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**Datasheet for the decision
of 10 May 2022**

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Language of the proceedings: EN

Title of invention:
PROCESS FOR MANUFACTURING A COMPOSITION COMPRISING CELLULOSE
PULP FIBERS AND THERMOPLASTIC FIBERS

Patent Proprietor:
Södra Skogsägarna ekonomisk förening

Opponent:
Andritz Küsters GmbH

Headword:
COMPOSITION COMPRISING CELLULOSE FIBERS AND THERMOPLASTIC
FIBERS/Södra

Relevant legal provisions:

RPBA Art. 12(4), 13(1)

EPC Art. 56

Keyword:

Late-filed objection - admitted (yes)

Inventive step (main request and first auxiliary request) -
obvious modification (third auxiliary request) - non-obvious
modification

Decisions cited:

T 0175/97

Catchword:



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Case Number: T 0821/19 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 10 May 2022

Appellant: Andritz Küsters GmbH
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
14 January 2019 concerning maintenance of the
European Patent No. 2847383 in amended form.

Composition of the Board:

Chairman J.-M. Schwaller

Members: P. Ammendola

J. Hoppe

Summary of Facts and Submissions

I. The appeal lies from the interlocutory decision of the opposition division to maintain the patent in amended form on the basis of the main request filed during the oral proceedings, claims 1, 12, 13 and 14 thereof (hereinafter the **maintained** claims) reading as follows :

*"1. A process for manufacturing a composition comprising cellulose pulp fibers and thermoplastic fibers wherein said process comprises the step of:
a) mixing a refined pulp suspension with a water suspension of non-refined thermoplastic fibers having a length of from 1 to 6 mm and a dtex of from 0.5 to 2.0."*

"12. A composition obtainable by any one of claims 1 to 10."

"13. A composite article obtainable by claim 11."

"14. Use of a composite article according to claim 13 for manufacturing containers, food containers, specialty paper, tissue paper, tea bags, labels, furniture, security paper, banknote paper, fiber board, paper board, fabric, laminates, and billboards."

Maintained claims 2 to 11 define preferred embodiments of the process of claim 1.

II. The documents **D4** (EP 1 405 949 A2), **D10** (DE 102 069 26 A1), **D15** (GB 1 411 776) and **D16** (WO 92/05311 A1) referred to in opposition are relevant for the present decision.

III. With its grounds of appeal the remaining opponent (hereinafter **appellant**) filed **D17** (Handbook of Nonwovens, S. J. Russel Ed. (2007), pp. 113 to 129, 140 to 143) and raised novelty attacks based on D10 and D17 and an inventive step objection based on D1.

IV. The patent proprietor (hereinafter **respondent**) replied with letter of 23 September 2019 enclosed with twelve sets of claims labelled as 1st to 12th auxiliary requests. It also disputed the admittance of D17 into the appeal proceedings.

Claim 1 of the **1st auxiliary request** only differs from maintained claim 1 for the addition of the word "*crimped*" in the passage reading "... with a water suspension of non-refined crimped thermoplastic fibers...".

In the set of ten claims labelled as **3rd auxiliary request**, claim 1 only differs from maintained claim 1 for the addition of the word "PLA" in the passage reading "... with a water suspension of non-refined thermoplastic PLA fibers..."; claims 2 to 6 are respectively identical to maintained claims 2 to 6; claims 7 to 10 are respectively identical to maintained claims 11 to 14.

V. With letter of 19 December 2019 the appellant raised a new objection of lack of inventive step based inter alia on the combination of D4 with the common general knowledge reflected in D17. It also disputed the admittance of the auxiliary requests and submitted objections of lack of inventive step against the 3rd auxiliary request.

VI. At the oral proceedings the appellant no longer disputed the admittance of the 3rd auxiliary request, withdrew its novelty objection and stated to only maintain against this latter request, in addition to the objection of lack of inventive step based on the combination of D4 with common general knowledge debated at the hearing, the objections of lack of inventive step against claims 1 and 8 to 10 as presented in pages 24 to 27 of its letter of 19 December 2019.

The parties' final requests were established to be as follows:

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

The respondent requested that the appeal be dismissed (main request) or, as an auxiliary measure that the patent be maintained on the basis of one of the 1st or 3rd auxiliary requests filed with the reply to the appeal dated 23 September 2019.

