

Internal distribution code:

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

**Datasheet for the decision
of 26 January 2016**

Case Number: T 2189/11 - 3.2.06
Application Number: 00305922.7
Publication Number: 1069223
IPC: D04H13/00, A61F13/15, B32B5/04
Language of the proceedings: EN
Title of invention:
Elastically stretchable composite sheet
Patent Proprietor:
UNI-CHARM CORPORATION
Opponent:
KIMBERLY-CLARK WORLDWIDE, INC.
Relevant legal provisions:
EPC Art. 54, 56, 123(2)
RPBA Art. 13(3)

Keyword:

Novelty - main request (no) - auxiliary request I (yes)
Inventive step - auxiliary request I (no)
Auxiliary requests II and III -
extension beyond the content of the application as filed
Auxiliary requests IV and V - not admitted
Request for remittal - not applicable



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 2189/11 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 26 January 2016

Appellant:
(Patent Proprietor)

UNI-CHARM CORPORATION
182 Shimobun,
Kinsei-cho
Shikokuchuo-shi,
Ehime-ken (JP)

Representative:

Sperling, Rüdiger
Staeger & Sperling
Partnerschaftsgesellschaft mbB
Sonnenstraße 19
80331 München (DE)

Respondent:
(Opponent)

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

Representative:

Davies, Christopher Robert
Dehns
St Bride's House
10 Salisbury Square
London EC4Y 8JD (GB)

Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 1 August 2011
revoking European patent No. 1069223 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman M. Harrison
Members: G. de Crignis
W. Ungler

Summary of Facts and Submissions

- I. European patent No. 1 069 223 was revoked by the opposition division by way of its decision posted on 1 August 2011.
- II. The opposition division held that the subject-matter of claim 1 according to the main and the first auxiliary requests was not novel (Article 54 EPC) in view of E2 US-A-5 540 976.

Concerning claim 1 of auxiliary request II, it held that a feature of claim 1 was defined in terms of a result to be achieved, contrary to the clarity requirement of Article 84 EPC. The subject-matter of a third auxiliary request was held as not involving an inventive step (Article 56 EPC).

- III. The appellant (patent proprietor) filed an appeal against this decision and paid the appeal fee. A statement setting out the grounds of appeal was received at the European Patent Office together with the request to set aside the decision of the opposition division and to "grant a patent on the basis of the claims of the main request", in the alternative to "grant a patent" on the basis of the claims of auxiliary requests I, II or III.
- IV. In reply to the appeal, the respondent (opponent) requested that the appeal be dismissed.
- V. With its communication annexed to a summons to oral proceedings, the Board indicated that it considered E2 as anticipating the subject-matter of claim 1 of the main request and of auxiliary request I. Concerning the

further requests, objections with regard to lack of clarity and lack of disclosure were mentioned.

- VI. With letter of 28 December 2015 the appellant provided comments on the preliminary view of the Board, withdrew auxiliary request I, maintained auxiliary request II as new auxiliary request I and filed new auxiliary requests II and III.
- VII. With letter of 19 January 2016, the appellant then altered its previous position of having withdrawn auxiliary request I and instead requested maintenance of the patent on the basis of the main request as filed with its grounds of appeal, in the alternative to maintain the patent on the basis of the claims of auxiliary requests I, II or III as filed with its grounds of appeal, or on the basis of the claims of the second or third auxiliary request filed with letter of 28 December 2015 which should be renumbered as fourth and fifth auxiliary requests respectively.
- VIII. Oral proceedings were held before the Board on 26 January 2016.

The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the main request or on the basis of one of the auxiliary requests I to III all filed with the grounds of appeal, or on the basis of one of auxiliary requests IV and V corresponding to auxiliary requests II and III filed with letter dated 28 December 2015. Furthermore, remittal of the case to the department of first instance was requested.

The respondent (opponent) requested that the appeal be dismissed. Furthermore, the respondent requested that auxiliary requests IV and V not be admitted into the proceedings, or, if admitted, that the case be remitted to the department of first instance.

IX. Claim 1 of the main request reads:

"An elastically stretchable composite sheet (1) consisting of an elastic sheet (3) having a stretchability in two directions orthogonal to each other and a sheet-like fibrous assembly (2) having an extensibility in said two direction (sic) bonded to at least one surface of said elastic sheet (3), wherein: said sheet-like fibrous assembly (2) has an inelastic extensibility, said elastic sheet (3) and said sheet-like fibrous assembly (2) are bonded together at bond regions (4) arranged intermittently in said two directions and component fibers (6) constituting said sheet-like fibrous assembly (2) are long fibers continuously extending and describing curves between each pair of adjacent bond regions (4) where said long fibers (6) are bonded to said elastic sheet (3), and wherein said component fibers (6) are neither sealed nor bonded with one another and are independent one from another in regions extending between each pair of adjacent said bond regions (4) and wherein said elastic sheet (3) is made of elastically stretchable continuous fibers."

