

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUHTAMAKI FLEXIBLE PACKAGING GERMANY GMBH & CO. KG,
Petitioner,

v.

DANAPAK FLEXIBLES A/S,
Patent Owner.

PGR2023-00008
Patent 11,260,624 B2

Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and
BRIAN D. RANGE, *Administrative Patent Judges*.

KALAN, *Administrative Patent Judge*.

DECISION
Granting Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

Huhtamaki Flexible Packaging Germany GmbH & Co. KG (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting post-grant review of claims 1–13 of U.S. Patent No. 11,260,624 B2 (Ex. 1001, “the ’624 patent”). Danapak Flexibles A/S (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 6, “Prelim. Resp.”). With Board authorization, Petitioner filed a Preliminary Reply to the Preliminary Response (Paper 11, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-Reply (Paper 13, “Prelim. Sur-Reply”).

To institute post-grant review, we must determine that the information presented in the Petition, “if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” 35 U.S.C. § 324(a). For the reasons discussed below, after considering the parties’ submissions and the evidence of record, we determine that Petitioner has demonstrated that it is more likely than not that at least one of the challenged claims of the ’624 patent is unpatentable. Thus, we institute post-grant review.

A. Real Parties-in-Interest

Each party identifies itself as the real party-in-interest. Pet. 3; Paper 4, 2.

B. Related Proceedings

Petitioner states that it “is not aware of any related matter.” Pet. 3. Patent Owner identifies U.S. Application No. 17/675, 647 as a related matter. Paper 4, 2.

C. The '624 Patent

The '624 patent, titled “Method for Providing an Extreme Chemical Resistant Film, a Film and Laminate Obtainable Therefrom,” is directed to a method for providing a film and a laminate to wrap aggressive chemical substances such as nicotine, fentanyl, lidocaine, and rivastigmine. Ex. 1001, code (54), 1:27–30. Packaging nicotine in the form of skin patches is problematic for consumer safety and product durability because nicotine is highly volatile and aggressive towards its environment. *Id.* at 1:38–41. The disclosed methods for providing an extreme chemical resistant film and laminate address a need in the pharmaceutical industry to prevent adverse degradation of packaged aggressive chemical substances. *Id.* at 1:31–36.

A method of the '624 patent can provide a film product comprising a base layer coated with a coextrusion layer comprising a tie layer and a contact layer. *Id.* at 11:64–67. Figure 2 is reproduced below:

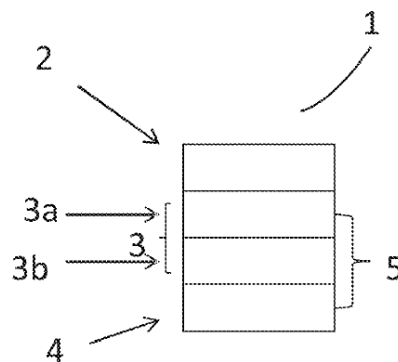


Fig. 2

Figure 2 is a cross section of an embodiment of a chemical resistant film produced by a method of the '624 patent. *Id.* at 11:39–40. Extreme chemical resistant film 1 is produced by first providing base layer 2. *Id.* at 13:35–37. Coextrusion layer 5 is coated onto one side of base layer 2 and is allowed to adhere and dry. *Id.* at 13:3, 13:39–41. Coextrusion layer 5 comprises contact layer 4 and tie layer 3, which further comprises first

layer 3a and second layer 3b. *Id.* at 13:37–39. First layer 3a may be made of ethyl acetoacetate (“EAA”) and second layer 3b may be made of polyethylene. *Id.* at 13:42–46. The exposed side of base layer 2 is intended to face the exterior environment and the exposed side of coextrusion layer 5 is intended to face the highly aggressive substance to be sealed or wrapped. *Id.* at 13:7–10.

Another method disclosed in the ’624 patent can provide a laminate in which outer layers may be laminated to the film product. *Id.* at 11:64–67, 12:6–8. Figure 3 is reproduced below:

