge, would be able to print two different polysiloxanes in different patterns onto one or both outer surfaces of a tissue product so that they are distributed differently.
 - 2.3 The Board also takes into account that, at the priority date of the patent in suit, the person skilled in the art was aware of polysiloxane compounds described or qualified as being "*hydrophobic*" or "*hydrophilic*".

This is expressly reflected in the patent in suit, paragraph [0001] reading (emphasis added): "*In the*

manufacture of various tissue products, especially facial and bath tissue, it is well **known to add polysiloxanes** to the surface of the tissue to improve the topical surface feel of the product. Since polysiloxanes, and in particular **polydialkylsiloxanes** such as polydimethylsiloxane are **inherently hydrophobic**, use of polydimethylsiloxanes can impart hydrophobicity to the tissue sheet. Modified **polysiloxanes** that are **hydrophilic are known** in the art and have also been applied to tissue substrates. It is also known to control the wet out characteristics of the sheet by blending hydrophilic and hydrophobic polysiloxanes."

2.4 The patent in suit also contains indications regarding examples of specific, commercially available products suitable as "hydrophilic" and "hydrophobic" polysiloxanes within the meaning of claim 1 (see page 4, lines 42 to 43, and page 5, lines 16 to 17 and 37 to 39).

2.5 Moreover, the patent in suit contains explicit functional definitions for such polysiloxanes in paragraphs [0018] and [0019] which read: "**The hydrophilic polysiloxanes** useful for purposes of this invention can be any polysiloxane that **imparts sufficient hydrophilicity to the sheet**" and "**The hydrophobic polysiloxanes** useful for purposes of this invention are any hydrophobic polysiloxanes that **deliver the required softness and hydrophobicity properties to the area of the sheet** in which they are positioned".

3. Based on the preceding considerations, the Boards holds that the skilled person clearly derives from the teaching of the patent in suit that the hydrophobic and hydrophilic polysiloxanes for the purpose of the invention must be different compounds having different

properties and imparting different properties to the tissue.

3.1 This finding is not in contradiction with the structural formulae of suitable hydrophilic and hydrophobic polysiloxanes illustrated in paragraphs [0018] and [0019] of the description, which also have to be considered in this context.

3.1.1 Even though these structural formulae may theoretically overlap, as noted by the Appellant, in particular when $y = 0$ in the formula for the hydrophilic polysiloxanes of paragraph [0018] and R^8 stands for polyethers in the formula for the hydrophobic polysiloxanes of paragraph [0019], the Board holds that it would be clear to the skilled person reading the entire patent with common sense, that the hydrophilic and hydrophobic polysiloxanes represented by such structural formulae must have different characteristics.

3.1.2 Therefore, the skilled person would not consider that the structural formula for the hydrophobic polysiloxanes of paragraph [0019] designates theoretical compounds containing hydrophilic groups able to confer a degree of hydrophilicity so high that it matches that of the hydrophilic compounds belonging to the structural formula of paragraph [0018]. This is also confirmed by the definition given on page 5, line 13, for the moieties $R^1 - R^8$ of the hydrophobic polysiloxane which must be "**hydrophobic organo-functional groups**".

3.1.3 Similarly, the skilled person would not consider that the structural formula for the hydrophilic polysiloxanes of paragraph [0018] designates theoretical compounds containing hydrophobic groups able to confer a degree of hydrophobicity so high that it matches that of the

hydrophobic compounds belonging to the structural formula of paragraph [0019].

- 3.2 The person skilled in the art will thus not gather from the formulae of paragraphs [0018] and [0019] that one and the same polysiloxane may be used both as the hydrophilic and as the hydrophobic polysiloxane within the meaning of claim 1 at issue.
4. The Appellant also stated that polysiloxanes that may generally be considered to be "*hydrophobic*" could behave like hydrophilic ones when interacting with particular substrates. However, it did not submit any corroborating evidence, let alone evidence taking into account the specific field of application of the invention, i.e. tissues containing cellulose papermaking fibres.

The Board, however, holds that even if this view of the Appellant were to be accepted, the skilled person, by merely following the teaching of the patent in suit and relying on common general knowledge, would have no difficulty in finding suitable hydrophilic and hydrophobic polysiloxanes for carrying out the method of claim 1 at issue.

5. As expressly acknowledged by both parties, the claimed invention also encompasses the use of polysiloxanes which at first sight would not be considered as being clearly hydrophilic or hydrophobic by the person skilled in the art.
- 5.1 In such a case the skilled person could, in accordance with the definition for hydrophilic and hydrophobic polysiloxanes given in paragraphs [0009] and [0010] of the patent in suit, carry out the "*Single Water Drop Test*" defined in paragraph [0027].

- 5.1.1 This test (page 6, line 21) may be used to determine whether a material is hydrophobic or hydrophilic. It can be carried out
- i) on a specific standard tissue sheet, onto which a polysiloxane has been uniformly topically sprayed, as indicated in paragraphs [0009] and [0010], as well as
 - ii) on a particular area of a tissue product (page 6, lines 21 to 23), e.g. of a tissue product obtained according to the method of claim 1 at issue, wherein hydrophilic and hydrophobic polysiloxanes are printed in different patterns and distributed differently.
- 5.1.2 In the examples of the patent in suit (page 7, lines 23 to 25 and 45 to 47; page 8, lines 10 to 11), the test is used to evaluate the hydrophobicity/hydrophilicity imparted to tissue zones treated with such polysiloxanes. Considering the functional definitions given in paragraphs [0018] and [0019] (see point 2.5, *supra*), the Board holds that this test method reveals whether in connections with a given cellulose fibre tissue, a given polysiloxane is "*hydrophilic*" or "*hydrophobic*" for the purpose of the invention. Hence, for assessing the hydrophilicity/hydrophobicity of a given polysiloxane, it is not necessary to carry out a test involving a standard test tissue sheet (point 5.1.1 i), *supra*).
- 5.1.3 According to the Single Water Drop Test, the time taken for a drop of water to be completely absorbed is measured on three representative aged test tissue sheets (page 6, lines 32 to 39), for example on which the polysiloxane(s) has(have) been printed (as shown in the examples), the average value of the three measurements being considered to be the Single Water Drop Test value for a given polysiloxane or treated tissue. According to this test hydrophobic materials will have a Single Water

Drop Test value of 30 seconds or greater, while hydrophilic materials will have a Single Water Drop Test value of less than 30 seconds.

- 5.1.4 The description indeed does not define specifically a reference tissue to be used in the test. However, the Board is convinced that the person skilled in the art reading the description with common sense and considering the whole disclosure of the patent in suit, including the examples wherein such test is carried out (page 7, lines 23 to 25 and 45 to 47; page 8, lines 10 to 11), would understand that that the test has to be carried out on sheets of the tissue product to be treated according to the method of claim 1 or a reference tissue having comparable properties.
- 5.1.5 The Board thus finds that the skilled person would be able to carry out this test without undue burden by following the teaching of the patent in suit, thereby being able to identify and distinguish between hydrophilic and hydrophobic polysiloxanes suitable for being used in the claimed method.
6. The Board thus concludes that the skilled person, following the teaching of the patent in suit and taking into account and applying common general knowledge, would be able to choose, for a given tissue product, pairs of hydrophilic and hydrophobic polysiloxanes suitable for carrying out the method of claim 1, to thereby obtain the products that the invention aims to provide, i.e. tissues with a spatial distribution of softness and absorbency properties.
7. For the sake of completeness, the Board remarks that this finding is also in line with the rationale of decision T 593/09 cited by the Appellant, reading (point

4.1.4) *"What is decisive for establishing insufficiency within the meaning of Article 83 EPC is whether the parameter, in the specific case, is so ill-defined that the skilled person is not able, on the basis of the disclosure as a whole and using his common general knowledge, to identify (without undue burden) the technical measures (eg selection of suitable compounds) necessary to solve the problem underlying the patent at issue"*.

The Board is satisfied that in the present case, the skilled person is, as explained above, indeed able to identify the technical measures necessary to solve the problem posed by the patent at issue.

8. In the Board's judgement, the claimed invention is thus disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC).

Novelty

9. Over document D1
- 9.1 Post-published document D1, cited as prior art in virtue of Article 54(3) EPC, discloses (claims 41 and 52 combined), a tissue product comprising
- a base sheet comprising pulp fibres and having been treated with a hydrophobic additive comprising a polysiloxane, and
 - a wetting agent such as silicone polyether, silicone copolyols or ethoxylated polysiloxane (i.e. a hydrophilic polysiloxane)
- applied to both outer sides of the base sheet to provide discrete hydrophobic and hydrophilic regions. Claims 41 and 52 do not specify how the hydrophilic and the

hydrophobic polysiloxanes are incorporated into the tissue product. Dependent claim 45 only discloses the option of applying the hydrophobic polysiloxane as pretreated fibres, i.e. before the formation of the base sheet.