Reasons for the Decision

1. Admittance

1.1 The board notes that D17, filed with the statement of grounds of appeal, undisputedly represents evidence of common general knowledge also relevant in respect of the dimensions of fibers recited in maintained claim 1.

Further, as it is plausible that the non-convergent nature of the twelve auxiliary requests and the filing two months before the oral proceedings before the opposition division, combined with the fact that some of the additional features introduced in some of these

requests (including the dimensions' ranges) had been taken from the description, might have contributed in rendering difficult for the then opponent to identify relevant prior art in the short time span between the filing of the requests and the hearing, the board decided not to disregard D17 under the provisions of Article 12(4) RPBA 2007 (Article 25(2) RPBA 2020).

1.2 As regards the new objection of lack of inventive step based on the combination of D4 with the common general knowledge reflected in D17, despite its late filing, as D4 had already been used as starting point for the assessment of inventive step of maintained claim 1 in the contested decision and in the grounds of appeal, and since D17 represents evidence of common general knowledge, this objection is very relevant (for the reasons given in point 2 below) and the board, exercising the discretion under Article 13(1) RPBA 2007, decided to admit it into the proceedings.

2. Main request - Inventive step

2.1 The subject-matter of claim 1 as maintained is a process for manufacturing a composition comprising cellulose pulp fibers (hereinafter **P-fibers**) and thermoplastic fibers (hereinafter **T-fibers**); this is in the technical field of nonwovens, such as paper.

2.2 Closest prior art and technical problem solved

It is undisputed that the closest prior art is disclosed in D4 and represented by the sixth sample in the table of Example 31 of D4 (hereinafter **Example 31/6**), which discloses a combination of refined pulp (i.e. refined P-fibers) with bicomponent thermobondable fibers (i.e. T-fibers) having a length of 0.25 inch

that may be presumed to be the fibers with tradename Celbond 105 described in paragraphs [0064] and [0066] of D4, and so are made of a polyester (polyethylene terephthalate) core with a copolyolefin sheath and possess a coarseness of 3 denier (i.e. 3.3 dtex).

According to the respondent, the technical problem solved by the claimed process vis-à-vis this prior art was, as described in paragraphs [0005] to [0008] of the patent in suit, the provision of a process for manufacturing a composition of P-fibers and T-fibers with superior homogeneity (see also point 6.3 of the decision under appeal).

2.3 The solution and its success

2.3.1 The solution to this technical problem offered by the subject-matter of maintained claim 1 is in particularly characterised in that:

- (a) 2 suspensions (i.e. one of the P-fibers and one of the T-fibers) must be mixed,
- (b) the suspended T-fibers must be non-refined and
- (c) the suspended T-fibers must have a coarseness of 0.5 to 2.0 dtex.

The board stresses that in Example 31/6 of D4 it is not described how the refined P-fiber and the bicomponent thermobondable fibers have been combined, and so it is not clear if the two sorts of fibers were both separately suspended before being mixed and whether or not the bicomponent thermobondable fibers were refined. In particular the fact that in other examples of D4 (see e.g. in paragraphs [0136] and [0139]) the option that the thermobondable fibers can be refined confirms the impossibility to exclude such option for Example 31/6.

2.3.2 The respondent additionally submitted that the claimed T-fiber length of "*from 1 to 6 mm*" represented a further distinguishing feature vis-à-vis Example 31/6, wherein the disclosed length of 0.25 inch of the used T-fibers corresponded to 6.35 mm.

The board finds however that, as submitted by the appellant also with reference to the case law in T 175/97 (see reason 2.6), a skilled person would interpret the end-values defining the dimensions' ranges in maintained claim 1 as if they resulted from applying the same rounding-off convention to the last significant figure normally applied to measured values of dimensions.

Since, in the absence of any different explicit indication of the accuracy of measurement, a measured length value of 6 mm is normally construed as resulting from rounding-off measured values of between 5.5 and 6.4 mm, the same applies to the upper value of "*6 mm*" for the fiber length range recited in maintained claim 1 (also lacking any indication of different error margins in the claim or in the patent specifications). Hence, the fiber length range in maintained claim 1 is found to also embrace the length of 0.25 inch (6.35 mm) of the Celbond 105 T-fibers used in Example 31/4.