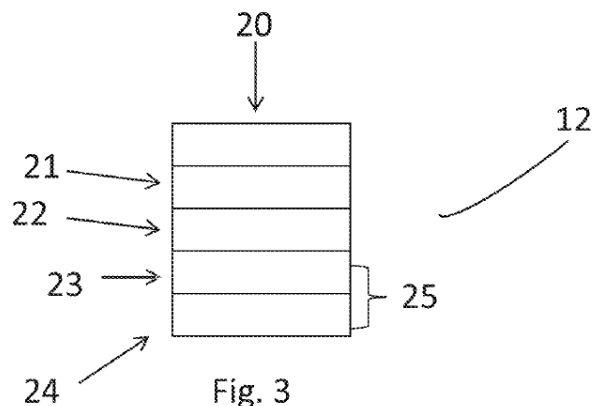


Figure 3 is a cross section of an embodiment of a laminate produced by a method of the ’624 patent. *Id.* at 11:41–42. Laminate 12 comprises first outer layer 21, base layer 22, and coextrusion layer 25. *Id.* at 13:55–57. To improve mechanical wear resistance, a first outer layer 21 may be laminated to base layer 22. *Id.* at 13:51–53. First outer layer 21 and base layer 22 may be laminated together before, during, or after coextrusion layer 25 is applied/coated to base layer 22. *Id.* at 13:57–60. First outer layer 21 may be made of a material that can be sealed in a manner that is difficult for children to open. *Id.* at 13:61–66. Second outer layer 20 may be added to improve

the stiffness of the packaging in addition to providing a printing platform.

Id. at 14:1–6.

D. Illustrative Claims

1. A method for providing an aggressive chemical-resistant film, wherein the film is resistant to a chemical selected from nicotine, fentanyl, rivastigmine, or lidocaine, said method comprising:

providing a base layer, wherein the base layer comprises aluminum and is resistant to one or more of water or oxygen;

coextruding a tie layer and a contact layer to provide a coextrusion layer, wherein the contact layer consists of a cycloolefin copolymer (COC);

coating the coextrusion layer consisting of the tie layer and the COC of the contact layer directly to the base layer comprising the aluminum; and

allowing the coextrusion layer coated to the base layer to adhere to form the aggressive chemical-resistant film, wherein the aggressive chemical-resistant film consists of: the base layer comprising the aluminum, and the coextrusion layer consisting of the tie layer, and the contact layer consisting of COC,

wherein the tie layer comprises one or more layers, and wherein the tie layer, or the one or more layers of the tie layer, has a loading in the range of 7 to 20 g/m².

Ex. 1001, 18:11–32.

13. A method for providing a laminate, wherein the laminate comprises an aggressive chemical-resistant film, said method comprising:

providing a base layer, wherein the base layer comprises aluminum and is resistant to one or more of water or oxygen;

coextruding a tie layer and a contact layer to provide a coextrusion layer, wherein the contact layer consists of a cycloolefin copolymer (COC);

coating the coextrusion layer consisting of the tie layer and the COC of the contact layer directly to the base layer comprising the aluminum; and
allowing the coextrusion layer coated to the base layer to adhere to form the aggressive chemical-resistant film, wherein the aggressive chemical-resistant film consists of:
the base layer comprising the aluminum, and the coextrusion layer consisting of the tie layer, and the contact layer consisting of COC, wherein the aggressive chemical-resistant film is resistant to a chemical selected from nicotine, fentanyl, rivastigmine, or lidocaine,
wherein the tie layer comprises one or more layers, and wherein the tie layer, or the one or more layers of the tie layer, has a loading in the range of 7 to 20 g/m².

Ex. 1001, 18:62–19:19.

E. The Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–13 would have been unpatentable on the following grounds:

Basis	35 U.S.C. §	Claims Challenged
Indefiniteness	112(b)	1–13
Riis ¹	103	1–13
Riis, Wypych, ² Tatarka ³	103	1–13

In support of its unpatentability arguments, Petitioner relies on the declaration testimony of Richard J. Spontak, Ph.D. (the “Spontak Declaration”). Ex. 1003.

¹ PCT Application Publication No. WO 2015/123211 A1 (Ex. 1004).

² Wypych, G., *Handbook of Polymers*, ChemTec Publishing (2012) (Ex. 1005).

³ U.S. Patent No. 9,452,593 B2 (Ex. 1008).

II. ANALYSIS

A. Eligibility for Post-Grant Review

The AIA’s post-grant review provisions apply to any patent that “contains or contained at any time . . . a claim to a claimed invention that has an effective filing date . . . that is on or after [March 16, 2013].” Leahy-Smith America Invents Act (AIA) §§ 3(n)(1), 6(f)(2)(A) (2011). In addition, a “petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).” 35 U.S.C. § 321(c); *see* 37 C.F.R. § 42.202(a).

Here, the ’624 patent is eligible for post-grant review because the Petition was filed within nine months of the ’624 patent’s issue date, and the earliest possible priority date of the ’624 patent is after March 16, 2013 (the effective date for the first inventor to file provisions of the Leahy-Smith America Invents Act). Ex. 1001, code (45) (showing an issue date of March 1, 2022); *id.* at Certificate of Correction (correcting the priority date from December 29, 2016 to December 29, 2015); Paper 3 (according the Petition a filing date of December 1, 2022). Accordingly, we determine that the ’624 patent is eligible for post-grant review.