Compared to claim 1 of the main request, claim 1 of auxiliary request I additionally includes, at the end, the feature:

"wherein said elastically stretchable continuous fibers are made of block copolymerized polyester comprising

hard and soft ingredients wherein said soft ingredient being polyether or copolymer of polyether."

Claim 1 of auxiliary request II reads:

"An elastically stretchable composite sheet (1) consisting of an elastic sheet (3) having a stretchability in two directions (X-X and Y-Y direction) orthogonal to each other and a sheet-like fibrous assembly (2) having an extensibility in said two direction bonded to at least one surface of said elastic sheet (3), wherein:

- the elastic sheet (3) has a stretch ratio of at least 400% in the Y-Y direction and is elastically contractile again to less than 1.3 times of its initial length after (sic) stretched by 100%,
- said sheet-like fibrous assembly (2) has an inelastic extensibility, said elastic sheet (3) and said sheet-like fibrous assembly (2) are bonded together at bond regions (4) arranged intermittently in said two directions and component fibers (6) constituting said sheet-like fibrous assembly (2) are long fibers continuously extending and describing curves between each pair of adjacent bond regions (4) where said long fibers (6) are bonded to said elastic sheet (3),
- and wherein said sheet-like fibrous assembly (2) has a basis weight of 2 - 100 g/m²,
- wherein said component fibers (6) describe loops in said regions extending between each pair of adjacent said bond regions (4),
- wherein each of said component fibers (6) has a diameter of 0.1-50 μm,
- wherein said component fibers (6) are neither sealed nor bonded with one another and

- are independent one from another in regions extending between each pair of adjacent said bond regions (4) and
- wherein said elastic sheet (3) is made of elastically stretchable continuous fibers
- wherein said elastically stretchable continuous fibers are made of block copolymerized polyester comprising hard and soft ingredients wherein said soft ingredient being polyether or copolymer of polyether,
- wherein said composite sheet (1) is elastically stretchable at least by 20% in said two direction (sic)."

Claim 1 of auxiliary request III differs from claim 1 of auxiliary request II in that it includes additionally the following feature at the end:

"and wherein said component fibers (6) are in the form of stretched yarns made of polypropylene or polyester."

Claim 1 of auxiliary request IV reads as follows:

"An elastically stretchable composite sheet (1) consisting of an elastic sheet (3) having a stretchability in two directions orthogonal to each other and a sheet-like fibrous assembly (2;300) having an extensibility in said two direction (sic) bonded to at least one surface of said elastic sheet (3), wherein:

- said sheet-like fibrous assembly (2; 300) has an inelastic extensibility,
- said elastic sheet (3) and said sheet-like fibrous assembly (2; 300) are bonded together at bond regions (4) arranged intermittently in said two directions and

- component fibers (6; 310) constituting said sheet-like fibrous assembly (2; 300) are long fibers continuously extending and describing curves between each pair of adjacent bond regions (4) where said long fibers (6; 310) are bonded to said elastic sheet (3), and
- wherein said component fibers (6; 310) are neither sealed nor bonded with one another and
- are independent one from another in regions extending between each pair of adjacent said bond regions (4) and
- wherein said elastic sheet (3) is made of elastically stretchable continuous fibers (10),
- wherein a first melt blown fiber molder 31 having a plurality of nozzles arranged transversely above an endless belt 30 below which there is provided a suction mechanism 31A discharges first melt blown continuous fibers 35 of non-stretchable thermoplastic synthetic resin being accumulated on the belt 30 along irregular curves to form a first web 41,
- wherein a discharge condition of the first molder 31 and a travelling condition of the belt 30 are selected so that the continuous fibers 35 being stacked one upon another in the first web 41 may be prevented from being bonded or sealed together,
- the first continuous fibers 35 have a breaking extension of at least 70%,
- and wherein a second melt blown fiber molder 32 and a suction mechanism 32A is provided, also including a plurality of nozzles arranged transversely of the belt 30 and adapted to discharge second melt blown continuous fibers 40 of elastically stretchable thermoplastic synthetic resin to be accumulated on the first web 31 along irregular curves to form a second web 42,

- wherein a discharge condition of the second molder 32 is selected so that these second continuous fibers 40 stacked one upon another are be (sic) sealed together and thereby form a sheet having an elastic stretchability in the travelling direction of the belt 30 as well as in the direction being orthogonal thereto and wherein
- the second continuous fibers 40 have a breaking extension higher than that of the first continuous fibers 35, and wherein
- the first and second webs 41, 42 placed upon each other
- are fed together to vertically paired embossing rolls 34, 34
- are thereby heated under a pressure at the bond regions arranged intermittently at least in the longitudinal direction corresponding to the direction in which these webs 41, 42 are fed so that the webs 41, 42 are bonded together to form a first composite web 43, and wherein
- the first composite web 43 travels through first, second and third pairs of stretching rolls 36, 37, 38, wherein the first and third pairs of rolls 36, 38 rotate at the same speed, this speed being lower than a revolution speed of the second pair of rolls 37, wherein
- a difference of the revolution speeds between the first pair of rolls 36 and the second pair of rolls 37 is adjusted so that the first composite web 43 is stretched at a room temperature of 10 - 60°C, preferably at a room temperature of 15 - 40 °C, so that
- the first composite web 43 elastically contracts to its initial length between the second and third pairs of rolls 37, 38 to form a second composite web 44, wherein

- the first continuous fibers 35 of the first composite web 43 are longitudinally stretched diameter-reduced under a plastic deformation within its critical breaking extension between each pair of the adjacent bond regions in which the first and second webs 41, 42 have been bonded together,
- the second web 42 comprising the second continuous fibers 37 is elastically stretched within its critical elasticity between each pair of the adjacent bond regions,
- with the first composite web 43 having a stretch ratio of 50 - 300%."

Claim 1 of auxiliary request V reads as follows:

"In a process for producing an elastically stretchable composite sheet (1) consisting of an elastic sheet (3) having a stretchability in two directions orthogonal to each other and a sheet-like fibrous assembly (2; 300) having an extensibility in said two direction (sic) bonded to at least one surface of said elastic sheet (3), wherein:

- said sheet-like fibrous assembly (2; 300) has an inelastic extensibility,
- said elastic sheet (3) and said sheet-like fibrous assembly (2; 300) are bonded together at bond regions (4) arranged intermittently in said two directions and
- component fibers (6; 310) constituting said sheet-like fibrous assembly (2; 300) are long fibers continuously extending and describing curves between each pair of adjacent bond regions (4) where said long fibers (6; 310) are bonded to said elastic sheet (3), and

- wherein said component fibers (6; 310) are neither sealed nor bonded with one another and
- are independent one from another in regions extending between each pair of adjacent said bond regions (4) and
- wherein said elastic sheet (3) is made of elastically stretchable continuous fibers (10),
- wherein a first melt blown fiber molder (31) having a plurality of nozzles arranged transversely above an endless belt (30) below which there is provided a suction mechanism ((31)A) discharges first melt blown continuous fibers (35) of non-stretchable thermoplastic synthetic resin being accumulated on the belt ((30)) along irregular curves to form a first web (41), the process is characterized in that
- a discharge condition of the first molder (31) and a travelling condition of the belt (30) are selected so that the continuous fibers (35) being stacked one upon another in the first web (41) may be prevented from being bonded or sealed together,
- the first continuous fibers (35) have a breaking extension of at least 70%,
- and wherein a second melt blown fiber molder (32) and a suction mechanism (32A) is provided, also including a plurality of nozzles arranged transversely of the belt (30) and adapted to discharge second melt blown continuous fibers (40) of elastically stretchable thermoplastic synthetic resin to be accumulated on the first web along irregular curves to form a second web (42),
- wherein a discharge condition of the second molder (32) is selected so that these second continuous fibers (40) stacked one upon another are be (sic) sealed together and thereby form a sheet having an elastic stretchability in the travelling direction

- of the belt (30) as well as in the direction being orthogonal thereto and wherein
- the second continuous fibers (40) have a breaking extension higher than that of the first continuous fibers (35), and wherein
 - the first and second webs (41), (42) placed upon each other
 - are fed together to vertically paired embossing rolls (34, 34)
 - are thereby heated under a pressure at the bond regions arranged intermittently at least in the longitudinal direction corresponding to the direction in which these webs (41), (42) are fed so that the webs (41), (42) are bonded together to form a first composite web (43), and wherein
 - the first composite web (43) travels through first, second and third pairs of stretching rolls (36, 37, 38), wherein the first and third pairs of rolls (36, 38) rotate at the same speed, this speed being lower than a revolution speed of the second pair of rolls (37), wherein
 - a difference of the revolution speeds between the first pair of rolls (36) and the second pair of rolls (37) is adjusted so that the first composite web (43) is stretched at a room temperature of 10-60°, preferably at a room temperature of 15-40°, so that
 - the first composite web 43 elastically contracts to its initial length between the second and third pairs of rolls (37, 38) to form a second composite web (44), wherein
 - the first continuous fibers (35) of the first composite web (43) are longitudinally stretched diameter-reduced under a plastic deformation within its critical breaking extension between each pair of the adjacent bond regions in which

- the first and second webs (41), (42) have been bonded together,
- the second web (42) comprising the second continuous fibers (37) is elastically stretched within its critical elasticity between each pair of the adjacent bond regions,
- with the first composite web (43) having a stretch ratio of 50-300%."

X. The appellant essentially argued, in as far as relevant for the decision, as follows:

In view of the discussed arguments concerning Article 83 EPC, a broad interpretation of the claim could be accepted, albeit that the crimped fibres of E2 were not the same as claimed. Even with such a broad interpretation however, the subject-matter of claim 1 was novel with regard to E2.

The teaching of E2 was directed to a nonwoven laminate having only one-directional stretchability, namely cross-directional stretchability. There was no disclosure of stretchability in two directions. Accordingly, feature #4 of the feature analysis of claim 1 filed as attachment

BA1 "Analysis of Features of claim 1 in relation to E2"

namely "a sheet-like fibrous assembly having an extensibility in said two directions" was not anticipated by E2. The references in E2 to MD-directional stretch were not made with regard to a laminate having two-directional stretchability. They only concerned a general reference to prior art stretchable nonwoven fabrics. These MD-stretchable materials were cited as being cumbersome in that during the manufacturing process turning of the fabric had to

be done. Also, E2 only disclosed a stitchbonded material, which, with reference to E6, used stitchbonding which prevented stretching in more than one direction.

Also feature #6 of the feature analysis of claim 1 "said sheet-like fibrous assembly has an inelastic extensibility" was not disclosed in E2. A spunbond layer made of crimped fibers such as disclosed in E2 inherently comprised elastic extensibility and thus was completely different to a sheet-like fibrous assembly having an inelastic extensibility. Crimped fibres were excluded in the patent in suit by the feature of the component fibres being "long fibres continuously extending and describing curves between each pair of adjacent bond regions" (denoted as feature #8 in the feature analysis). Crimped fibres would not be characterized as "curved" since crimped fibres were to be understood as having an undulated or zigzag shape.

Also feature #9 of the feature analysis of claim 1 "wherein said component fibers (6) are neither sealed nor bonded with one another and are independent one from another in regions extending between each pair of adjacent said bond regions (4)" was not disclosed in E2. In E2 the spunbond fabric was to be understood as a layer which was suitable as the outer sandwich layer of the laminate and such layers had to have bonded structures. Hence, the fibers in these fabrics were not independent from each other in the regions between each pair of adjacent bond regions.

Concerning auxiliary request 1, E2 did not disclose an elastic layer made of continuous long fibres of the defined elastomeric material. E2 disclosed the material HYTREL® but no suggestion to use it for a fibrous web

was disclosed. Accordingly, the skilled person had to make a selection: the particular material and the kind of web. Hence, the subject-matter of claim 1 was novel.

With regard to inventive step, the problem to be solved when starting from E2 could be considered as being the provision of an elastically stretchable layer capable of coping with environmental conditions such as moisture absorption and permeability as set out in paragraph 12 of the patent in suit. There was no suggestion in E2 of such a combination for this purpose. Therefore, an inventive step should be acknowledged.

Concerning auxiliary request II and in response to the Board's question as to where the combination of features of claim 1 was disclosed, all the amended features were disclosed in relation to the embodiment shown in Figure 1. The skilled person would choose each combination of features within the claimed parameter ranges as the influence(s) of the different parameters on the composite sheet were known such that the extreme end values of both ends of one range would not be selected to be combined with the extreme end values of another range. Instead, the skilled person would make an informed choice about the values in claim 1 which should be combined together when e.g. considering the range of basis weights and the range of component fiber diameters. Accordingly, the requirement of Article 123(2) EPC was met. The same arguments applied for auxiliary request III.

Auxiliary requests IV and V should be admitted into the proceedings. The inclusion of product-by-process features or, respectively, the change to a product-by-process claim was allowable since the previously

discussed objections could not be overcome in any other way. *Prima facie*, all the features corresponded to structural features. Additionally, the large number of features in the claim was not immediately evident from any combination of documents and was *prima facie* highly likely to involve inventive subject-matter. This being the case, remittal of the case to the department of first instance should be allowed.

XI. The respondent argued, in as far as relevant for the decision, as follows:

If feature #9 of the feature analysis of claim 1 implied two separate features having a different meaning, such a concept was not disclosed and the requirement of Article 123(2) EPC would not be met when considering that the claim included the amendment "consist" instead of "comprises". An objection under Article 83 EPC would also arise.

The subject-matter of claim 1 according to the main request was not novel over E2. E2 referred to the final laminate (col. 1, l. 46) as being stretchable in at least the cross-machine direction and hence included embodiments having stretchability in MD- and in CD-direction. A stretchability of the laminate implied that all of the laminate layers were extensible and hence, the nonwoven layer also had to be extensible. Moreover, generally, a spunbond web does have (at least inelastic) extensibility in two directions; it could not be otherwise.

The embodiments of E2 concerning crimped as well as uncrimped fibre webs deprived claim 1 of novelty. However, the crimped fibres in E2 also presented "an inelastic extensibility" as defined. The assertion of

the appellant that fibers of spunbond webs would necessarily be pre-bonded (i.e. comprise bond points or areas in addition to the bonds of the overall laminate) was plainly incorrect. For laminates, there was no requirement for stabilizing the spunbond webs by pre-bonding. Although the possibility of consolidation and stabilization existed, bonding represented an optional process step. In particular when further processing the webs into laminates, there was no need for separate pre-bonding of spunbond (or meltblown) webs. Stitch-bonding was referred to in E2 merely as an optional manufacturing method.

Concerning the degree of the inelastic extensibility of the sheet-like fibrous assembly, as well as concerning the degree of elasticity of the elastic sheet, the patent in suit did not disclose any particular degree of either. Thus, common general knowledge of the skilled person had to be applied in relation to these materials. Crimped fibers presented some elasticity in extension but such fibres also included a certain amount of inelastic extensibility not least due to their material in E2 which was permanently deformed to a degree. This was all that the claim required. Also, spunbond fabrics made of crimped fibers were anyway not considered "elastic". The spunbond web according to the Samples 1-3 of E2 had a certain amount of inelastic extensibility. In particular the disclosed "give" in the crimped fiber webs related to a certain amount of inelastic extensibility. All the materials referred to in the patent in suit and in E2 were thermoplastic materials.

The subject-matter of claim 1 of the first auxiliary request was also not novel. Prior to the oral proceedings before the Board no argument in support of

novelty had been submitted, not even in the opposition proceedings. E2 referred to HYTREL® as an elastomeric material and this material inherently had the claimed properties.

Even if the Board concluded there was no explicit or implicit disclosure in E2 that HYTREL® material was that used for the long fibers, this material was an obvious selection from those possibilities given in E2.

Claim 1 of auxiliary request II did not meet the requirement of Article 123(2) EPC. There was no clear and unambiguous disclosure of an embodiment having the combination of claimed features. Merely as one example, there was no disclosure of a sheet with a basis weight in the claimed range in combination with the claimed range for the diameter of the component fibers. This objection also applied to claim 1 of auxiliary request III.

Auxiliary requests IV and V should not be admitted since they were filed shortly before the oral proceedings and after the communication of the Board. The amendments introduced subject-matter from the description which changed the framework of the appeal entirely. Albeit replete with deficiencies under at least Article 84 EPC, the requests could not be dealt with in substance without remittal. Remittal of the case was thus requested should they be admitted.

Reasons for the Decision

1. Main request - claim 1 - Interpretation

1.1 Due to the arguments of the parties on various aspects, it was necessary to establish an interpretation of the subject-matter of claim 1.

1.2 The Board interprets the feature "wherein said component fibers (6) are neither sealed nor bonded with one another and are independent one from another in regions extending between each pair of adjacent said bond regions (4)" which corresponds to the feature number #9 in the feature-by-feature analysis in BA1 submitted with the grounds of appeal as referring to one requirement only, namely that the fibres are not sealed or bonded and thus are independent between the bond/seal regions. This interpretation was already set out in the communication annexed to the summons of the Board.

There is no disclosure in the patent in suit which defines "independent" in a particular way, nor which defines "neither sealed nor bonded with one another" to mean anything different than the fibres between the bond regions simply thereby being independent. This interpretation was conceded by the appellant in the oral proceedings, however with the addition that E2 allegedly did not disclose such an arrangement due not least to the use of crimped fibres, such that this aspect of the term "independent" is dealt with here as well.

1.3 The view of the appellant was that spunbond crimped fibers as disclosed in E2 get caught up with each other, with the result that a movement of one fiber is hindered by the neighbouring fiber causing an (elastic) pulling of all neighbouring fibers, whereby these fibers should therefore not be considered as being "independent" in the sense of the invention. This is

however not accepted by the Board. Unless otherwise stated, spunbond fibers are laid down in a particular pattern (spiral, helical ...), and thus a movement of one fiber in the laid down material results inevitably in a reaction by the further fibers (not only by the small amount of friction present between these relatively lightweight fibers but also due to inter-fiber mingling (see e.g. "mechanically entangled spots" mentioned e.g. in the patent at column 6, line 38 referred to by the respondent). No information beyond the known manufacturing processes is disclosed in the patent in suit and accordingly also the combination of features (neither sealed nor bonded and independent) applies not only generally but also to the crimped fibers disclosed in E2.

- 1.4 Thus, consistent with the view already given in the Board's communication, the fact that fibres are crimped does not make them somehow more "dependent" on each other in any way which is clearly different from the fibres as disclosed in the composite sheet in the patent. The wording "between each pair of adjacent said bond regions" covers the whole areas between the bonds. An independence of the fibers outside of the bonding areas is shown for example in Figures 5 (5a, 5b) of

E6 US-A-3 855 046,

which is referred to in E2 (col. 8, l. 65). Hence, the feature relating to the independence of the fibers cannot be seen to add anything which further clarifies the preceding feature that the component fibers constituting said sheet-like fibrous assembly are long fibers continuously extending and describing curves between each pair of adjacent bond regions, and applies generally for the areas in which the component fibers

are neither sealed nor bonded with one another. This interpretation is also consistent with the appellant's own understanding as submitted with its letter of 27 May 2011 (see page 5, noting that independence of one fiber from another is the freedom of the fibers to move, one compared to another, between the bond regions). Consistently, the Board finds these features of claim 1 merely as expressing the same subject-matter twice.

1.5 Albeit objections were raised under Article 83 EPC by the respondent in regard to the terminology "elastic" and "inelastic" on the basis that there were no defined tests or even limits given in the patent for these terms, the Board does not share this view and finds instead that these terms merely have to be interpreted broadly and can only be understood to relate to a relative degree of elasticity or inelasticity. The reasons for this finding with regard to the objections under Article 83 EPC themselves are however not dealt with in this decision since the various requests of the appellant were found not allowable for other reasons.

1.6 The degree of elasticity or inelasticity of the materials disclosed in the patent in suit is not defined. This was also the case for E2. This was also common ground. Therefore, common general knowledge of a skilled person has to be used when considering the meaning of these terms to the claimed subject-matter. The skilled person knows that all polymeric materials can be tested with regard to their elasticity. Standard tests are available in the form of for example elongation-to-break tests and stress-strain curves. These curves also show, even for elastic polymeric materials, no significant return to the original values/points. Accordingly, the Board can only come to

the conclusion that implicitly even so-called elastic polymeric materials include "an inelastic extensibility" as defined in the claim.

2. *Main Request - claim 1 - novelty*

2.1 E2 discloses a nonwoven laminate with cross-directional stretch. The laminate is made of a layer of an elastomeric polymer in between of a first and a third layer of spunbond polymer web, and these layers are bonded to form a laminate.

2.2 The features denoted with numbers #4, #6, #8 and #9 in the feature-by-feature analysis BA1 of claim 1 are in dispute between the parties. The Board already expressed in the annex to the summons that all these features were not defined in claim 1 sufficiently specifically to be distinguished from the features disclosed in E2.

2.3 Concerning feature #4 "a sheet-like fibrous assembly having an extensibility in said two directions", E2 discloses a nonwoven laminate with "at least" cross-directional stretch (col. 1, l. 45 - 47). The summary of the invention consistently indicates that the layers are maintained in an unstretched condition throughout their production and bonding into the laminate (col. 1, l. 51 - 57). In view of the final product having stretchability in at least the CD-direction, two-directional stretchability is certainly not excluded. Further indications in E2 unambiguously acknowledge that it is implicitly present. In this regard, for example, E2 col. 1, lines 40 to 44 notes that the manufacturing process could be simplified where the "MD-stretchable material" must be turned; this turning is only required to add CD-stretch. Furthermore, the

appellant's argument that feature #4 in claim 1 was not directed to the final product is not relevant since even though E2 is referring to the stretchability of the final laminate, it is implicitly expressed that all layers included in the laminate have to have this characteristic themselves as well.

Additionally, evidence was provided by the appellant in the form of

Attachment A [http://www.engr.utk.edu/mse/Textiles/Spunbond Technology.htm](http://www.engr.utk.edu/mse/Textiles/Spunbond%20Technology.htm) ("Spunbond Technology", A. Dahiya, M.G. Kamath, R. R. Hedge, April 2004)

that spunbond layers generally are characterized by their stress-strain characteristics and their tensile strength in MD and CD directions (see Figure 9 and Tables 1). Hence, it is implicit that spunbond webs have, unless some specific provision is made to specifically prevent this, at least inelastic extensibility in two directions, and in Table 1 on page 5 of attachment A, data for the MD- and CD-stretchability of commercially available spunbond nonwoven webs are given. Although this attachment was filed after the communication of the Board and it is not prior art as such, it refers to (previous) well-known prior art manufacturing processes for spunbond webs. Accordingly, the appellant's view that the teaching of E2 would be directed in some way only to cross-directionally stretchable nonwovens is technically unfounded such that the general consideration that the spunbond fibrous assemblies in E2 would not have an extensibility in two directions cannot be accepted. The reference of the appellant to E2 disclosing stitch-bonded layers concerns an optional feature (E2, col. 7, l. 3) and thus does not alter the above considerations.

2.4 Concerning feature #6 ("said sheet-like fibrous assembly has an inelastic extensibility"), the appellant argued that a web made of spunbond fibers, in particular when made of crimped fibers which comprise elastic extensibility such as disclosed in E2, would be different from a claimed sheet-like fibrous assembly that has an inelastic extensibility.

Crimped fibers are elastically extensible - at least to a certain amount. This was also acknowledged by the respondent and is anyway well-known. However, crimped fibers also inherently possess a specific amount of inelastic extensibility which is due to their material characteristics and the way they are manufactured. Accordingly, even though a certain amount of elasticity is necessarily present in the crimped webs, an inherent inelastic extensibility is always present as well.

Further in this regard, and as mentioned under item 1 above (interpretation of the claim), without a test method, the degree of elasticity and inelasticity has to be considered generally and broadly. Therefore, the implicit general characteristic of crimped fiber webs to include a certain amount of both elastic and inelastic extensibility applies also for these webs in E2 and the feature as defined in claim 1 does not distinguish the claimed subject-matter therefrom.

2.5 Concerning the feature of the component fibres being long fibres continuously extending and describing curves between each pair of adjacent bond regions (denoted as feature #8 in the feature-by-feature analysis BA1), also this feature applies anyway for crimped fibres which have to have a specific continuous extension and which also describe curves between the

bond regions. The presence of this feature in E2 was also not contested further during the oral proceedings before the Board, where only two specific features of claim 1 were argued as being novel over E2 by the appellant.

2.6 Concerning feature #9 ("wherein said component fibers are neither sealed nor bonded with one another and are independent one from another in regions extending between each pair of adjacent said bond regions"), consistent with the view set out above (see point 1) with regard to the interpretation of the claim as well as consistent with the view set out in the communication annexed to the summons, also E2 discloses bonding only for producing the laminate and refers to thermal point bonding in particular patterns (e.g. col. 8, l. 61 - 67) which leads to unbonded fibers in regions between each pair of adjacent bond regions. There is no disclosure of a prior bonding of the fibrous assembly in the manufacturing process. Indeed, the appellant offered no counter argument to the disclosure in column 7, lines 12-22 which notes that the filaments are usually quenched before depositing. Thus, there is also no basis for excluding crimped fibres anyhow in this regard since also these fibres have to have "independence" between the adjacent bond sites. This feature was anyway also no longer contested as a feature giving novelty over E2 during the oral proceedings before the Board.

2.7 Hence, the subject-matter of claim 1 is not novel over E2 and the requirements of Article 54 EPC are not fulfilled.

3. *Auxiliary request I*

3.1 Claim 1 includes in addition to the subject-matter of claim 1 of the main request the feature "wherein said elastically stretchable continuous fibers are made of block copolymerized polyester comprising hard and soft ingredients wherein said soft ingredient being polyether or copolymer of polyether".

3.2 The opposition division held the subject-matter of the same claim 1 to lack novelty over E2. It referred to the added feature as being known from E2, on the basis that E2 disclosed in col. 6, l. 9 - 16 and col. 6, l. 62 HYTREL® as a suitable elastomeric material to fabricate elastomeric fibers (E2, col. 5, l. 13) for the laminate fabric (E2, col. 4, l. 66 - col. 5 l. 3). The opposition division further referred to

E5 DuPont: "Hytrel DuPont: "Hytrel - polyester elastomer"

as providing evidence for Hytrel® disclosing all properties of the added feature. No comments or arguments were submitted by the proprietor in the opposition proceedings.

3.3 E2 refers with regard to the elastomeric layer to a variety of specific elastomeric materials such as polyurethane elastomers (ESTANE®), polyamide elastomeric materials (PEBAX®) and to polyester elastomeric materials such as HYTREL® (see col. 6, l. 8 - 16). Additionally, E2, col. 6, l. 62 specifies HYTREL® as a commercially available exemplary elastomeric thermoplastic polymer material- amongst other such materials. Hence, the skilled person had to select a specific elastomeric composition out of a variety of possible compositions. Additionally, the skilled person had to choose whether to apply this

material as a fibrous layer or as a film layer. For this reason, there is no clear and unambiguous disclosure of the precise claimed combination of features, such that the subject-matter of claim 1 is found novel over E2 (Article 54 EPC).

- 3.4 With regard to inventive step, the subject-matter of claim 1 differs from the disclosure in E2 only in that a particular polymeric material is specified for the elastically stretchable continuous fibers.
- 3.5 The problem to be solved when starting from E2 is to select a suitable material for the web of spunbond fibers to be used in E2. The selection of a material which is already suggested as being suitable in E2 for formation of that layer, even if not stated explicitly as being HYTREL®, can however only be considered as a straightforward option for the skilled person without involving an inventive step. Using the problem solution approach, the skilled person starting from E2 is faced with the problem of selecting a suitable material for the nonwoven web of elastomeric fibres stated in col. 5, line 13. E2 itself gives a number of materials which are exemplary for commercially known examples, one of which is HYTREL®. Indeed, directly after the quotation of HYTREL® in column 6, line 16 as a suitable material, follows a paragraph as to how to make the elastomeric nonwoven web. The skilled person faced with the problem to be solved would there be taught by E2 that a suitable material would be HYTREL®.
- 3.6 The appellant's reference to the problem of moisture absorption and permeability (environmental conditions) as mentioned in paragraph 12 of the patent is irrelevant in the given context as these characteristics are merely inherent to the material

itself. Thus, avoiding a discussion of whether the appellant's problem is at all objective, the solution would again be obvious since, from the options available to the skilled person with such characteristics, the choice of a material already quoted in E2 as one of the few materials specifically proposed for the layer in question, which inherently possesses those properties, would be obvious even if other materials also possessed the same characteristics.

3.7 Hence, the subject-matter of claim 1 of auxiliary request I does not involve an inventive step when starting from E2 as the closest prior art, contrary to Article 56 EPC. The first auxiliary request is therefore not allowable.

4. *Auxiliary requests II and III*

4.1 Claim 1 of these requests is amended to include additionally *inter alia* the following (parametrical) features:

"wherein said sheet-like fibrous assembly (2) has a basis weight of 2 - 100 g/m²";

"wherein each of said component fibers (6) has a diameter of 0.1-50 μm".

4.2 There is no clear and unambiguous disclosure that the whole claimed range concerning the basis weight could be combined with all the values within the claimed range for the diameter of the component fibers. Hence, claim 1 of auxiliary requests II and III does not meet the requirement of Article 123(2) EPC.

4.3 Although it is correct that the amendments are individually disclosed in the description in relation

to the embodiment shown in Figure 1, the application as filed does not disclose in an unambiguous manner that all values within the ranges can be combined (for example a basis weight of 2g/m^2 with a fiber diameter of $50\ \mu\text{m}$). Indeed these two factors obviously are not entirely independent of each other as one affects the other.

4.4 There are no conditions disclosed which would for example indicate how, why and/or whether it would be possible to choose an embodiment having highest (lowest) basis weight in combination with highest (lowest) diameter of the component fibers and still arrive at a suitable sheet. The influence of the individual parameters on the composite sheet is not discussed and no examples of particular combinations are disclosed. The issue is thus whether a disclosure for the whole range of the basis weight is present to allow the combination within the whole range for the diameter of the component fibers. The same applies for the whole range of the basis weight. The argument of the appellant that the skilled person would recognise that he should not combine extreme values from the ends of the ranges lacks relevance in the present case, since irrespective of any evidence to the effect alleged by the appellant or of any limits which are then relevant in the circumstances, claim 1 still includes the combination of the extreme values. The question is thus only whether there is a disclosure of these entire ranges in combination and this question has to be answered in the negative.

4.5 The appellant's reference to Figure 1 which it argued can include any and all features, is not suitable to overcome this objection. Figure 1 shows a diagrammatic sketch of general nature and generally the structure of

the laminate. No reference to defined embodiments having defined combinations with regard to particular values of the claimed features is present. A general disclosure which does not specifically exclude any particular feature cannot provide the basis for the specific combination of features defined in claim 1.

4.6 No different arguments were made for claim 1 of auxiliary request III.

4.7 The combination of at least these ranges in the subject-matter of claim 1 thus represents an undisclosed combination of features leading to subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC). Accordingly, the second and the third auxiliary requests are not allowable.

5. *Auxiliary requests IV and V*

5.1 Auxiliary requests IV and V were filed after oral proceedings were arranged and after the communication sent by the Board.

5.2 In claim 1 of auxiliary requests IV and V the previously amended features referring to parameter ranges have been deleted and a very large number of features relating to manufacturing process steps are included. Due to these features, the framework of the appeal is altered completely, since these features were never discussed or even considered in opposition or appeal proceedings. Since also the extensive amendments are taken from the description, which amendments have not even been subject themselves to a search, the subject-matter of these requests therefore raises issues which the Board and the respondent cannot

be expected to deal with without extensive adjournment of oral proceedings. In addition, it may be mentioned that checking whether at least the requirements of Article 83, 84 and 123 EPC are met would evidently be a very lengthy and complex issue, since the amendments involved combinations of elements from claims and description.

- 5.3 According to Article 13(3) Rules of Procedure of the Boards of Appeal (RPBA), amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the other party or parties cannot reasonably be expected to deal with without adjournment of the oral proceedings. The provision in Article 13(3) RPBA hence is not a matter of discretion of the Board but depends on whether adjournment of oral proceedings should take place.
- 5.4 For these reasons the Board decided not to admit auxiliary requests IV and V into the proceedings, pursuant to Article 13(3) RPBA.

6. Appellant's request for remittal

The appellant requested remittal, stating that the auxiliary requests IV and V were very detailed and that it was doubtful that prior art was available, given the documents cited in the opposition to the granted claims, which would be relevant, such that novelty and inventive step might be presumed to be *prima facie* present. Detailed arguments in support of the requests had also been made in the last written submissions.

Leaving aside the issue of whether a presumption of validity might be attributed to the requests merely

because they were lengthy, the Board finds that a remittal of the case to the department of first instance is not appropriate when prior requests have been found not allowable and the only remaining requests have not been admitted into proceedings, thereby leaving no requests upon which a remittal for further prosecution could be based. To do so would also undermine the entire purpose of appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated