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Datasheet for the decision of 20 December 2023

Case Number: T 1287/21 - 3.3.06

Application Number: 11707768.5

Publication Number: 2542409

IPC: B32B27/00

Language of the proceedings: EN

Title of invention:
NON-PVC FILM AND NON-PVC FILM LAMINATE

Patent Proprietor:
Avery Dennison Corporation

Opponent:
Eun-Suk Choi

Headword:
Avery Dennion/Non-PVC laminate

Relevant legal provisions:
EPC Art. 56, 123(2)
RPBA 2020 Art. 12(4), 13(2)

Keyword:
Inventive step - main request (no) - auxiliary request (yes)
Amendments - allowable (yes)
Amendment to case - amendment within meaning of Art. 12(4) RPBA 2020
Amendment after summons - exceptional circumstances (yes)

Decisions cited:
T 0710/97, T 0824/05, T 1742/12, T 1940/16

Catchword:

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Beschwerdekammern

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Case Number: T 1287/21 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 20 December 2023

Appellant: (Opponent)	Eun-Suk Choi Riehler Strasse 231 50735 Köln (DE)
Representative:	f & e patent Braunsberger Feld 29 51429 Bergisch Gladbach (DE)
Respondent: (Patent Proprietor)	Avery Dennison Corporation 8080 Norton Parkway Mentor, OH 44060 (US)
Representative:	Müller-Boré & Partner Patentanwälte PartG mbB Friedenheimer Brücke 21 80639 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 9 June 2021 concerning maintenance of the European Patent No. 2542409 in amended form.**

Composition of the Board:

Chairman	J.-M. Schwaller
Members:	S. Arrojo
	J. Hoppe

Summary of Facts and Submissions

I. The appeal filed by the opponent contests the decision of the opposition division to maintain European Patent 2 542 409 in amended form on the basis of auxiliary request 1 filed on 20 August 2020, claim 1 thereof reading as follows:

"1. *An optically transparent protective film comprising:*
a top layer; and
a bottom layer substantially coextensive with the top layer, and
wherein the top layer is selected from the group consisting of urethane-acrylic hybrid polymer free of N-methylpyrrolidone (NMP); and
the bottom layer is comprised of a non-PVC based polymer, wherein the non-PVC based polymer is an acrylic polymer, and further comprising:
a pressure sensitive adhesive layer, and
wherein the pressure sensitive adhesive layer is in contact with the bottom layer.".

II. In its grounds of appeal, the appellant argued that the claims as upheld by the Opposition Division extended beyond the content of the application as filed and did not involve an inventive step starting from **D1/D1a** (JP 2008-238481/English translation) in the light of any one of **D3** (US 2001/0051265 A1), **D4** (WO 2005/068195 A2), **D6** (US 2004/0197572 A1), **D8** (US 2010/0009108 A1), **D19** (US 2005/0234175 A1), **D20** (US 2005/0074601 A1), **D21** (US 2003/0031820 A1) or **D22** (EP 0359532 A2); or starting from **D12** (US 2008/0199704 A1) in the light of any one of D1, D6, D9, D10, D11 and/or D13 (with respect to the urethane-

acrylic hybrid polymer), or any one of D1, D4, D6, D8, **D16** (BASF brochure "*Industrial coating raw materials selection guide*"), D19, D20, D21, D22, D13 and/or D15 (with respect to the acrylic polymer). It further requested that documents **D18** (Hybridur® 870, datasheet, Evonik Corporation, 2017) to **D23** (Technical datasheet of JONCRYL® 617, BASF Resins B.V., 2007), disregarded by the opposition division, be admitted into the appeal proceedings.

III. With its reply filed on 24 February 2022, the proprietor and respondent filed different sets of claims as **main request** (corresponding to the request upheld by the opposition division) and **auxiliary requests 1 to 23**, as well as annexes A to D (annexes A to C being brochures of BASF and annex D the standard ASTM D882).

IV. In its preliminary opinion, the Board concluded that the subject-matter of claim 1 of the main request was not inventive in view of D1 and that auxiliary requests 1 to 3 did not appear to overcome the inventive step objections. Auxiliary request 4 was considered to meet the requirements of Article 123(2) EPC, but the question of inventive step was left open.

V. In a submission dated 28 September 2023, the appellant requested that auxiliary requests 1 to 3, 5 to 10, 12, 13, 15 to 17, 20 and 23 not be admitted into the appeal proceedings.

VI. In a submission dated 20 November 2023, the respondent filed annexes E and F (data-sheets of Joncryl® 617-A) and auxiliary requests 0.a and 0.b and withdrew auxiliary requests 6, 8, 9, 10, 17, 20 and 23.

VII. At the oral proceedings, which took place on 20 December 2023, the respondent withdrew auxiliary requests 1 to 3 as well as 0.a and 0.b. The final requests of the parties were as follows:

The appellant requested that the decision of the opposition division be set aside and the patent be revoked.

The respondent requested that the appeal be dismissed and the patent be maintained in the version upheld by the opposition division (main request) or, as an auxiliary measure, that the patent be maintained on the basis of the claims according to one of auxiliary requests 4, 5, 7, 11 to 16, 18, 19, 21 and 22 filed with the reply on 24 February 2022.

Reasons for the Decision

1. Admittance into the appeal proceedings

1.1 **Documents D18 to D23** were disregarded by the opposition division because they were held late-filed and not *prima facie* relevant. Since these documents however do not affect the outcome of the proceedings, there is no need to decide on their admittance.

1.2 **Annexes A to D** having been filed by the respondent for the first time at the appeal stage, their admittance is governed by the provisions of Article 12(4) RPBA.

As auxiliary request 4 defines that the bottom layer of the film comprises "styrene acrylic polymer" - a feature not defined in the request found allowable by the opposition division - this feature becomes relevant for the first time at the appeal proceedings. Since

annexes A to C have been filed with the purpose of clarifying that some of the commercial polymers used in the examples are such polymers, they represent a timely reaction to the filing of auxiliary request 4, and the Board thus exercised its discretion to admit annexes A to C. On the other hand, the content of annex D does not appear to be *prima facie* relevant, so the Board did not admit this document into the appeal proceedings.

1.3 **Annexes E and F** having been filed by the respondent with a submission dated 20 November 2023 (i.e. after notification of the summons to attend oral proceedings), their admittance is governed by the provisions of Article 13(2) RPBA.

1.3.1 The appellant argued that these annexes should not be admitted, because they had been filed to clarify the identity of the commercial product JONCRYL 617A, which the appellant had already contested in the grounds of appeal.

1.3.2 In the present case, the sole purpose of Annexes E and F is to confirm that the product JONCRYL 617A used in the examples of the patent is a styrene acrylic polymer. In its preliminary opinion, the Board pointed out that the identity of JONCRYL 617A was still not entirely clear in view of annexes A to C and that, consequently, some conclusions had to be left open. As the appellant had not previously contested the new evidence, the Board in its preliminary opinion questioned for the first time in the proceedings the validity of Annexes A to C as evidence of the use of a styrene-acrylic polymer in the examples of the patent. The submission of Annexes E and F in response to the new arguments set out in the preliminary opinion is therefore justified by exceptional circumstances.

Annexes E and F are therefore admitted into the proceedings.

1.4 The Board notes, as indicated below, that the **objections based on D8** are not considered to prejudice the maintenance of the patent on the basis of the claims according to auxiliary request 4. There is thus no need to address the admittance of these objections despite the respondent's argument that D8 was never used to formulate objections against the definition of a styrene acrylic polymers in claim 1 of auxiliary request 4.

2. Interpretation of the commercial products

2.1 As indicated in par. [0023] of the patent, the polymer HYBRIDUR 870 is a urethane acrylic hybrid polymer.

2.2 According to Annex C (page 8), the polymer "JONCRYL 1987", used in examples 18, 19, 21 and 22 of the patent, comprises a styrene acrylic copolymer.

2.3 According to Annexes E and F, the polymer "JONCRYL 617A" is an ammonia or ammonium salt of modified styrene acrylic polymers.

2.3.1 The appellant argued that dispersions could not be considered to be styrene acrylic polymers, and the annexes referred to an ammonia salt and not to a polymer. Furthermore, the term "modified" implied that the styrene acrylic polymer had been altered in an unknown way, so it did no longer qualify as a styrene acrylic polymer.

2.3.2 The Board disagrees with these arguments as it is well known that polymers are often supplied in the form of

aqueous dispersions of salts to facilitate handling, transport and storage of the product. It is however understood that when the layers of the laminate are formed, the dispersion used is converted into a solid polymer. The Board also notes that while the term "modified" implies some alternations of the standard form of the polymer, the fact that it is still presented as a "styrene acrylic polymer" implies that it falls within this group of polymers.

3. Main request - Inventive step

The requirements of Article 56 EPC are not met for the following reasons:

3.1 The invention relates to a non-PVC alternative film laminate that can achieve same or better performance in terms of optical and mechanical properties as traditional PVC films while addressing environmental concerns associated with PVC or with solvents such as N-methylpyrrolidone (NMP).

3.2 Closest prior art

3.2.1 Document D1 (see fig. 1 with translated references below) discloses a decorative laminate including a pattern layer (3), an adhesive layer (4), a transparent resin layer (5) and a top protective layer (6). As indicated in pars. [0002] and [0003], such protective layers generally make use of organic solvents which evaporate and adversely affect humans. To solve this problem, D1 proposes (see pars. [0003] and [0006]) to use protective layers formed from aqueous compositions having good weather resistance, adhesiveness and stain resistance. The board thus understands that the polymers in D1 are water-based and do not include

organic solvents such as NMP. The outermost protective layer (6) in D1 is made of a meth(acrylic) urethane resin (see par. [0008]) and the transparent resin layer (5) can be made e.g. of polyvinyl chloride, polyamide, polypropylene, ethylene/acrylic acid copolymer, ethylene/acrylic acid ester copolymer (par. [0108]). The adhesive layer can be selected from known or commercially available adhesives (par. [0102]).

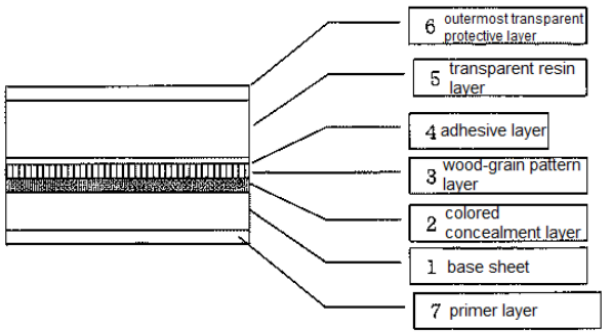

FIG 1: Translated figure of D1

3.2.2 The respondent argued that D1 did not represent a suitable starting point, because the term "film" in claim 1 at issue referred to a transparent protective self-supporting element. While this film could be affixed to other elements, such as opaque decorative or printed layers, it represented a separate entity in itself. The pressure-sensitive adhesive was precisely intended to facilitate the use of this independent film to protect different types of surfaces. By contrast, D1 related to an opaque decorative sheet including transparent protective layers as an integral part thereof. These layers forming the protective film could thus not be considered to be an independent separate entity in the sense of the invention. Further, the purpose and the technical context of the opposed patent differed significantly from that of D1. In particular, one of the key requirements of the film according to

the invention was its conformability or capacity to adapt to different forms (see par. [0003] of the patent). Document D1 did not contemplate such requirement, as the laminates disclosed therein were intended to be applied on planar surfaces.

Document D12 represented a more promising springboard, as it relates to the same type of protective films as the invention.

3.2.3 The Board disagrees therewith, as D1 discloses a double layered film intended to protect the decorative layers in a laminate. It is therefore clear that D1 is close to the invention, not only in terms of the technical features in common, but also in terms of the purpose of the films and the technical context in which they are disclosed. These observations alone should be sufficient to conclude that D1 represents the closest prior art, because a document should in principle only be disregarded as a suitable starting point when the underlying technical field or at least its technical context is so far removed from that of the invention that a skilled person would only contemplate it with the benefit of hindsight.

Contrary to the respondent's position, the Board does not see how the definition of a protective film can be distinguished, either in the assessment of novelty or of inventive step, from a laminate containing the same film. This is particularly so in the present invention, since there is no suggestion in claim 1 that the film should be a separate or detachable unit. In fact, as pointed out by the appellant, claim 4 at issue defines a laminate comprising a film as defined in claim 1, which would not be reproducible if claim 1 somehow implied that the film was a stand-alone separate

product. Moreover, the patent contemplates (par. [0037]) using permanent adhesives, so the invention clearly encompasses protective films which are, as in D1, an integral and non-detachable part of a laminate.

The Board does also not see any significant difference between the technical context of the invention and that of D1. The respondent's argumentation in this respect appears to be based on the assumption that the technical context is defined by all the technical effects and purposes presented in the description. The Board disagrees with this view and notes that the invention as such is the one defined in the claims. While this invention is interpreted taking into account (i.e. with the support of) the technical teachings in the description, this should not lead to a narrow reading of the invention defined in the claims. In this respect, if a technical effect is explicitly or implicitly associated with the features distinguishing the claim from a given document, then it could be assessed whether such effect would be contemplated or implicitly present in that document, which may be relevant for the question of whether it can be considered as a suitable or at least a promising starting point for the inventive step argumentation. If, on the other hand, no technical effect is explicitly or implicitly associated with the differentiating features, then there is no reason to disregard a prior art document for not contemplating this effect. In fact, it would be incoherent with the problem-solution approach to disregard a document as closest prior art for not contemplating a purpose or a technical effect which is not achieved by the features differentiating the claimed invention from the prior art. In the present case, claim 1 does not define, either explicitly or implicitly (i.e. no technical

feature appears to be defined that would lead to a conformable film), that the protective film should be conformable to different or non-planar surfaces. Consequently, this argument is irrelevant for the question of whether D1 should be regarded as a suitable starting point for the inventive step argumentation.

Nor does the board see why D1 should be rejected as the closest prior art simply because some aspects of D12 appear to be closer to the technical context of the opposed patent. It is the prevailing opinion in the case law of the Boards of Appeal (see CLBoA 10th Ed, I.D 3.4.1) that where more than one document is cited as the closest prior art and one of them renders the invention obvious, that document should be considered to be the closest prior art (see T 824/05, Reasons 6.2; T 1940/16, reasons 1.1.8). It is not denied that if an invention is non-obvious in view of a document which is clearly closer than other alternative documents, then it might - depending on the specific circumstances of the case - be non-obvious in view of those alternatives, so the inventive step assessment starting from the other prior art might be dispensed with in some constellations (see T 1742/12, Reasons 6.3). This is however not possible when the documents proposed as closest prior art provide different starting points (e.g. when each document differs in different aspects from the invention), such that the choice of the closest prior art is not unambiguous (see T 710/97, Reasons 3.2.1). Particularly in such cases, and as pointed out at the hearing, the Board sees no reason to deny the right to formulate the problem-solution approach on the basis of different documents (provided, of course, that they are appropriate starting points). It follows from the above considerations that any attempt to prevent a document from being used to assess

inventive step should be based on the shortcomings of the document as such, and not on the argument that other document(s) appear, *a priori*, to be closer to some aspects of the invention.

The Board therefore concludes that D1 represents a suitable starting point for the assessment of inventive step.

3.2.4 The respondent argued that D1 disclosed that the transparent resin (5) was preferably polypropylene, and so failed to disclose a bottom layer made of an acrylic polymer.

3.2.5 The Board also disagrees with this argument, because while it is true that, according to par. [0108], the most preferred polymer for the transparent resin in D1 is polypropylene, this same paragraph provides a list of alternatives which include several acrylic polymers. Since selecting one of these options constitutes a single selection from a list, D1 directly and unambiguously discloses embodiments in which the bottom transparent resin is an acrylic polymer. Accordingly, claim 1 differs from document D1 only in that the adhesive is pressure-sensitive.

3.3 Problem supposed to be solved

3.3.1 According to pars. [0002] and [0021] of the patent, the object of the invention is to provide a protective film which is non-PVC based and free of NMP in order to prevent the environmental impact associated with these substances. Such films are said to provide similar properties to those offered by conventional PVC films (see pars. [0006] and [0007]). The problem underlying the invention would therefore be the provision of a

non-PVC film having similar or even improved properties with respect to conventional PVC films.

3.3.2 To solve this problem, the patent proposes a film with a top layer consisting of a urethane-acrylic hybrid polymer free of NMP and a non-PVC based bottom layer which is an acrylic polymer. The patent includes several examples of protective films including layers with the above proposed compositions and providing the desired properties. There is however no indication of any of these effects being associated with the selection of a pressure-sensitive adhesive.

3.3.3 In this respect, the Board notes that, as the patent itself acknowledges (see pars. [0037] and [0052]), any adhesive can be used as long as it is transparent, and the presence of a pressure sensitive adhesive has no effect on the mechanical properties of the film. These properties are arguably related to the choice of polymers for the different layers, which is identical in claim 1 and in D1. It follows that the problem proposed in the patent cannot plausibly be solved by the solution proposed in claim 1 (i.e. by the selection of a pressure-sensitive adhesive).

3.4 Reformulation of the problem

3.4.1 The respondent argued that the use of a pressure-sensitive adhesive simplified the process of affixing the protective layer, as the main characteristic of these adhesives was that they were tacky at room temperature and did not require any additional steps/ equipment (e.g. UV irradiation or high temperatures) to be activated. The problem solved would therefore be a film that could be applied in a straightforward and simple manner.

3.4.2 The Board does not agree that the above problem would be solved by the invention. Firstly, applying a film with a pressure sensitive adhesive would not necessarily simplify the process. In industrial applications, this type of adhesive might require technical solutions to avoid undesired adhesion of the tacky surface and/or equipment to exert pressure between the layers. Moreover, as pointed out by the appellant, the wording of the claim does not exclude that the adhesive is arranged at the upper surface of the bottom layer, thus providing an adhesion between the top and bottom layers of the protective film rather than between the protective film and other surfaces. In such configuration the pressure-sensitive adhesive would play no role on how the protective layer is affixed on other surfaces.

3.4.3 In the absence of a specific problem being successfully solved by the invention, the Board considers that the problem should be reformulated less ambitiously, namely as the provision of an alternative protective film.

3.5 Obviousness of the solution

3.5.1 The respondent argued that D1 (pars. [0102] to [0106] and [0144]) only disclosed structural adhesives which required activation via UV irradiation, high temperatures or contact with a second adhesive component. Since the manufacturing method according to D1 involved the use of heating (see par. [0145]), it was apparent that pressure-sensitive adhesives would not be contemplated.

3.5.2 The parties cited different evidence concerning the question of whether or not pressure-sensitive adhesives were capable of withstanding high temperatures. The

Board will leave the answer to this question open, as it is not relevant for the final decision.

3.5.3 The Board notes that the manufacturing conditions mentioned by the respondent concern a specific example of D1. There is however no reason to conclude that the general teachings of this document are restricted to laminates and films manufactured with the steps proposed in this example, all the more when this document is used as a starting point and the problem solved is to find alternative films. The person skilled in the art, starting from D1 and looking for alternatives, would look for different ways of configuring a laminate with a protective film having a top layer of urethane-acrylic hybrid polymer and a bottom layer of acrylic polymer. The solution to the broad problem of finding an alternative film would involve replacing any of the features in the laminate of D1 by a corresponding alternative, as long as this alternative provides the required functionality and is known in the field. It would therefore be obvious, as also proposed in par. [0102] of D1, to replace the adhesive in the laminate of D1 by any adhesive known in this field. Since it is not contested that the use pressure-sensitive adhesives is well known in the field of laminates (see abstract of D12), the Board concludes that, when looking for alternatives to the film in D1, it would be obvious to contemplate using such an adhesive.

For the sake of completeness, the Board notes that it would be equally obvious for the skilled person to adapt the manufacturing process to meet the new requirements of the alternative film. In other words, if the high temperatures (or any other step) proposed in the exemplary manufacturing process of D1 were

detrimental to the use of a pressure-sensitive adhesive, this would not lead the skilled person to disregard the alternative, as the solution to such problems would simply require adapting the manufacturing steps to the specifications of the polymers and adhesives used in the laminate.

The subject-matter of claim 1 is thus obvious in view of D1 combined with common general knowledge, so that the main request is not allowable under Article 56 EPC.

4. Auxiliary request 4 - Article 123(2) EPC

4.1 Although the admittance of this request was not contested by the appellant, the Board notes that it has been admitted under Article 12(4) RPBA, as it is further limited with respect to the request upheld by the opposition division and is based on auxiliary request 3 filed during the first instance proceedings.

4.2 The appellant argued that the combination of a top layer made of urethane-acrylic polymer and a bottom layer comprising a styrene-acrylic copolymer extended beyond the content of the application as filed, because it was based on two selections from lists of alternatives. The list disclosed in par. [0027] of the application as filed, which was used as the basis to define the styrene acrylic polymer, was not even presented as relating to the polymers for the bottom layer but for "other layers". The tests in the patent did also not provide an appropriate basis, because it was not clear whether the commercial polymers defined therein were indeed styrene-acrylic polymers.

Further, there was no basis for the definition of urethane-acrylic hybrid polymers free of NMP; only in

par. [0033] of the application as filed, it was indicated that the dispersions (not the polymers) should be free of NMP. As indicated in D18, the dispersions of the exemplary top layer HYBRIDUR 870 were indeed free of NMP (see description on the 1st page). However, NMP was one of the recommended co-solvents for this polymer. Since the original application specified (see par. [0031]) that additives such as co-solvents could be used in the film layers, it followed that it was not the intention of the original application to use polymer layers free of NMP but only dispersions free of NMP.

There was also no clear basis for a film including three layers (i.e. two polymers and an adhesive layer), in particular there was no disclosure of the combination of a pressure-sensitive adhesive and the two polymers defined in claim 1, and none of the exemplary embodiments in the drawings or the description included three layers.

4.3 The Board has however concluded that the claims of this request do not extend beyond the content of the application as filed. It is in particular apparent from several parts of the application as filed (see pars. [0012]-[0013], [0030] to [0035] and the examples) that the use of a urethane-acrylic hybrid polymer in the top layer represents an exemplary or preferred option, so the definition of this polymer does not involve a selection from a list of alternatives. Although the use of a styrene acrylic copolymer is part of a list of alternatives disclosed in par. [0027], the examples also provide a pointer to this polymer as a preferred option for the bottom layer. In particular, examples 6 and 7 (see table 3), and consequently also examples 8 to 12 in table 4 (which use example 7 as the bottom

layer) include JONCRYL 617A, which according to annexes E and F is a styrene acrylic polymer. Moreover, all the additional examples (except 20) for the bottom layer (i.e. 18, 19, 21 and 22 in table 7 of the patent) include JONCRYL 1987, wich is also a styrene acrylic polymer. The examples therefore confirm that the configuration with a top layer comprising a urethane-acrylic hybrid polymer and the bottom layer comprising a styrene acrylic polymer is a preferred option.

The Board notes that the tests in Table 5 of the patent are performed with the films of examples 8 to 12, all of which include a top and a bottom layer with the polymers falling within the scope of claim 1 at issue and are laminated onto a printable film using a pressure-sensitive adhesive (see par. [0062]). The tests therefore also provide a pointer to the three layered protective film including the top and bottom layers and a pressure sensitive adhesive layer.

The board also considers that the original application indicates the intention of having polymers "free of NMP". Par. [0033] implies that NMP should be avoided for environmental reasons. It is further mentioned that this product is used as processing solvent in certain applications. Since a co-solvent is nothing more than another solvent, it follows from this passage that the skilled person would understand that NMP solvents (or co-solvents) should be avoided altogether at least in the polymer of the top layer. It is also noted that while D18 refers to the possibility of using NMP as co-solvent, other alternative co-solvents are proposed, for example DPnB, which this latter being used as co-solvent in the exemplary top layers of the invention (see table 2). Moreover, since the % disclosed in table 2 add-up to 100%, it can even be concluded that none of

the examples use NMP, which further reinforces the conclusion that it was the original purpose of the application to use a top polymer layer (not only a dispersion) free of NMP.

4.4 Dependent claims

4.4.1 The appellant also contested the basis for some of the dependent claims, arguing in particular that there was no support for the subject-matter of claim 2, because par. [0049] did not specify that the features "permanent, removable or repositionable" concerned a pressure-sensitive adhesive, and because these characteristics were associated with a patterned coating, which was not defined in claim 2 at issue.

There was also no basis for a "release layer" as defined in claim 3 at issue, because par. [0050] of the application as filed only referred to a "release liner", in particular because the concept "liner" had a more specific meaning than the broad term "layer".

The subject-matter of claim 4 also extended beyond the content of the application as filed, because claims 7 and 8 as filed (cited as basis) did not include a reference to the previous claims. Thus, to arrive at a film laminate having an adhesive layer as defined in claim 4 a further selection from claim 8 as filed would be necessary, which would represent a further selection from a list.

The subject-matter of claim 5 also extended beyond the content of the application as filed, because paragraphs [0002] and [0009] as filed (cited as basis) only referred to non-PVC films and film laminates. By contrast, claims 1 to 4 at issue only required that the

bottom layer (and not the entire laminate) was a non-PVC based polymer. Pars. [0025] and [0048] failed to disclose the use of a film or film laminate for advertising campaigns, promotional media, static visual communications, vehicle and product wraps.

4.4.2 The Board disagrees with the above arguments and agrees with the opposition division that the dependent claims do not contravene Article 123(2) EPC, because par. [0049] as filed begins by specifying that the adhesive can be "*a pressure sensitive adhesive, glue, and any other type of adhesives that are optically transparent*". Thereafter, the passage indicates that "*The adhesive may be pattern coated, and may be selected for particular properties such as permanent, removable or repositionable*". The Board understands the second sentence as relating to the previous exemplary types of adhesives and therefore also to "pressure sensitive adhesives" (which is actually the only exemplary type of adhesives clearly identified in the first sentence). Moreover, it is apparent that the features "permanent, removable or repositionable" do not refer in particular to pattern coated adhesives. Instead, the options "pattern coated" and "permanent, removable or repositionable" are different optional features which refer to the previously cited types of adhesives. Therefore, the subject-matter of claim 2 can be derived directly from a combination of the only group of adhesives presented in par. [0049] with one of the optional aspects defined in the next sentence. The subject-matter of claim 2 does therefore not extend beyond the content of the application as filed.

As regards claim 3 at issue, it is noted that while the term "release liner" might imply a more restricted scope than the general term "layer", the expression

"release layer" is considered to be equivalent to a "release liner", because the concept "release liner" refers to a layer which is configured such that, when attached to a surface by means of an adhesive, remains releasable. Therefore, by specifying that the layer is a "release layer", the concept becomes equivalent to a release liner. The subject-matter of claim 3 at issue is thus supported by the application as filed (e.g. par. [0050]).

Since, as explained above, all the examples tested in the patent include top and bottom layers with the polymers according to claim 1 and a pressure sensitive adhesive layer, it is clear that these options are preferred. The subject-matter of claim 4 is therefore based on combining claims 7 and 8 or par. [0052] with the preferred polymers and adhesive.

While paragraphs [0002] and [0009] as filed indicate that the invention is directed to "a non-PVC based film", it is apparent that the uses defined therein apply to any embodiment of the laminate described in the patent. Moreover, even though claim 1 does not explicitly exclude the presence of PVC in the entire protective film, it is clear that the skilled person would consider the film defined (with a non-PVC bottom layer and top layer made of urethane-acrylic hybrid polymer) as a non-PVC based film in the sense of the invention. In other words, the skilled person would not read the original application in a literalistic way, and would readily understand that the idea in the patent is to propose protective films which do not require PVC (even if the presence of PVC is not explicitly excluded). The subject-matter of claim 5 is therefore supported by the application as filed.

4.5 Since the subject-matter of all claims is directly and unambiguously derivable from the content of the application as filed, the requirements of Article 123(2) are met.

5. Auxiliary request 4 - Inventive step

5.1 Claim 1 of this request corresponds to claim 1 of the main request, wherein the bottom layer is comprised of a styrene acrylic copolymer.

5.2 Closest prior art

5.2.1 With respect to this request, the appellant only presented substantiated arguments against inventive step starting from D1 as the closest prior art during the oral proceedings.

5.2.2 Although the appellant also mentioned D12, the Board finds unpersuasive the objections based on this document for essentially the same reasons as those set out below based on D1 as the closest prior art.

5.3 Problem solved by the invention

5.3.1 The examples of the patent show that protective films including a urethane-acrylic hybrid polymer on the top layer and the commercial polymer "JONCRYL 617A" on the bottom layer provide good or appropriate mechanical and optical properties.

5.3.2 The appellant argued that the examples of the patent did not demonstrate any improvement and could at best be considered to show that the films were appropriate. The experiment in the patent were diffuse in terms of the achieved mechanical and optical properties, as they

only indicated that the obtained results were higher than a fixed value or that certain tests had been passed. Moreover, the patent presented styrene acrylic polymer as one of several alternatives in a list which also included acrylic polymers, so it was clear that the invention only represented an alternative to the films disclosed in D1.

5.3.3 The Board notes that the object of the patent (see pars. [0004] to [0007]) is not to find protective films with better mechanical or optical properties than those known from the prior art, but to provide non-PVC based transparent films which have appropriate mechanical and optical properties for certain demanding uses without any significant shortcoming in any of the main functionalities. In the Board's view, this is why the results in table 5 focus on demonstrating that the protective films of the invention have appropriate properties in all areas, rather than outstanding results in a specific area. Thus, even if it was assumed that the film in D1 would lead to equivalent results, the film according to the invention would not represent a mere alternative, but one scoring adequate results in multiple optical and mechanical properties. The problem solved by the invention is therefore not simply to provide an alternative film, but to provide an alternative film having adequate mechanical and optical properties.

5.4 Obviousness

5.4.1 The appellant cited documents D8 (see table 1), D19(see table 1), D21(see par. [0164]) and D22 (see page 8, lines 8 ff) to demonstrate that it was known in the field to form layers made of styrene acrylic polymers. Such polymers were also generally considered to provide

good optical and mechanical properties. Since D1 already proposed to use an acrylic polymer for the bottom layer, the solution of the problem would only involve selecting a styrene acrylic polymer (as a member of the general group of acrylic polymers) in view of any of the above citations.

5.4.2 The Board disagrees, because none of the cited documents provides a hint that the addition of a styrene acrylic polymer to a multi-layer configuration including a urethane-acrylic hybrid polymer would lead to a multilayer film having adequate mechanical and optical properties. There is also no hint in D1 which would indicate that styrene acrylic polymers represent an appropriate alternative, as this polymer is not mentioned in the list disclosed in par. [0108]. In fact, it is clear from this passage that polypropylene is a preferred option, so if the skilled person was looking for alternatives, this polymer would likely be selected. The Board also notes, as indicated in the patent (see par. [0004]), that while it is not difficult to identify polymers with good properties in one area, it is more difficult to find materials or combinations of materials that score appropriately in all relevant areas.

Since, as indicated above, none of the cited documents provides any indication that the use of a styrene-acrylic polymer in the laminate of D1 would result in a protective film with adequate mechanical and optical properties for certain demanding applications, the subject-matter of claim 1 is considered to be non-obvious in view of the cited prior art and therefore involves an inventive step within the meaning of Article 56 EPC. Since claims 2 to 5 refer back to claim

1, their subject-matter also meets the requirements of Article 56 EPC.

5.4.3 The same conclusions apply *mutatis mutandis* when starting from D12 as the closest prior art, as this document does not anticipate the top and bottom polymers used in the invention.

6. It follows from the above considerations that the claims according to auxiliary request 4 meet the requirements of the EPC.

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 the claims of auxiliary request 4, filed with the reply on 24 February 2022, and a description to be adapted where appropriate.

The Registrar: The Chairman:

A. Pinna J.-M. Schwaller

Decision electronically authenticated