The board stresses that a narrower construction of the figure "*6 mm*" in maintained claim 1 cannot be justified by the respondent's vague allegation, unsupported by any evidence, that the settings of the cutting equipment normally used for producing man-made fibers (of which T-fibers are undisputedly a subclass) "can be very exactly controlled" (see point 2 of the respondent's letter of 22 June 2020). Nor can such a narrow construction be justified by the also vague

statement in D17 (see the first sentence in point 3.4.2) that man-made fibers "generally have a much greater degree of uniformity with respect to physical size".

On the contrary, as stressed by the appellant, the fact that the distribution of fiber lengths depicted in figure 3.8, page 123, of D17 for a "6 mm polyester fibre", appears to confirm that man-made fibers can be mixtures of fibers of substantially different lengths.

Hence the fiber length recited in maintained claim 1 is found not to represent any further distinction between the claimed process and the closest prior art.

2.3.3 To demonstrate an improved effect over a claimed scope, this needs to have its origin in the distinguishing feature(s) of the invention. Therefore, the plausibility of the success of the solution to the relevant technical problem offered by maintained claim 1 depends on whether or not it is plausible that at least one of the distinguishing features (a) to (c) identified in 2.3.1 above would result in a level of homogeneity of the manufactured composition of P-fibers and T-fibers that is superior to that present in the composition manufactured in the prior art.

2.3.4 The respondent alleged that all the features distinguishing the process of maintained claim 1 would appear to the skilled reader of the patent in suit as manifestly suitable at producing the aimed increment of homogeneity and stressed that the opposition division had come to a similar conclusion.

2.3.5 The board notes that in the decision under appeal the sole statement possibly relevant to the question of the

success of the solution, is that in point 6.2 reading: *"Although no experimental evidence to support the comparison with said closest prior art has been provided by the Proprietor, the alleged effect of improving homogeneity of the product can be taken into account in the formulation of the technical problem as it is **clearly achieved by the addition of shorter and thinner fibers**".*

The board notes that this statement only addresses the features of claim 1 under consideration that relate to the dimensions of the T-fibers and is not accompanied by any further explanation of its reasons. Thus, the board finds it a generic and vague allegation manifestly insufficient to justify any conclusion as to its precise meaning and plausibility.

Moreover, the board notes that section 3.6 of D17 (see in particular from the beginning of this section to line 28 on page 127), which reflects common general knowledge on how to favour a homogenous distribution of the man-made fibers in nonwovens with P-fibers, only comprises few teachings relating to certain dimensions of the man-made fibers (from the last line in page 126 to line 9 of page 127) which however also cannot justify any generally valid allegation as that made by the opposition division.

Finally, the fact that the patent in suit, after having identified several possible aims of the invention in paragraphs [0005] to [0008], only discloses in paragraph [0029] of the general description the T-fibers' dimensions (now incorporated in maintained claim 1) just as a possibility, not even an expressly preferred one, accompanied by no further explicit or implicit teachings as to any technical relevance of

these dimensions, not to mention as to their technical relevance specifically in view of the aimed increment of homogeneity, and, finally, even fails to disclose the dimensions of the T-fibers actually used in the invention examples, casts further doubts as to the importance of the disclosed dimensions of the T-fibers in the context of the invention. In other words, the patent does not appear to explicitly or implicitly associate any of the relevant technical advantages to the fiber dimensions now required in maintained claim 1.

Hence it has not been rendered plausible that the common general knowledge would justify the conclusion that feature (c) of maintained claim 1 contributed to the successful solution of the posed technical problem of achieving an improved homogeneity of the manufactured composition, and also the skilled reader of the patent in suit sees no reason to arrive at this conclusion.

Feature (c) of maintained claim 1 is therefore found not to plausibly result in an improved homogeneity of the claimed composition vis-à-vis the prior art.

- 2.3.6 As to the remaining distinguishing features (a) and (b) the board notes that also these are not accompanied in the opposed patent by any further explicit or implicit allegation, not to mention by experimental data or theoretical explanations, that they would ensure a superior homogeneity to the composition manufactured in the process of claim 1.

When also looking at the cited common general knowledge, the board notes that the portion of section 3.6 of D17 already identified above (see in particular

in page 127, lines 9 to 20) suggests that a skilled person would not regard feature (a) as sufficient per se to ensure a superior homogeneity of the resulting composition. Indeed, according to D17, in particular the level of dilution of the man-made fiber suspensions (and thus also of the T-fibers suspensions) plays a major role in the extent of homogeneity that can be achieved when mixing the 2-suspensions and an apparently similarly satisfactory level of homogeneity can also be achieved using other mixing steps (e.g. by adding the man-made fibers to a suspension of the P-fibers).

Finally, even though both independent process claims 41 and 77 of D4 appear to imply that the combination of 2 suspensions is the preferred mixing step, still it is undisputed that this document does not explain such preference at all.

Hence, neither the patent in suit, nor the common general knowledge reflected in D17, nor D4 render plausible that feature (a) of maintained claim 1 ensures superior homogeneity to the manufactured composition.

2.3.7 As to the possible contribution to the success of the solution deriving from feature (b), the board notes that the technical advantages alleged in the patent in suit to descend from this feature are listed in paragraph [0010] of the patent in suit. None of them is even merely alleged in the patent in suit, not to mention plausibly explained or proved, to necessarily increase the level of homogeneity in the manufactured composition.

2.3.8 Hence, also features (a) and (b) are found not to plausibly result in an improved homogeneity of the manufactured composition vis-à-vis the prior art. In the absence of an effect that appeared at least plausible to the skilled reader of the patent, it was - contrary to the respondent's allegation - not the burden of the appellant to prove that there was no effect.

2.3.9 Accordingly, the board finds that the process of maintained claim 1 does not solve vis-à-vis the prior art of departure the above identified technical problem.

2.4 Reformulation of the technical problem

The problem actually solved by the process of maintained claim 1 can therefore only be identified in the less ambitious one of providing a further process for manufacturing a composition comprising P-fibers and T-fibers, i.e. in the provision of an alternative to the prior art process of D4.

2.5 Obviousness of the solution

The modifications of the process of Example 31/6 of D4 required to arrive at the process defined in maintained claim 1 are found to represent an obvious solution to this problem for the following reasons.

2.5.1 Firstly, it is obvious to solve the posed technical problem by filling the gap of disclosure as to the kind of mixing step in which the T-fibers and the P-fibers used in this prior art Example are combined, on the basis of the other teachings in D4.

As indicated above, the very fact that both independent process claims 41 and 77 are based on the mixing of the two suspensions renders this option (which corresponds to feature (a) of the claimed process) an obvious way to combine the fibers of Example 36/1.

The board notes further that the sole option for refining thermobondable fibers suggested in D4 is the one in which the two sorts of fibers, both previously non-refined, are pulped (i.e. refined) together (see again e.g. paragraphs [0136] and [0139]). This option cannot logically be considered when attempting to carry out Example 31/6 because in this example the P-fibers to be used are explicitly described as already "refined".

Thus, not only feature (a), but also also feature (b) simply result from using the preferred mixing step of two suspensions suggested in D4 for carrying out the Example 31/6 partially disclosed therein.

- 2.5.2 As to feature (c), the board notes that the use of substantially the same bicomponent thermobondable fibers made of polyester (and thus undisputedly a sort of T-fibers) used in Example 31/6 of D4 - i.e. polyethylene terephthalate fibers, with a copolyolefin sheet, see the description of Celbond 105 fibers in paragraph [0064] of D4 - but with a different thickness, would also represent a manifestly obvious solution to the posed problem in the presence - in D4 or in the common general knowledge - of teachings pointing to the possibility that the T-fibers that can be combined with P-fibers might also have such different thickness.

As stressed by the appellant, not only D4 itself states in general in the beginning of paragraph [0065] that thermobondable fibers "having different diameters and deniers can be used in the present invention", but it is common general knowledge in the field of man-made fibers for nonwovens that (see the penultimate sentence of page 117 of D17): "*[f]or man-made fibres, they also have to be obtained in relatively short (0.3-10 mm) fibre lengths and nominally from 0.1 dtex to 6.0 dtex (i.e. up to 46 microns diameter for a polyester fibre)*".

The respondent objected that this teaching would summarise different dimensions ranges separately occurring in different sorts of man-made fibers, of which only some were T-fibers. In the opinion of this party, in particular the portion in brackets of the above sentence only suggested the possible use of very thick polyester fibers.

The board finds this construction unconvincing, because the wording in brackets literally and logically associates polyester fibers to the whole immediately preceding dtex range (from 0.1 dtex to 6.0 dtex), and not just to some (upper) portion thereof.

- 2.5.3 In order to arrive at the subject-matter of maintained claim 1 it is further required (in addition to fill in from the reminder of D4 the missing description in Example 31/6 and to use therein any bicomponent thermobondable polyester fibers substantially similar to Celbond 105 but with a different coarseness) to also select among these other bicomponent thermobondable polyester fibers with different coarseness, those with a "*dtex from 0.5 to 2.0*" (i.e. with the distinguishing feature (c) of maintained claim 1). However, this only

implies an arbitrary selection within the range of dtex values of from 0.1 dtex to 6.0 dtex that D17 proves to be known for polyester fibers. Such arbitrary selection however cannot contribute to an inventive step.

- 2.6 The board concludes therefore that the subject-matter of maintained claim 1 solves the posed technical problem by means of a modification of the prior art of departure that is obvious in view of the disclosure of D4 taken in combination with the common general knowledge reflected in D17. Hence, this claim contravenes Article 56 EPC and the respondent's main request must be refused.

3. *1st auxiliary request - Inventive step*

Claim 1 of this request differs from maintained claim 1 in that it further specifies that the T-fibres must be "*crimped*".

- 3.1 The respondent maintained, as apparent in particular from paragraphs [0011], [0029] and [0086] and the experimental data in the table of Fig.6 of the patent in suit, that due to such limitation the now claimed process would surprisingly result in a paper sheet retaining substantially the same properties, such as air permeability and density, as when the used T-fibers were non-crimped.

- 3.1.1 The board finds this argument unconvincing because the term "*crimp*" is correctly defined in paragraph [0059] of the patent in suit "*to mean the waviness of a fiber*". Hence, the addition of the adjective "*crimped*" to the definition of the T-fibers, not accompanied by any limitation as to a specific level of waviness (which the patent itself also provides by disclosing in

paragraph [0029] ranges for the crimp number), allows for the use of T-fibers that are even minimally "*crimped*".

The respondent further submitted that the skilled person reading in paragraph [0011] of the patent that "*crimped thermoplastic fibers are handled as bales*", would construe the adjective "*crimped*" as referring to the substantial level of waviness that imposes the handling of these T-fibers as bales.

The board finds however that the cited passage in paragraph [0011] *per se* is insufficient at justifying this speculative (and also vague) limiting construction of the term "*crimped*".

Secondly, the plausibility of the allegations in paragraphs [0011], [0029] and [0086] of the patent in suit as to the surprising effect allegedly observed when using T-fibers that are crimped, is jeopardised by the self-evident vagueness of the wording "*essentially the same*" used in these allegations, as well as by the impossibility to derive any sound conclusion as to whether the data reported in the table of Fig. 6 might indeed be considered to be surprisingly similar. Indeed, as also acknowledged by the respondent, these data relate to an experimental comparison for which the sole provided information (see paragraph [0086] of the opposed patent) allows to identify with certainty neither the relative amount of T-fibers actually used nor to qualify any further the difference in waviness between the two sorts of T-fibers used. In the absence of such essential information the lower density and the higher air permeability reported in the table of Fig. 6 for the "*crimped*" sample could *per se* just as well be the expected consequence of the use of T-fibers that

are just limitedly more crimped than the comparative "non-crimped" sample.

The board therefore concludes that the simple presence of these vague and subjective allegations in the patent in suit, unsupported by any experimental data with apparent technical soundness, are insufficient to render plausible that the process of claim 1 at issue provides across the whole scope of this claim a surprising technical effect that can be related to the use of crimped T-fibres.

3.2 Hence the board comes to the conclusion that also the subject-matter of claim 1 under consideration only provides an alternative to the prior art disclosed in Example 31/6 of D4 by means of a modification of this latter that is obvious in view of the same reasons given above for the process of maintained claim 1 and in view of the undisputed common general knowledge, also reflected in D17 (see the last sentence in page 117), that crimped T-fibers can also be used in the production of nonwovens.

3.3 The board concludes therefore that the subject-matter of claim 1 of the 1st auxiliary request solves the posed technical problem by means of modifications of the prior art of departure that are obvious in view of the disclosure of D4 taken in combination with the common general knowledge reflected in D17. Hence, this claim contravenes Article 56 EPC and the 1st auxiliary request must therefore be refused either.

4. 3rd auxiliary request - Preliminary remark

This request corresponds to auxiliary request 5 as filed during the opposition proceedings. The board is

satisfied that the claims of this request comply with the requirements of Articles 123(2) and (3), 84 and 54 EPC. There is no need to provide further details since the appellant raised no objection in these respects.

5. Third auxiliary request - Inventive step

Claim 1 at issue only differs from maintained claim 1 in that the former further specifies that the T-fibres must be "PLA" fibers (i.e. fibers of polylactic acid).

5.1 Combination of D4 with common general knowledge

5.1.1 The appellant argued that Example 31/6 of D4 also represented the closest prior art in respect of the process of claim 1 of this request and that such process solves in an obvious manner the technical problem of providing an alternative as well as the further partial problem (mentioned in [0004] of the patent in suit) to render available compositions of synthetic fibers and P-fibers that are biodegradable and based on renewable raw materials (hereinafter these desired properties are referred to as **environmental benefits**).

5.1.2 In particular, the appellant did not dispute the submission of the respondent that PLA fibers of the claimed process would not possibly display the melting or softening profile essential for the bicomponent thermobondable fibers of the prior art disclosed in D4. It stressed, however, that the patent itself acknowledged as widely reported in the background art the combination of P-fibers with PLA fibers, because this latter provided the desired environmental benefits (see paragraphs [0004] and [0005] of the patent). Moreover D4 itself explicitly mentioned the option to

use PLA as possible ingredient of the thermobondable fibers (see D4 paragraph [0055]). It concluded that the combination of D4 with this common general knowledge would render obvious the subject-matter of claim 1 by replacing the Celbond 105 T-fibers used in Example 31/6 of D4 with PLA fibers that were already known to provide environmental benefits.

5.1.3 The board finds such line of reasoning not convincing, because in the absence of reasons to the contrary, a skilled person aiming at providing compositions of synthetic fibers and P-fibers with environmental benefits that started from Example 31/6 of D4, cannot disregard that in this citation it is described as essential that the thermobondable fibers must possess a specific "melt profile" described in paragraphs [0057] and [0058] of D4, namely that the fibers have a core whose melting or softening point is higher than that of a thermobondable sheath around that core. Accordingly, the disclosure of D4 focuses on multicomponent fibers, because the use of different components with different melting/softening points for the core and the sheath manifestly allows to provide the desired "melt profile".

Further, it is also of relevance that in paragraph [0056], D4 contemplates the use of monocomponent fibers, which teaching requires that "*[t]he use of monocomponent fibers is limited to fibers having appropriate characteristics including dispersion and melt profiles [...], monocomponent fibers for use in the present invention have a melt profile that results in softening and bonding of the fibers without loss of fiber integrity and thereby loss of strength or destruction of the fiber matrix*".

In addition, D4 fails to indicate any further details as to how it is possible to obtain the required "melt profile" using a single component nor does it give specific examples thereof. Hence, and in the absence of any evidence of common general knowledge as to the nature of this sort of thermobondable monocomponent fibers, the disclosure in D4 of suitable thermobondable fibers made of a single component but nevertheless having the required "melt profile", must be regarded by the skilled person as too incomplete to represent a useful technical teaching and disregarded.

The board notes further that, beside the mention of PLA in paragraph [0055] of D4 in the generic list of thermoplastic components of the thermobondable fibers, the remaining disclosure relative to PLA in D4 (see e.g. paragraph [0053] and the three specific examples of thermobondable fibers comprising PLA summarised in the table of paragraph [0066]) specifically suggests the use of PLA to form the thermobondable sheath.

Therefore, in the board's view, a skilled person starting from Example 31/6 and aiming at solving the partial problem identified by the appellant, would certainly consider the possibility to use instead of Celbond 105 fibers other bicomponent thermoformable fibers having a PLA sheath. Possibly, the same person could also conceive using fibers with a PLA core. But in both these cases this person would only replace the Celbond 105 fibers by means of multicomponent fibers that show the required difference in melting or softening points between core and sheath, i.e. by means of multicomponent fibers necessarily also containing a polymer component different from PLA.

Hence the board concludes that, without hindsight from the present invention, the disclosure in D4 and the common general knowledge as to the environmental benefits of PLA referred to by the appellant, cannot suffice to render obvious the modification of the prior art required to arrive at the claimed process, namely the use of PLA fibers (undisputedly not possessing the "melt profile" required in D4) instead of the bicomponent thermobondable fibers Celbond 105 that possess such "melt profile".

- 5.1.4 Accordingly, the appellant's objection to claim 1 of the 3rd auxiliary request based on the combination of D4 with the common general knowledge is found unconvincing.

- 5.2 The inventive step objections based on the combination of D4 with D15 alone or (with D10 or D16)
 - 5.2.1 The board notes preliminarily that these objections appear incomplete and that their understanding requires certain assumptions as to how to incorporate therein the preceding written submissions in the same letter, to which they briefly refer.

 - 5.2.2 In any case, each of these further objections appears to start from Example 31/6 of D4 and to aim at demonstrating that it would be obvious to replace the thermobondable fibers used in this prior art with PLA fibers in order to solve the partial problem already identified above.

The board notes that in these written submissions the appellant did not point to any disclosure in any of the documents D10, D15 and D16 addressing the "melt profile" that characterises the bicomponent

thermobondable fibers used in the prior art of departure, or possibly suggesting that PLA fibers might have a "melt profile that results in softening and bonding of the fibers without loss of fiber integrity and thereby loss of strength or destruction of the fiber matrix" (i.e. the result of the "melt profile" required in paragraph [0056] of D4 also for the insufficiently disclosed option in this prior art of monocomponent thermobondable fibers, see above). Hence, the prior art disclosed in D10, D15 and D16 cannot render obvious to solve the posed partial problem by replacing with PLA fibers (deprived of the "melt profile" required in D4) the bicomponent thermobondable fibres used in D4, i.e. the reasoning already given above also applies to these further objections which start from Example 31/6.

- 5.2.3 Accordingly, also the inventive step objections to claim 1 of the 3rd auxiliary request in pages 24 and 25 of the letter of 19 December 2019 are found unconvincing.

- 5.3 As none of the objections of lack of inventive step has been found convincing, the subject-matter of claim 1 of the 3rd auxiliary request complies with Article 56 EPC.

- 6. The same reasoning given above also apply to claims 2 to 7 of the 3rd auxiliary request which define preferred embodiments of the process of claim 1.

- 7. Inventive step (Article 56 EPC): claims 8 to 10

- 7.1 Also against these product or use claims (see V above) the appellant only maintained the objections as presented in writing in the letter of 19 December 2019 (pages 25 to 27).

7.2 In particular, the written objections against claim 8 (which defines the composition resulting from the process claims 1 to 6) comprise a reference to the preceding objections against claim 1 - i.e. the inventive step objections starting from D4 already found unconvincing by the board for the reasons given above - as well as further objections based on the combination of D15 with D10 or D16.

7.3 The board notes that these further objections appear all based on the argument that the closest prior art is that disclosed in D15 and in particular in Example 2.

The board finds this choice of the closest prior art unreasonable. Given the undisputed existence of abundant background art (also acknowledged in paragraph [0004] and [0005] of the patent in suit) in which P-fibers have already been combined with the PLA fibers also in view of the environmental benefits provided by these latter, it is apparent that the prior art closest to claim 8 of the 3rd auxiliary request (which is a composition comprising P-fibers and PLA fibers) should reasonably be searched in the background art aiming at nonwovens with environmental benefits or in the previous nonwovens comprising PLA fibers.

However, D15 manifestly does not belong or even just indirectly refers to such background art. Indeed this document does not address the aim of providing nonwovens with environmental benefits. Moreover, D15 does not mention PLA at all. Finally, this patent document (filed in 1972) appears to describe relatively old technology.

On the contrary D4, which also does not mention any environmental benefit, at least explicitly mentions

fibers made of PLA and discloses specific examples of fibers comprising PLA. Moreover, this prior art (filed in 2003) is substantially more recent in time. Thus, the prior art disclosed D4 appears manifestly closer to the subject-matter of present claim 8 than that disclosed in D15.

Accordingly, if only because D15 cannot reasonably be considered to represent the closest prior art, none of the inventive step objections to claim 8 of the 3rd auxiliary request presented in the letter of 19 December 2019 is found convincing.

- 7.4 In as far as the objections to claims 9 and 10 of the 3rd auxiliary request that had also been very briefly argued in page 26 and 27 of the same letter can be understood, they also appear to imply the same inventive step objections to claims 1 and 8 starting either from D4 or from D15 already found unconvincing by the board for the reasons given above.
8. As none of the relevant objections of lack of inventive step has been found convincing, the subject-matter of each of claims 1 to 10 of the 3rd auxiliary request complies with Article 56 EPC and this request can be allowed.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form based on claims 1 to 10 of the 3rd auxiliary request filed with the respondent's reply dated 23 September 2019 and a description to be adapted where appropriate.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated