

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 4 February 2020**

Case Number: T 0609/17 - 3.3.03

Application Number: 04755558.6

Publication Number: 1680467

IPC: C08L23/10, C09J123/10,
B32B27/32

Language of the proceedings: EN

Title of invention:

TACKIFIED AMORPHOUS-POLY-ALPHA-OLEFIN-BONDED STRUCTURES

Patent Proprietor:

KIMBERLY-CLARK WORLDWIDE, INC.

Opponent:

Henkel AG & Co. KGaA

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (all requests: no)



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0609/17 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 4 February 2020

Appellant: Henkel AG & Co. KGaA
(Opponent) Henkelstrasse 67
40589 Düsseldorf (DE)

Representative: Viering, Jentschura & Partner mbB
Patent- und Rechtsanwälte
Kennedydamm 55 / Roßstrasse
40476 Düsseldorf (DE)

Respondent: KIMBERLY-CLARK WORLDWIDE, INC.
(Patent Proprietor) 401 North Lake Street
Neenah, WI 54956 (US)

Representative: Dehns
St. Bride's House
10 Salisbury Square
London EC4Y 8JD (GB)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
23 December 2016 concerning maintenance of the
European Patent No. 1680467 in amended form.**

Composition of the Board:

Chairman D. Semino
Members: O. Dury
C. Brandt

Summary of Facts and Submissions

- I. The appeal by the opponent lies from the interlocutory decision of the opposition division posted on 23 December 2016 concerning maintenance of European Patent No. 1 680 467 in amended form according to the claims of the main request filed with letter of 22 December 2015 and an adapted description.
- II. A notice of opposition to the patent was filed requesting revocation of the patent in its entirety.
- III. Claim 1 of the **main request filed with letter of 22 December 2015** read as follows:
- "1. A bonded structure comprising:
- a first non-woven substrate;
- a second non-woven substrate; and
- an adhesive composition bonding the first substrate and the second substrate to one another and at an add-on level of between 0.5 and 25 grams/meter²,
- wherein the adhesive composition comprises an amorphous poly-alpha-olefin and a tackifier, and
- the bonded structure has a dynamic peel strength as defined herein between 40 and 1000 grams per 25 millimeters;
- wherein the adhesive composition consists
- between 70% and 95% by weight of the adhesive

composition of an amorphous poly-alphaolefin,
a tackifier,
1% by weight or less antioxidant stabilizer and
optionally 20% by weight or less of one or more
additives;

the amorphous poly-alpha-olefin, tackifier,
antioxidant and one or more additives together
constituting 100% by weight of the adhesive
composition, and

the one or more additives being selected from a
plasticizer, colour pigment or dye, fragrance,
filler, a polymer compatibilizer, and/or low
softening point additive; and

wherein the amorphous poly-alpha-olefin comprises a
polypropylene-1-butene amorphous poly-alpha-
olefin."

IV. In the contested decision the following documents were
inter alia cited:

D3: WO 02/053 669

D5: US-5 763 333

D6: AU-B-33060/89

V. In that decision, the opposition division held that the
main request filed with letter of 22 December 2015
fulfilled the requirements of Article 123(2) EPC as
well as of sufficiency of disclosure and was inventive
in view of documents D5 or D6 as closest prior art. In
particular, starting from example 1 of D5 as closest

prior art, the problem solved by the patent in suit resided in the provision of further bonded structures, in alternative to the one of example 1 of D5. In reaching its decision, the opposition division held *inter alia* that an adhesive suitable for bonding a non-woven substrate to a film would be suitable also to bond two non-woven substrates to each other and that D5 disclosed using polypropylene-1-butene amorphous poly-alpha-olefin for the adhesive composition. However, considering that D5 taught away from using an amount of tackifier lower than 30 wt.%, which was a requirement of the operative claims, an inventive step was acknowledged.

- VI. The opponent (appellant) lodged an appeal against the above decision and requested that the decision of the opposition division be set aside and the patent be revoked.

- VII. In the reply to the statement of grounds of appeal, the patent proprietor (respondent) requested that the appeal be dismissed (**main request**) or, in the alternative, that the patent be maintained in amended form according to any of the first auxiliary request, auxiliary request 2, the third to seventh auxiliary requests or auxiliary requests 8 to 15 all filed therewith.

Claim 1 of the **first auxiliary request** was identical to claim 1 of the main request.

Claim 1 of **auxiliary request 2** and of the **third auxiliary request** were identical and were both directed to an article selected from the group consisting of personal care products and comprising a bonded structure defined according to claim 1 of the main

request.

Claim 1 of the **fourth to seventh auxiliary requests** corresponded to claim 1 of the main request, of the first auxiliary request, of auxiliary request 2 and of the third auxiliary request, respectively, with the following amendments in the definition of the adhesive composition (additions in **bold**; deletions in ~~strikethrough~~):

"wherein the adhesive composition consists

between 70% and 95% by weight of the adhesive composition of an amorphous poly-alphaolefin,

a tackifier,

and 1% by weight or less antioxidant stabilizer ~~and~~

~~optionally 20% by weight or less of one or more additives;~~

the amorphous poly-alpha-olefin, tackifier, **and** antioxidant ~~and one or more additives~~ together constituting 100% by weight of the adhesive composition, ~~and~~

~~the one or more additives being selected from a plasticizer, colour pigment or dye, fragrance, filler, a polymer compatibilizer, and/or low softening point additive; and~~

wherein the amorphous poly-alpha-olefin comprises a polypropylene-1-butene amorphous poly-alpha-olefin"

Claim 1 of each of **auxiliary requests 8 to 15**

corresponded to claim 1 of the main request, first auxiliary request, auxiliary request 2 and third to seventh auxiliary requests with the following additional amendment in respect of the amount of amorphous poly-alpha-olefin (hereinafter "**APAO**") of the adhesive composition (addition in **bold**; deletion in ~~strikethrough~~):

"between ~~70%~~ **80%** and 95% by weight of the adhesive composition of an amorphous poly-alphaolefin".

VIII. The parties were summoned to oral proceedings and a communication was sent by the Board, in which issues to be discussed at the oral proceedings were specified. Regarding inventive step, it was noted that the objection of lack of inventive step put forward in appeal by the appellant was in respect of either D5 or D6 as closest prior art, as had been done in the first instance proceedings (section 7.1). It was further pointed out that there was no reason for the Board to deviate from the parties' view according to which example 1 of D5 was a suitable starting point for the assessment of inventive step (section 7.2: first paragraph). Also, it was indicated that it did not appear to be derivable from the information provided in the patent in suit whether or not example 3 illustrated the subject-matter of the main request, which could be relevant for the issues of sufficiency of disclosure and of inventive step (see sections 6.2.2 and 6.2.3; section 7.2: last sentence of the first full paragraph on page 8).

IX. With letter of 14 October 2019 the respondent stated that example 3 of the patent in suit did not illustrate the subject-matter of claim 1 of the main request (see bottom of page 1). In respect of inventive step, it was

further argued that D3, and not D5 or D6, was the appropriate closest prior art document.

- X. Oral proceedings were held on 4 February 2020 in the presence of both parties.
- XI. The appellant's arguments, as far as relevant to the present decision, were essentially as follows:

Main request - Inventive step

- (a) It was known in the art that an adhesive suitable for bonding a non-woven substrate to a film was also suitable to bond two non-woven substrates to each other, as indicated in the contested decision. Therefore, the fact that D5 only disclosed bonded structures comprising a non-woven substrate bonded to a film and not two non-woven substrates bonded to each other as specified in claim 1 of the main request, was not a valid reason for disregarding D5 as closest prior art. That conclusion was further confirmed by the fact that, during the oral proceedings before the Board, the respondent argued that example 1 of the patent in suit (in particular with reference to paragraph 115 of the patent in suit), which dealt with a bonded structure comprising a non-woven substrate bonded to a film, rendered credible that the bonded structures according to claim 1 of the main request, which comprised two non-woven substrates bonded to each other, had a better bonding strength than bonded structures according to the most general teaching of D5 in which the adhesive contained no tackifier. For these reasons, D5, in particular example 1 thereof, was a suitable closest prior art.

(b) The bonded structures being claimed differed from the one according to example 1 of D5 in the following features:

- two non-woven substrates were bonded to each other;
- the APAO mandatorily comprised a polypropylene-1-butene amorphous poly-alpha-olefin;
- the adhesive composition comprised a higher amount of APAO and a lower amount of tackifier.

In that respect, it was not disputed by the respondent that the dynamic peel strength mentioned in operative claim 1 was implicitly satisfied by the bonded structure of the closest prior art.

As indicated in the contested decision, the problem solved by the main request resided in the mere provision of a further bonded structure, in alternative to the one of example 1 of D5. In particular, no effect was shown to be achieved in relation to any of the above identified distinguishing features.

However, it was known in the art (such as D3) that an adhesive which was suitable to bond a non-woven substrate and a polymeric film could as well be used to bond two non-woven substrates. In that respect, no evidence to the contrary or argument had been filed by the respondent to refute that conclusion, which had already been reached by the opposition division. In addition, D5 disclosed that the APAO could be a polypropylene-1-butene amorphous poly-alpha-olefin. Finally, D5 disclosed

that the adhesive composition would comprise up to 100 wt.% APAO and further contained no teaching, which would have prevented the skilled person from using higher amounts of APAO or lower amounts of tackifier than the ones used in example 1 of D5, in particular amounts of these components in the ranges defined in operative claim 1. Under these circumstances, the skilled person would arrive at the subject-matter of operative claim 1 by routine experimentation.

- (c) For these reasons, the subject-matter of claim 1 of the main request was not inventive.

First auxiliary request, auxiliary request 2 and third auxiliary request - Inventive step

- (d) Claim 1 of the first auxiliary request was identical to claim 1 of the main request. Further considering that example 1 of D5 disclosed the use of the bonded structures prepared therein in personal care products, the same arguments as outlined above for assessing the inventive step of the main request were equally valid for each of the first auxiliary request, auxiliary request 2 and the third auxiliary request.

Fourth auxiliary request - Inventive step

- (e) The subject-matter of claim 1 of the fourth auxiliary request differed from the one of claim 1 of the main request in that the presence in the adhesive composition of additives was excluded, i.e. the adhesive composition could not contain any other component than the APAO, the tackifier and the antioxidant as specified therein. Therefore, as

compared to the main request, the subject-matter of claim 1 of the fourth auxiliary request further differed from the bonded structure prepared in example 1 of D5 in that no softener should be present in the adhesive composition. However, since it was taught in D5 that said softener was an optional component of the adhesive composition, the absence of said softener could not contribute to an inventive step.

Fifth to seventh auxiliary requests - Inventive step

(f) Regarding the inventive step of any of the fifth to seventh auxiliary requests, the same arguments as outlined above for the higher ranking requests were valid.

Eighth to fifteenth auxiliary requests - Inventive step

(g) The subject-matter of claim 1 of each of the eighth to fifteenth auxiliary requests differed from the one of claim 1 of the main request, the first auxiliary request, auxiliary request 2 and the third to the seventh auxiliary requests, respectively, in that the lower end of the range of APAO was increased. However, since D5 taught that the APAO could be used in an amount of up to 100 wt.%, the amendment made could not contribute to an inventive step for the same reasons as outlined above for the higher ranking requests.

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

Main request - Inventive step

- (a) Claim 1 of the main request was directed to a bonded structure comprising two non-woven substrates joined to each other by an adhesive composition. Therefore, the closest prior art had to deal with a bonded structure comprising two non-woven substrates adhered one to the other. Consequently D3 (which disclosed such bonded structures) was the closest prior art document, while neither of D5 or D6 (which both failed to disclose such structures) were suitable starting points. Starting the analysis of inventive step from either D5 or D6 was therefore based on hindsight, which was not allowable.
- (b) During the oral proceedings before the Board, it was argued that the bonded structure according to operative claim 1 showed an improved bonding as compared to the bonded structure according to the most general disclosure of D5, such as the ones defined in claim 1 thereof. In particular, the examples of the patent in suit showed that the presence of a tackifier as defined in operative claim 1 led to said improved bonding as compared to structures comprising no tackifier, as was indicated in paragraph 115 of the patent in suit.
- (c) Should example 1 of D5 be considered as the closest prior art, it was adhered to the analysis of the appellant regarding the distinguishing features and the definition of the problem solved over said closest prior art. In reply to a question by the Board during the oral proceedings, it was explicitly acknowledged that there was no evidence on file showing any kind of improvement as compared

to example 1 of D5.

However, since D5 failed to specifically disclose bonded structures comprising two non-woven substrates bonded to each other, it could not give a hint to use the adhesive disclosed therein for bonding two non-woven substrates, as specified in operative claim 1.

In addition, the skilled person would not have been led by D5 to form an adhesive composition comprising less than 30 wt.% tackifier, as required by operative claim 1. In particular, the sole information provided by D5 in that respect was to use an amount of 30 to 70 wt.%. Also, an amount of tackifier of 60 wt.% was used in example 1. Although high amounts of polyolefin (up to 100 wt.%) could be used, D5 taught that it was preferred to use a lower amount thereof, in particular an amount in the lower end of the most general range taught in D5, which was around 20 wt.%, in particular when a tackifier, a softener and an antioxidant were present. That reading of D5 was further confirmed by the general information given on page 6, last paragraph of D3. Under these circumstances, D5 taught away from compositions according to operative claim 1. Starting from example 1 of D5, it was only possible to arrive at the subject-matter being claimed using hindsight.

For these reasons, the subject-matter of claim 1 of the main request was inventive.

First auxiliary request, auxiliary request 2 and third auxiliary request - Inventive step

(d) No additional argument was provided in respect of the inventive step of any of the first auxiliary request, auxiliary request 2 and the third auxiliary request.

Fourth auxiliary request - Inventive step

(e) Following the amendment made, the presence in the adhesive composition defined in claim 1 of the fourth auxiliary request of a softener as used in the composition of example 1 of D5 was excluded. Therefore, in order to arrive at an adhesive composition as defined in operative claim 1, one had to remove the softener and simultaneously decrease the amount of tackifier. Considering that D5 taught that the tackifier and the softener disclosed therein had the same kind of function, namely to increase the stickiness of the adhesive composition, the skilled person would only modify the adhesive composition prepared in example 1 of D5, which comprised both a tackifier and a softener, in such a manner as to maintain an equivalent total amount of these two components. That meant that, if the amount of tackifier was reduced, the amount of softener had to be increased (and vice versa). Under these circumstances, one could only arrive at the subject-matter being claimed using even more hindsight than for the main request.

Fifth to seventh auxiliary requests - Inventive step

(f) No additional argument was provided in respect of the inventive step of any of the fifth to seventh auxiliary requests.

Eighth to fifteenth auxiliary requests - Inventive step

(g) Although the most general teaching of D5 encompassed using amounts of APAO of up to 100 wt.%, the skilled person would understand from the whole content of D5 that amounts of about 35 wt.% APAO and 65 wt.% tackifier should preferably be used. Therefore, one could only arrive at the subject-matter being claimed, in which it was now specified that the adhesive composition should contain at least 80 wt.% APAO, using even more hindsight than for the higher ranking requests.

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

The respondent requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form according to any of the first auxiliary request, auxiliary request 2, the third to seventh auxiliary requests or auxiliary requests 8 to 15 all filed with the rejoinder to the statement of grounds of appeal.

Reasons for the Decision

Main request

1. Inventive step
 - 1.1 Closest prior art
 - 1.1.1 The objections of lack of inventive step put forward in writing in appeal by the appellant were in respect of either D5 or D6 as closest prior art, whereby these documents had also been considered as closest prior art documents by both parties during the first instance proceedings and by the opposition division in the contested decision.
 - 1.1.2 In its last submission (letter of 14 October 2019: see e.g. page 3, first and second full paragraphs; page 4, second full paragraph), the respondent argued for the first time that D5 and D6 were not suitable closest prior art documents, but that D3 should be considered instead. The same line of defence was further pursued at the oral proceedings before the Board.
 - 1.1.3 However, that line of defence of the respondent is, in particular in the absence of any objection put forward by the appellant starting from D3 as closest prior art, only possibly relevant if the Board were to come to the conclusion that neither D5, nor D6, are valid starting points for the assessment of the inventive step.
 - 1.1.4 In that respect, according to the EPO case law, the closest prior art for assessing inventive step is a prior art disclosing subject matter conceived for the same purpose or aiming at the same objective as the

claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, I.D.3.1).

- 1.1.5 In the present case, the patent in suit deals with bonded structures, in particular for personal care products, having good bonded strength and showing reduced/no burn-through (claim 1; paragraphs 1-6). According to operative claim 1, the bonded structure is further defined in that it comprises a specific adhesive composition bonding two non-woven substrates.
- 1.1.6 D5 is directed to a composite sheet suitable for use as a back sheet of absorbent articles, such as diapers, and comprising a liquid impermeable sheet and a non-woven fabric joined to each other by an adhesive composition applied at an amount of 0.5 to 0.7 g/m² (claim 1; column 1, lines 6-8). The liquid impermeable sheet disclosed in D5 comprises a blend of a polyolefin and additives (column 6, lines 35-51; examples), i.e. it is a polymeric film and not a non-woven substrate. The adhesive composition according to D5 exhibits good bonding strength and comprises an APAO and, optionally, one or more of a tackifier, a softener or an antioxidant (claims 1, 3 and 7; column 1, lines 38-40; column 7, line 26 to column 8, line 21). Such a composite sheet is in particular prepared in example 1 of D5 and is used to make a disposable diaper (D5: column 12, line 35 to column 13, line 5; column 13, lines 11-12; Tables 2 and 3).
- 1.1.7 It is correct that, as argued by the respondent, D5 does not disclose a bonded structure comprising two non-woven substrates bonded to each other with an

adhesive composition, as defined in operative claim 1. However, no evidence was put forward by the respondent to refute the finding of the opposition division according to which an adhesive suitable for bonding a non-woven substrate to a film (i.e. such as the one according to D5) would also be suitable to bond two non-woven substrates to each other (reasons of the decision: page 4, third paragraph from the bottom). To the contrary, the submission made by the respondent during the oral proceedings before the Board, according to which example 1 of the patent in suit (see in particular paragraph 115 of the patent in suit), which is directed to a bonded structure comprising a non-woven substrate (paragraph 114: spunbond polypropylene) bonded to a polymeric film, showed that the use of a tackifier in a bonded structure according to claim 1 of the main request implied an improvement in terms of bonding strength as compared to the most general disclosure of D5, rather confirms the finding of the opposition division. Therefore, the respondent's argument according to which the closest prior art document had to deal with a bonded structure comprising two non-woven substrates adhered to each other is rejected.

- 1.1.8 In view of the above, it cannot be held that D5 is a prior art disclosure which is irrelevant to the claimed subject-matter in the sense that it does not mention a problem that is at least related to the ones derivable from the patent specification. Also, it cannot be concluded that D5 does not represent a promising starting point for the skilled person aiming at solving the technical problems set out in the patent specification. Therefore, it is agreed with the opposition division's finding and with the appellant's submission that D5 is a suitable closest prior art

document.

1.1.9 For those reasons, it is concurred with the appellant that D5, in particular example 1 thereof, constitutes a suitable starting point for the assessment of the inventive step.

1.1.10 As a consequence and in view of the conclusion reached (see section 1.4.7 below), the submission of the respondent starting from D3 as closest prior art is not relevant (see sections 1.1.2 and 1.1.3 above).

1.2 Distinguishing feature(s) over example 1 of D5

1.2.1 The parties agreed that the subject-matter of operative claim 1 differs from the closest prior art represented by example 1 of D5 in the following features:

- the structure being claimed must comprise two non-woven substrates bonded to each other with the adhesive composition defined in operative claim 1 (in example 1 of D5, the adhesive is used to bond a non-woven substrate with a polymeric film);
- the use of an APAO comprising a polypropylene-1-butene APAO (in example 1 of D5, use is made of UT 2175, the nature of which is not disclosed in D5 and for which no information is present on file);
- the amount of APAO (70-95 wt.% for claim 1; about 35 wt.% for example 1 of D5);
- the amount of tackifier (according to the definition of the adhesive composition of operative claim 1, the amount of tackifier cannot be higher

than 30 wt.%, whereas an amount of about 60 wt.% is used in example 1 of D5).

- 1.2.2 In that respect, no arguments were put forward by the parties in respect of the specific range in terms of dynamic peel strength indicated in operative claim 1. In particular, no argument was put forward by the respondent to refute the submission of the appellant according to which it was undisputed that said feature was implicitly disclosed by the bonded structure according to example 1 of D5 (statement of grounds of appeal: page 6, last paragraph). Under such circumstances, there is no compelling reason for the Board to consider that the "dynamic peel strength" feature of operative claim 1 constitutes a further distinguishing feature (or in any case one which could import an inventive activity).
- 1.3 Problem effectively solved over the closest prior art
 - 1.3.1 The opposition division's finding according to which the technical problem effectively solved resided in the provision of another bonded structure in alternative to the one of example 1 of D5 (bottom of page 4 of the decision) was adhered to by the appellant and was not contested by the respondent. There is also no reason for the Board to deviate from that view.
 - 1.3.2 In that respect, it is noted that both parties agreed, in particular during the oral proceedings before the Board, that none of the examples of the patent in suit deals with a bonded structure comprising two non-woven substrates joined to each other by an adhesive composition. Also, the respondent explicitly acknowledged during the oral proceedings before the Board that there was no evidence on file supporting any

kind of improvement for the bonded structures being claimed as compared to the bonded structure according to example 1 of D5.

1.4 Obviousness

1.4.1 The question remains to be answered if the skilled person, desiring to solve the problem indicated in section 1.3.1 above, would, in view of the closest prior art, possibly in combination with other prior art or with common general knowledge, have modified the disclosure of the closest prior art in such a way as to arrive at the claimed subject matter.

1.4.2 In the present case, in the absence of any effect/improvement achieved in relation to any of the distinguished features identified in section 1.2.1 above, it has to be assessed if the skilled person would have contemplated modifying the bonded structure according to example 1 of D5 according to each of these individual features.

1.4.3 Regarding the nature of the substrates, for the reasons already indicated in section 1.1.7 above, it cannot be concluded that the use of two non-woven substrates may contribute to the inventive step. In particular, using two non-woven substrates (according to operative claim 1) in place of a non-woven and a polymeric film (according to example 1 of D5) is seen as an obvious variation of the teaching of the closest prior art, which would belong to routine experimentation for the skilled person working in the present technical field.

1.4.4 Regarding the nature of the APAO, the finding of the opposition division according to which D5 taught APAO as defined in operative claim 1 (page 4 of the

contested decision, third paragraph from the bottom; D5: column 7, lines 40-48), was adhered to by the appellant and not contested by the respondent. Therefore, the skilled person looking for an alternative to example 1 of D5 would use a polypropylene-1-butene APAO as APAO in the adhesive composition prepared therein by merely following the teaching of D5 itself. Under these circumstances, the use of a polypropylene-1-butene APAO is obvious and does not contribute to an inventive step.

- 1.4.5 Regarding the amounts of APAO and tackifier, although the sole range of tackifier explicitly disclosed in D5 (column 7, lines 61-65: 30-70 wt.%) does not allow to prepare adhesive compositions comprising 70-95 wt.% APAO together with a tackifier, an antioxidant and additive(s) as defined in operative claim 1 and although the examples of D5 were all prepared using about 60 wt.% tackifier, which is outside the range defined in operative claim 1 (in view of the amount of APAO defined therein), the most general teachings of D5 regarding the amounts of APAO and tackifier is that an APAO may be used in an amount of 20-100 wt.% (column 7, lines 27-29) and that the tackifier may be used in an amount "selected appropriately according to the amount of the softener used in combination, usually ranging from 30 to 70% by weight based on the total weight of the adhesive composition" (column 7, lines 61-65). Also, D5 does not contain any information which would prevent the skilled person from using amounts of tackifier lower than 30 wt.%, in particular if amounts of APAO in the higher end of the range disclosed in D5 (e.g. slightly below 100 wt.%) were to be used. In that respect, the range of 30-70 wt.% disclosed in D5 appears to correspond to a preferred embodiment (see the wording "usually ranging from"), but, in view of

the whole information contained in D5, it cannot be concluded that amounts of tackifier outside that range are excluded. Under such circumstances, it is obvious to prepare an alternative bonded structure to the one according to example 1 of D5 by using, in the adhesive composition, any amounts of APAO and tackifier according to the most general teaching of D5, including amounts of APAO and tackifier as specified in operative claim 1.

In that respect, since the above conclusion is reached based on the teaching of D5 itself, there is no need to refer to any further teaching of the prior art, in particular to the general information contained in D3 (bottom of page 6), which was relied upon by the respondent.

1.4.6 Therefore, it is obvious to provide an alternative bonded structure to the one according to example 1 of D5 by routine experimentation (by using two non-woven substrates instead of a non-woven substrate and a polymeric film) and by modifying the nature of the APAO and the amounts of APAO and tackifier of the adhesive composition on the basis of the general information provided by D5 in that respect.

1.4.7 For these reasons, the subject-matter of operative claim 1 is not inventive over D5 as closest prior art and the main request, as a whole, is not allowable.

Auxiliary requests - Inventive step

2. Claim 1 of the first auxiliary request is identical to claim 1 of the main request and can only share the same fate regarding inventive step.

3. Claim 1 of auxiliary request 2 differs from claim 1 of the main request in that it is limited to personal care articles comprising a bonded structure according to claim 1 of the main request. However, considering that example 1 of D5, which was identified as closest prior art above in respect of the main request, also deals with a personal care article (D5: column 13, lines 11-14), the amendment made does not constitute an additional distinguishing feature over the closest prior art. Therefore, auxiliary request 2 cannot overcome the objection of lack of inventive step, which was retained against the main request.
4. Claim 1 of the third auxiliary request is identical to claim 1 of auxiliary request 2 and can only share the same fate regarding inventive step.
5. Claim 1 of each of the fourth to the seventh auxiliary requests corresponds to claim 1 of the main request, the first auxiliary request, auxiliary request 2 and the third auxiliary request, respectively, whereby the adhesive composition is limited to compositions consisting of the APAO, the tackifier and the antioxidant (i.e. the presence of an additive as defined in claim 1 of the main request is excluded).

Therefore, the subject-matter of claim 1 of the fourth to the seventh auxiliary requests further differs from the bonded structure according to example 1 of D5 in that the adhesive composition cannot comprise the softener (5 pbw paraffin oil) which is present in the adhesive composition prepared therein (see Table 2). However, in the absence of any evidence supporting a technical effect related to that amendment, there is no reason to deviate from the formulation of the problem effectively solved considered above for the higher

ranking requests (see section 1.3.1 above).

Regarding obviousness, the general teaching of D5 is that the softener constitutes an optional additive (D5: claim 3; column 7, lines 49-51). In that respect, the wording of D5 ("further comprises one or more of a tackifier, a softener or an antioxidant"; "may further contain one or more of a tackifier, a softener or an antioxidant") makes it clear that each of these three components may be, independently of each other, present or not in the adhesive according to D5. In particular, said passages of D5 do not support the respondent's argument according to which the general teaching of D5 would prevent the skilled person from eliminating the softener of the adhesive prepared in example 1 of D5 while simultaneously reducing the amount of tackifier (which is necessary in order to arrive at an adhesive composition as defined in claim 1 of any of the fourth to the seventh auxiliary requests). Therefore, the amendment made in claim 1 of each of the fourth to the seventh auxiliary requests (as compared to claim 1 of the main request, first auxiliary request, auxiliary request 2 and third auxiliary request) merely amounts to not using an optional component in the composition of the closest prior art. In the Board's view, in order to provide a mere alternative to example 1 of D5, it is obvious to disregard an optional component. Therefore, the amendment made in claim 1 of each of the fourth to the seventh auxiliary requests also does not contribute to an inventive step.

6. Claim 1 of each of auxiliary requests 8 to 15 corresponds to claim 1 of the main request, the first auxiliary request, auxiliary request 2 and the third to seventh auxiliary requests, respectively, whereby the amount of APAO present in the adhesive composition is

limited to 80-95 wt.% (instead of 70-95 wt.%).

The amendments made do not constitute an additional distinguish feature of the subject-matter being claimed over the closest prior art, but only represent a further limitation in terms of the amount of APAO as compared to the higher ranking requests.

However, in the absence of any evidence supporting a technical effect related to that amendment, there is no reason to deviate from the formulation of the problem effectively solved considered above for the higher ranking requests (see section 1.3.1 above).

Regarding obviousness, the general teaching of D5 is that the APAO may be present in an amount up to 100 wt.% (D5: column 7, lines 27-29). Therefore, the amendment made in claim 1 of each of auxiliary requests 8 to 15 (as compared to claim 1 of the main request, the first auxiliary request, auxiliary request 2 and the third to the seventh auxiliary requests) still amounts to a mere variation (in respect of the amount of the APAO) within the ambit of D5. Therefore, said amendment cannot overcome the objection of lack of inventive step retained against the higher ranking requests.

7. Considering that none of the respondent's requests is allowable pursuant to Article 56 EPC, the patent is to be revoked. Also, in view of that decision, there is no reason for the Board to deal with any other argument or objection put forward by the appellant.

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:



B. ter Heijden

D. Semino

Decision electronically authenticated