- 9.2 The description of D1 discloses that the "wetting agent" may also be a compound different from a hydrophilic polysiloxane (page 17, line 23, to page 19, line 10, and page 19, lines 26 to 28), and that it may be applied by printing or spraying, in any suitable pattern (page 19, lines 30 to 32, and page 20, lines 8 to 9 and lines 14 to 19).

According to D1, the hydrophobic agent may also be different from a hydrophobic polysiloxane (see page 9, lines 24 to 31) and may be incorporated in various ways, *inter alia* by topical application, i.e. to the outer surface of the base sheet (page 12, lines 11 to 12), or before the formation of the base sheet (page 13, line 29, to page 14, line 15, and page 15, lines 1 to 10), for example as specified in claim 45.

Moreover, if the hydrophobic agent is applied topically, it can be applied according to seven different process alternatives (page 12, line 12 to page 13, line 21), "printing methods" constituting only one of these alternatives (page 12, lines 19 to 20). Furthermore, the topically applied hydrophobic agent can be applied either to cover substantially all of the sheet or in a pattern (see page 13, line 22 to 23).

The description of D1 does not contain an explicit indication that patterns of hydrophobic and hydrophilic agents applied to the surfaces of the base sheet would have to be different.

9.3 Therefore, to arrive at a method according to claim 1 at issue starting from the combined disclosure of claims 41 and 52, several selections have to be made within the overall disclosure of the description and the chosen features have to be combined with each other (printing both the hydrophobic siloxane and the wetting agent; but in different patterns) whilst retaining the features of claims 41 and 52 (in particular the nature of the wetting agent).

9.4 In the Board's judgement, if only for these reasons, document D1 does not disclose directly and unambiguously a method with all the combined features of claim 1 at issue.

10. Other prior art cited

10.1 As indicated under points 3, and 3.2, *supra*, the Board holds that the wording of claim 1 requires necessarily the use of **two different** polysiloxanes, one being hydrophilic and the other hydrophobic.

10.2 The other documents invoked by the Appellant as regards novelty, i.e. documents D2, D3, D5 and D6, all concern methods wherein only a single type of polysiloxane is applied to a base sheet.

10.3 Thus, based on the understanding of claim 1 set out under 3, *supra*, none of these documents discloses a method with all the features of claim 1 at issue.

Since this was expressly conceded by the Appellant at the oral proceedings, a more detailed reasoning need not be given in this respect.

11. In the Board's judgement, the subject-matter of claim 1,

and of the claims dependent thereon, is thus novel over the other cited prior art (Articles 52(1) and 54 EPC).

Inventive step

12. The invention

12.1 The invention concerns a method of making a tissue product with balanced softness and absorbency (see claim 1 and paragraph [0003]).

12.2 More particularly, according to the description of the patent in suit (paragraph [0002] and [0003]), there was *"a need to produce tissue products having a macroscopically continuous level of polysiloxane for softness, yet have regions of hydrophobicity within the tissue so as to maintain 'keeps hands dry' characteristics"*, and *"[a]dditionally, it is preferred that these tissue products have a rapid fluid intake"*. A tissue product having *"an improved balance of softness and absorbency"* was achieved by preparing a product in accordance with the invention.

13. Closest prior art

13.1 It was common ground between the parties that document D5 and, more particularly, the method described in D5 which involves the sequential rotogravure printing of a hydrophobic and of a hydrophilic polysiloxane on both sides of a tissue product having one or more plies of cellulose papermaking fibres in a pattern of spaced-apart printing cells, i.e. of treated and untreated areas (D5: column 5, lines 9 to 19 and 53 to 62 and column 6, lines 6 to 7), which areas implicitly have different hydrophilicity/hydrophobicity characteristics, represents the closest prior art.

13.2 The Board accepts that document D5 represents a suitable starting point for the evaluation of inventive step, taking into account also that it concerns explicitly (column 1, lines 25 to 26) the same technical problem addressed to in the patent in suit: "...a need currently exists for an improved tissue product that is **soft and absorbent**" (emphasis added).

14. Technical problem according to the Respondent

The Respondent maintained that the technical problem to be solved by the invention in the light of the closest prior art (*supra*) consisted in the provision of a method for preparing a tissue product having an **improved** balance of softness and absorbency.

15. The solution

As the solution to this technical problem the patent in suit in the amended version allowed by the Opposition Division proposes a "*method of making a tissue product*" which is characterised in particular in that a "*hydrophobic polysiloxane is printed onto one or both outer surfaces of the product in a pattern*" and a "*hydrophilic polysiloxane is printed onto one or both outer surfaces of the product in a different pattern*".

16. Alleged success of the claimed solution

16.1 The patent in suit neither contains a comparison with respect to a method as disclosed in document D5 nor some element of information reflecting some particular advantage possibly obtainable by carrying out the claimed method, as compared to the method disclosed in the closest prior art D5.

16.2 Hence, in the following, the Board accepts, for the sake of argument only but in the Appellant's favour, that no particular advantage was made plausible which could be attributed to the differences between the method claimed and the method disclosed in D5.

17. Reformulation of the technical problem

Therefore, the technical problem underlying the invention has to be reformulated in less ambitious terms as the provision of an alternative method for producing a tissue product having a spatial distribution of, and hence balanced, softness and absorbency properties.

18. Success of the claimed solution

In the light of the description of the patent in suit, and in particular, example 3 ("*offset stripe pattern*"), the Board is satisfied that this less ambitious technical problem is indeed successfully solved by the process of claim 1 at issue.
This was not in dispute.

19. Non-obviousness of the solution

19.1 Document D5 taken alone

19.1.1 The method disclosed in D5 (see point 11.1 above) differs from that of claim 1 at issue only insofar as it is not apparent that the hydrophilic and hydrophobic polysiloxanes are distributed differently within the product, i.e. that they are printed on the outer surfaces of the tissue product in different patterns.

Quite to the contrary, document D5 teaches explicitly

(column 4, lines 1 to 21) to blend the hydrophobic polysiloxane with a hydrophilic one in order to balance the resulting overall hydrophobicity of the tissue product.

- 19.1.2 Therefore, the Board holds that the person skilled in the art would conclude that when opting for a sequential printing of the hydrophobic and hydrophilic polysiloxanes in order to obtain a pattern of treated and untreated areas (D5: column 5, lines 53 to 62 and column 6, lines 6 to 8), the printing steps had to be carried out such that the two polysiloxanes are blended, i.e. by printing one on top of the other, in order to obtain the overall properties of the tissue product sought for according to D5.

Hence, the Board concludes that this document actually teaches away from distributing the two polysiloxanes differently within the tissue product by printing them in different patterns.

- 19.1.3 Furthermore, the Board does not accept the Appellant's allegation that upon implementation of the method of D5, the skilled person would inevitably, hence obviously, arrive at a method according to claim 1 at issue, since two sequential printing steps cannot usually occur in identical patterns and the two printing steps would, therefore, be offset.

This allegation is, on the one hand, not supported by any evidence and, on the other hand, contrary to the express teaching of D5, since offset "printing cells" of the two polysiloxanes would not lead to the blending of hydrophobic and hydrophilic polysiloxanes required according to D5 for balancing hydrophobicity.

Therefore, for the Board, document D5 also teaches away from printing the two polysiloxanes in offset patterns.

19.2 Other prior art documents invoked

19.2.1 The other documents cited in writing with regard to inventive step either do not belong to the state of the art pursuant to Article 54(2) EPC, like D2, and can thus not be invoked in attacking inventive step, or do not disclose applying both hydrophilic and hydrophobic polysiloxanes onto the outer sides of a tissue product in order to obtain a spatial distribution of softness and absorbency properties. This was conceded by the Appellant at the oral proceedings.

19.2.2 Even though the skilled person knew (see e.g. paragraph [0001] of the patent in suit) that, generally speaking, hydrophobic and hydrophilic polysiloxanes were suitable for conferring softness and absorbency, respectively, to a tissue product, the prior art invoked does not contain any element of information that could have prompted the skilled person, without the benefit of hindsight, to depart from the teaching of D5 and to modify the closest prior art method disclosed therein by printing the hydrophobic and hydrophilic polysiloxanes onto the outer surfaces in different patterns, thereby nevertheless achieving balanced softness and absorbency properties across the surface of the tissue product.

20. In the Board's judgement, the subject-matter of claim 1 and, consequently, the subject-matters of the dependent claims 2 to 10, thus involve an inventive step (Articles 52(1) and 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

B. Czech

Decision electronically authenticated