B. Discretion Under 35 U.S.C. § 325(d) and § 322(a)(2)

1. 35 U.S.C. § 325(d)

Patent Owner urges the Board to exercise its discretion under 35 U.S.C. § 325(d) to deny institution, arguing that the Petition presents the same or substantially the same art previously presented to the Office, and that Petitioner fails to show that the Office erred. Prelim. Resp. 31–42.

We have discretion to deny review when “the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d). In that respect, section 325(d) provides that the Director may elect not to institute a proceeding if the challenge to the patent is based on matters previously presented to the Office. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 7 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”).

In evaluating the exercise of discretion to deny institution under § 325(d), the Board applies a two-part framework: (1) whether the same or substantially the same art previously was presented to the Office, or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *Id.* at 8.

In applying the two-part framework, we consider several non-exclusive factors (“the *Becton, Dickinson* factors”), including:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph).

Becton, Dickinson factors (a), (b), and (d) relate to whether the art or arguments presented in the petition are the same or substantially the same as those previously presented to the Office. *Advanced Bionics*, Paper 6 at 10. Factors (c), (e), and (f) “relate to whether the petitioner has demonstrated a material error by the Office.” *Id.* Only if the same or substantially the same art or arguments were previously presented to the Office do we then consider whether a petitioner has demonstrated a material error by the Office. *Id.* “At bottom, this framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Id.* at 9.

a) Part One of Advanced Bionics - Same or Substantially the Same Art or Arguments

On June 1, 2020, Riis was disclosed in an Information Disclosure Statement (“IDS”) for Application No. 16/835,018 (“the ’018 Application”), which issued as the ’624 patent. Prelim. Resp. 35 (citing Ex. 1002, 293–301 (cite no. 44 in the IDS)). Accordingly, the first part of the *Advanced Bionics* framework is satisfied.

b) Part Two of Advanced Bionics - Whether the Office Erred in a Manner Material to the Patentability of Challenged Claims

Because the first part of the *Advanced Bionics* framework is satisfied, we address the second part of that framework. *See Advanced Bionics*, Paper 6 at 8, 10.

Petitioner contends that “the Office erred in a manner material to the patentability of all claims of the ’624 patent” because “it was material error by the Office to overlook the teachings of Riis.” Pet. 71–72. Petitioner explains the lineage of the ’624 patent as follows:

U.S. Patent Application No. 16/835,018 (the “’018 application”), which claims domestic benefit of U.S. Patent Application No. 15/780,999 (the “’999 application”), issued as the ’624 patent. Ex. 1001, codes (21), (63); *see also* EX1002, 350–51 (providing Domestic Benefit/National Stage Information in Application Data Sheet as filed Mar. 30, 2020).

Id. at 71 n.17. Petitioner acknowledges that “Riis was cited by an examiner during examination of a patent application related to the ’624 patent – the parent ’999 application,” but that “the examiner of the ’018 application, which led to the ’624 patent, was a different examiner and failed to appreciate the teachings of Riis as they apply to the claims of the ’624 patent.” *Id.* at 71. According to Petitioner, “Riis was not evaluated during examination of the ’624 patent and should not be considered the same prior art previously presented to the Office.” *Id.* at 73. Petitioner argues that the Examiner considered only two prior art references during prosecution of the ’624 patent, namely, Adams and Bowen. *Id.* at 74 (citing Ex. 1001, code (56); Ex. 1002). Petitioner contends that the art relied on during prosecution relates to “paperboard food packaging and organic liquid packaging” and is distinguishable from the closest prior art of Riis, which provides a film and laminate packaging aimed at “preventing migration through the film of the aggressive chemicals recited in the ’624 patent claims.” *Id.* at 73. To the extent Riis was included “within a signed IDS, such cursory consideration is not enough to warrant denial of a petition under § 325(d).” *Id.* at 75. Petitioner also argues that, although “Riis was

considered during examination of the parent '999 application, Riis was not similarly considered during examination of the '018 application which led to the '624 patent” because, in part, “there were different examiners between the two applications.” *Id.* at 76–77. Finally, Petitioner argues that the “Petition’s reliance on Riis and Wypych as materially distinct references from that of Adams or Bowen presents nonoverlapping arguments to those considered during examination.” *Id.* at 78–80.

Patent Owner argues that the Petition should be rejected under 35 U.S.C. § 325(d) because Petitioner

fails to demonstrate that the Office erred in a manner material to the patentability of the challenged claims at least because (1) the Office extensively evaluated the subject matter of Riis during examination of the '624 Patent; (2) Huhtamaki fails to sufficiently show how the Examiner erred in evaluating the prior art; and (3) Huhtamaki fails to assert any additional evidence and facts that warrant reconsideration of the prior art.

Prelim. Resp. 33. Patent Owner asserts that Riis was before one Examiner (“Examiner S”) during prosecution of U.S. Patent No. 11,376,814 B2 (“the '814 patent”) in the '999 Application, which is a parent of the '624 patent. *Id.* at 34–35 (citing Ex. 1009, 77–80, 126–27). Patent Owner notes that, following issuance of a Restriction Requirement by Examiner S on November 18, 2020, prosecution of the '624 patent was transferred to a different Examiner (“Examiner T”), who, on February 1, 2021, signed the IDS identifying Riis as prior art. *Id.* at 35 (citing Ex. 1002, 214–20).

According to Patent Owner, Examiner T’s first Office Action during prosecution of the '624 patent included a provisional nonstatutory double patenting rejection over the claims filed in: (i) the then-pending '999 Application and (ii) Application No. 16/425,067 (“the '067 Application”).

Id. (citing Ex. 1002, 198–209). During prosecution of the '067 Application, Examiner T signed another IDS citing Riis and 56 other references. *Id.* at 35–36 (citing Ex. 2002, 210–217). According to Patent Owner, because Examiner T considered Riis, which was disclosed in multiple IDSs, and Examiner T was also aware of and acquainted with the parent '999 Application and the '067 Application “throughout examination of the '624 patent,” Examiner T “was aware of and evaluated Riis.” *Id.* at 36–37.

Patent Owner states that Examiner S’s analysis during examination of the then-pending '999 Application

was silent with regard to additional distinguishing features in the claims of the '624 Patent, including an “aggressive chemical-resistant film [that] consists of: the base layer comprising the aluminum, and the coextrusion layer consisting of the tie layer, and the contact layer consisting of COC,” as this feature was excluded from the claims of the Parent Application.

Id. at 39. Also, Patent Owner argues that during examination of the '067 Application, Examiner T substantively considered Osborn, which Patent Owner characterizes as “the parent application to Riis,” before issuing a Notice of Allowance. *Id.* at 39–40 (citing Ex. 2004, a redline comparison of Riis and Osborn); Ex. 2003, 4–5 (Notice of Allowance). According to Patent Owner, “names two of the same inventors as Riis” and “similarly discloses the eight-layer film of the fifth example that is being relied on by the § 103 allegations in the Petition.” *Id.* at 40. Patent Owner also argues that Riis, Adams, and Bowen are cumulative to the art examined by Examiner T in the related '067 Application. *Id.* at 39.

Regarding Patent Owner’s argument (1) that the Office extensively evaluated the subject matter of Riis during examination of the '624 patent, we agree that Riis was before the Office, as discussed in connection with our

analysis of the first part of the *Advanced Bionics* framework, above. Examiner T presumably was aware of Riis by virtue of having initialed an IDS containing Riis in the '624 patent's application and also by virtue of having initialed an IDS containing Riis in the '067 Application, but Examiner T did not apply Riis in connection with the examination of the '624 patent. On this record, Patent Owner also fails to show that the claims of the child application leading to the '624 patent are substantially similar to those of the parent '814 patent in which Examiner S considered Riis, and, thus, consideration of Riis during the prosecution of the '814 patent does not equate to consideration of Riis during the prosecution of the '624 patent.

Regarding Patent Owner's argument (2) that Petitioner fails to sufficiently show how the Examiner erred in evaluating the prior art, we find Petitioner's arguments demonstrate that Examiner T, the examiner of the '624 patent, did not apply Riis (or Wypych or Tatarka) during the examination of the '624 patent. As Petitioner argues, the error lies in that "the Examiner failed to consider the relevance of Riis as it applied to the pending method claims," because although "Riis was considered during examination of the parent '999 application, Riis was not similarly considered during examination of the '018 application which led to the '624 patent." Pet. 76–77. We determine that the circumstances here demonstrate that the Examiner erred in evaluating the prior art.

Regarding Patent Owner's argument (3) that Petitioner fails to assert any additional evidence and facts that warrant reconsideration of the prior art, we find that Petitioner's present arguments in connection with the § 103 portion of the Petition that demonstrate a need to reconsider the available

prior art against the claims. The new arguments presented by Petitioner based on Riis and supported by testimonial evidence not previously presented are beyond what was before the Office during prosecution of the '624 application. Pet. 30–53 (citing Ex. 1003 ¶¶ 121–210). Additionally, Petitioner argues that Riis in combination with Wypych and Tatarka, a combination of references not previously before the Office, would have rendered the challenged claims obvious. *Id.* at 53–71.

Accordingly, we decline to exercise our discretion to deny institution under § 325(d).

2. 35 U.S.C. § 322(a)(2)

Under 35 U.S.C. § 322(a)(2), a petition may be considered only if it identifies every real party-in-interest (“RPI”). This provision serves to “assist members of the Board in identifying potential conflicts, and to assure proper application of the statutory estoppel provisions,” and the latter “seeks to protect patent owners from harassment via successive petitions by the same or related parties, to prevent parties from having a ‘second bite at the apple,’ and to protect the integrity of both the USPTO and federal courts by assuring that all issues are promptly raised and vetted.” *See* Consolidated Trial Practice Guide 12–13 (Nov. 2019) (*available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>). Accordingly, petitioners must comply with these requirements in good faith. *See* 37 C.F.R. § 42.11(a) (duty of good faith and candor in proceedings). Whether a non-party is an RPI is a “highly fact-dependent question” and must be considered on a case-by-case basis. *Ventex Co., Ltd. v. Columbia Sportswear N. Am., Inc.*, IPR2017-00651, Paper 152 at 6 (PTAB Jan. 24, 2019) (precedential). In *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336 (Fed. Cir. 2018), the

Federal Circuit cited the Board’s Trial Practice Guide with approval for its explanation that the RPI inquiry is “fact-dependent” and involves “multiple factors.” *See id.* at 1351 (*citing* Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012)).

Patent Owner urges the Board to exercise its discretion under 35 U.S.C. § 322(a)(2) to deny institution, arguing that the Petition fails to identify every RPI. Prelim. Resp. 10–11, 56–60. Patent Owner argues that the Petition “should also have identified its parent corporation, Huhtamäki Oyj . . . as well as the related corporation Huhtamaki, Inc. . . . as RPIs to comply with the statutory requirements for a PGR.” *Id.* at 10. On this record, we determine that we need not address whether Huhtamäki Oyj and Huhtamaki, Inc. are unnamed RPIs because, even if they were, it would not create a time bar or estoppel under 35 U.S.C. § 325. *See SharkNinja Operating LLC v. iRobot Corp.*, IPR2020-00734, Paper 11 (PTAB Oct. 6, 2020) (precedential); *Lumentum Holdings, Inc. v. Capella Photonics, Inc.*, IPR2015-00739, Paper 38 at 6 (PTAB Mar. 4, 2016) (precedential) (Board’s jurisdiction to consider a petition does not require a “correct” identification of all RPIs in a petition); *see also Blue Coat Sys., Inc. v. Finjan, Inc.*, IPR2016-01444, Paper 11 at 10 (PTAB July 18, 2017) (“evidence [of failure to identify all RPIs] is, at best, suggestive regarding an issue that is not jurisdictional”); *Mayne Pharma Int’l Pty. Ltd. v. Merck Sharp & Dohme Corp.*, 927 F.3d 1232, 1240 (Fed. Cir. 2019) (“[I]f a petition fails to identify all real parties in interest . . . the Director can, and does, allow the petitioner to add a real party in interest.” (quoting *Wi-Fi One, LLC v. Broadcom Corp.*, 878 F.3d 1364, 1374 n.9 (Fed. Cir. 2018) (en banc))). Here, notwithstanding the arguments devoted to the RPI issue in the Preliminary Response,

Preliminary Reply, and Preliminary Sur-Reply, we are not persuaded that Petitioner is barred or estopped from this proceeding, or that Petitioner purposefully omitted Huhtamäki Oyj or Huhtamaki, Inc. to gain some advantage. As Petitioner argues, the “RPI analysis is not necessary at institution, because Patent Owner has not alleged Petitioner would be time barred or otherwise estopped based on unnamed RPIs.” Prelim. Reply 5 (quoting *SharkNinja*, IPR2020-00734, Paper 11 at 18).

As *SharkNinja* states, certain Board decisions go through extensive analysis to determine whether parties should have been named as RPIs, whereas other Board decisions determine that “such a lengthy exercise is unnecessary for the purposes of rendering a decision on institution of trial.” *SharkNinja*, IPR2020-00734, Paper 11 at 19. Here, as in *SharkNinja*, we find the latter approach better serves the interest of cost and efficiency. Thus, at this time and on this record, we will not consider whether Huhtamäki Oyj or Huhtamaki, Inc. must be named as RPIs.

C. Legal Standards

1. Indefiniteness

“The specification [of a patent] shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.” 35 U.S.C. § 112(b). A patent “is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014); see USPTO Memorandum on the Approach to Indefiniteness Under 35 U.S.C. § 112 in AIA Post-Grant Proceedings (Jan. 6, 2021), *available at*

https://www.uspto.gov/sites/default/files/documents/IQ_No_816318--Indefiniteness_Memo--Signed--01-06-21.pdf.

2. *Obviousness*

A patent claim is unpatentable for obviousness if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). In *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness that requires consideration of four factors: (1) the “scope and content of the prior art,” (2) the “differences between the prior art and the claims at issue,” (3) the “level of ordinary skill in the pertinent art,” and (4) “secondary considerations” of nonobviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.”⁴ *Id.* at 17–18; *see also KSR*, 550 U.S. at 407.

D. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art at the time of the invention “would have had a relevant technical degree in Chemical Engineering, Polymer Science, Materials Science, or the like, and 2–3 years of experience in laminate or film manufacture or similar packaging manufacture and that less experience may be necessary with additional education and vice versa.” Pet. 17 (citing Ex. 1003 ¶¶ 66–72). In its

⁴ Neither Patent Owner nor Petitioner appear to present any evidence directed to secondary considerations. *See generally* Pet.; Prelim. Resp.; Prelim. Reply; Prelim. Sur-Reply.

Preliminary Response, Patent Owner does not contest Petitioner's asserted level of ordinary skill in the art. *See generally* Prelim. Resp.

We adopt Petitioner's definition, which is consistent with the level of skill in the art at the time of the invention as reflected by the prior art and the '624 patent. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown" (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

E. Claim Construction

We apply the claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). 37 C.F.R. § 42.200(b). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner states that it "does not believe any specific constructions are required at this time." Pet. 22. Patent Owner does not appear to disagree with Petitioner's position. *See generally* Prelim. Resp. We agree that no express construction of any claim term is necessary for purposes of this Decision.

F. Ground 1: Asserted Indefiniteness of Claims 1–13

1. Aggressive Chemical-Resistant Film

Petitioner asserts that the term “aggressive chemical-resistant film” is indefinite because the ’624 patent does not provide consistent definitions of the term, but, rather, specifies “different standards for determining whether a film is an aggressive chemical-resistant film.” Pet. 25. Petitioner states that “precedents indicate that ‘a claim may be invalid as indefinite’” for three reasons, “when (1) different known methods exist for calculating a claimed parameter, (2) nothing in the record suggests using one method in particular, and (3) application of the different methods result in materially different outcomes for the claim’s scope.” *Id.* at 24 (citing *Saso Golf, Inc. v. Nike, Inc.*, 843 Fed. App’x. 291, 296 (Fed. Cir. 2021) (citing *Ball Metal Beverage Container Corp. v. Crown Packaging Tech., Inc.*, 838 Fed. App’x. 538, 542 (Fed. Cir. 2020))).

With respect to reason (1), Petitioner points to three instances in the specification where this term is discussed:

[Definition 1] In the context of the present disclosure aggressive chemical resistant film means that no more than 1% of the original amount of API [active pharmaceutical ingredient] to be packaged (or sometimes no more than 10%) is migrated into the packaging material after 24 weeks.

[Ex. 1001], 5:8-13.

[Definition 2] The term “aggressive chemical resistant film” means a film which when in contact with an aggressive substance does not allow more than 10%, such as 5% w/w or 1.5% w/w based on the nominal content of the aggressive chemical to migrate to the packaging material.

Id., 7:21-25.

[Definition 3] [T]he term “aggressive chemical resistant film” means a film which when in contact with an aggressive substance does not allow more than 1.5% w/w of nominal content to migrate to the packaging material or that 90-110% w/w of the aggressive chemical substance remains in the product when compared to Barex® as index 100.

Id., 12:16-22; EX1003, ¶¶[101]-[105].

Pet. 25. Petitioner argues that each definition recites a different amount of permissible migration of the aggressive chemical into the packaging; and the definitions themselves are internally inconsistent. *Id.* at 25–26.

With respect to reason (2), Petitioner argues that “nothing in the record suggests which method should be used.” *Id.* at 26.

With respect to reason (3), Petitioner argues that “application of the different methods results in materially different outcomes for the claim’s scope” and the ’624 patent “fails to provide specific parameters for carrying out the test methodologies suggested by the definitions,” providing examples of Petitioner’s calculations that result in different outcomes. *Id.* at 26–28.

Patent Owner argues that the term “aggressive chemical-resistant film” (discussing Petitioner’s Definition 1) “describes films that, after 24 weeks, allow a degree of absorption that is less than 10%, though often being less than 1%.” Prelim. Resp. 21 (citing Ex. 1001, 5:1–5, 5:8–13). Regarding Petitioner’s Definition 2, Patent Owner argues it is “consistent with the prior definition, similarly allowing for less than 10% absorption.” *Id.* at 22. Regarding Petitioner’s Definition 3, Patent Owner argues it “is consistent with the prior definitions, similarly allowing for less than 10% absorption,” and “describes films that maintain an amount of a respective API that is 90% to 110% of a corresponding amount of the API that remains

when a Barex® film is used to package the nicotine, fentanyl, rivastigmine, or lidocaine product.” *Id.* at 22–23.

On this record, Petitioner has not shown that the ’624 patent is internally inconsistent among its definitions of the term “aggressive chemical-resistant film” in terms of percentages: in Definitions 1 and 2, the absorption rate is no more than 10%. Definitions 1 and 2 also provide that the absorption rate can be “no more than 1%,” 1.5%, or 5%, which is consistent with the definition that the absorption rate is no more than 10%. Definition 3 provides that either no more than 1.5% w/w of the aggressive chemical migrates, which is consistent with Definitions 1 and 2, or that the film performs comparably with a Barex film. Ex. 1001, 12:16–22. Petitioner has not shown that this latter “Barex” definition would take the absorption above the 10% upper limit specified in Definitions 1 and 2. Moreover, the location of Definition 3 within the “Detailed Description” section of the ’624 patent indicates that it is directed to a more specific example than the more general Definitions 1 and 2, which are located in the “Summary of the Invention” section of the ’624 patent. We also disagree that the various testing methods of the ’624 patent give rise to indefiniteness (Pet. 26–28); Petitioner does not demonstrate that the various testing methods “result in materially different outcomes for the claim’s scope” or result in absorption rates outside of the definitions. We do, however, invite the parties to further address whether there are any other reasons that the “Barex” standard discussed in Definition 3 would render the term “aggressive chemical-resistant film” indefinite, to the extent permitted under our rules. Accordingly, on this record, the term “aggressive chemical-resistant film” is sufficiently definite.

2. *Loading*

Petitioner asserts that the “loading” terms are indefinite because “they fail to inform a [person of ordinary skill in the art] how to determine if the loading range limitations are met.” Pet. 29. According to Petitioner, “loading” is “not a term that has an ordinary and customary meaning in the art, and the specification does not inform a skilled artisan how to determine ‘loading.’” *Id.*

Patent Owner argues that the ’624 patent “provides that ‘loading means the amount of polymer left[] in the layer when the film has dried”” (Prelim. Resp. 29 (citing Ex. 1001, 6:38–39)) and “in one embodiment[,] the tie layer or plurality of layers constituting the tie layer has a loading in the range of 7 to 20 g/m²” (*id.* (citing Ex. 1001, 6:33–35)). Accordingly, argues Patent Owner, “the ’624 Patent provides that the loading of a layer is determined based on an areal density of a polymer in the layer, where the weight of the polymer is measured in grams and the unit area is a square meter,” in other words, “the loading of a layer refers to a weight of a polymer in the layer that is measured in a square meter section of the layer.” *Id.* Patent Owner notes that Petitioner states that by “knowing the thickness of the layer and the density of the polymer used, g/m² can be calculated” such that “‘loading’ as that term is used in the ’624 Patent can be determined by (1) multiplying thickness in cm by density in g/cm³ and (2) converting g/cm² to g/m².” *Id.* at 29–30 (citing Pet. 41).

On this record, Petitioner has not shown that the “loading” term is indefinite. The “loading” discussed in the ’624 patent is expressed in definite terms (grams per meter squared of polymer in film). Whether or not the term has customary meaning in the art, the loading of a layer could be

determined by calculating the grams per meter squared of polymer, once the thickness of the layer and density of the polymer is known. Prelim.

Resp. 29. Petitioner uses this approach in its calculations supporting its arguments in its obviousness analysis. *See* Pet. 41; Ex. 1003 ¶¶ 151–158.

3. *Melting Point*

Petitioner asserts that, to the extent Patent Owner “argues that Tatarka’s ‘melting point’ means something different than the ‘melting point’ recited in the claims, claims 2 and 3 are indefinite” because one of ordinary skill in the art “would not have understood which of the many other temperature properties of polymers is equivalent to ‘melting point.’”

Pet. 30.

Patent Owner argues that Petitioner “acknowledges that this term is not indefinite but instead speculates that the term would be indefinite if Patent Owner asserts that this term means something different than ‘melting point.’” Prelim. Resp. 30. Patent Owner alleges that this is a failure on Petitioner’s part to allege that this term is indefinite and, therefore, not an asserted ground of invalidity. *Id.*

We agree with Patent Owner. On this record, we do not discern a cognizable assertion of indefiniteness by Petitioner as to the term “melting point” and, accordingly, we need not make a determination as to whether this term is indefinite.

G. *Ground 2: Asserted Obviousness of Claims 1–13 based on Riis*

1. *Riis (Ex. 1004)*

Riis is a PCT Application Publication titled “Anti-Scalping Pharmaceutical Packaging Film.” Ex. 1004, code (54). Riis relates to “packaging suitable for packaging an article for collecting or administering a

physiologically active substance,” such as transdermal fentanyl or nicotine delivery patches. *Id.* ¶¶ 2, 3. Riis explains that “migration of the drug or patch components from the patch to the package structure is referred to as ‘scalping.’” *Id.* ¶ 4. Riis discloses that its “films resist migration of chemicals, such as pharmacological active agents or excipients, between the product and the film. Thus, the films are anti-scalping films.” *Id.* ¶ 5. One embodiment of the Riis anti-scalping film is depicted in Figure 1, reproduced below.

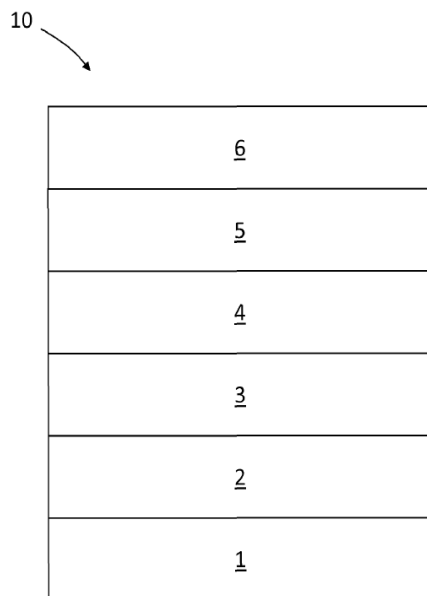


FIG. 1

Figure 1 is a schematic cross-sectional view of multilayer film 10. *Id.* ¶¶ 14, 135. Figure 1 depicts product contacting layer 1, which comprises an ethylene norbornene copolymer, which is a cyclic olefin copolymer (COC). *Id.* ¶¶ 7, 135. Adjacent and in contact with product contacting layer 1 is polyolefin bulk layer 2. *Id.* ¶ 135. Adjacent and in contact with polyolefin bulk layer 2 is first intermediate adhesive layer 3. *Id.* Adjacent and in contact with the first intermediate adhesive layer 3 is oxygen barrier layer 4.

Id. Adjacent and in contact with oxygen barrier layer 4 is second intermediate adhesive layer 5. *Id.* Adjacent and in contact with second intermediate adhesive layer 5 is an exterior protective layer 6. *Id.*

Example 5 describes an inventive film. *Id.* ¶ 174. Riis discloses that the exemplified eight-layer film includes a “a three-layer coextrusion of EAA, LDPE [low-density polyethylene] and Ethylene-norbornene copolymer (COC) which was extrusion coated onto the aluminum foil surface.” *Id.* Riis further discloses a laminate comprising the film (the three-layer coextrusion and the aluminum foil base layer), wherein the aluminum foil base layer is adhered to exterior layers—OPET (biaxially oriented polyester terephthalate), primer, LDPE, and EAA—to provide the eight-layer sealant film. *Id.*

2. *Petitioner’s Arguments*

Petitioner presents arguments identifying where it believes every element of the disputed claims is found in Riis, including reasons to combine those elements of the prior art with a reasonable expectation of success (Pet. 30–53). Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 43–56. We begin with an analysis of claim 1.

(a) *“A method for providing an aggressive chemical-resistant film, wherein the film is resistant to a chemical selected from nicotine, fentanyl, rivastigmine, or lidocaine, said method comprising:”*⁵

Petitioner asserts that Riis discloses a method for making films used in the packaging of products containing a pharmaceutical active agent such as nicotine, fentanyl, and lidocaine. Pet. 31 (citing Ex. 1004 ¶¶ 2–6, 11, 81–89; Ex. 1003 ¶¶ 121–123).

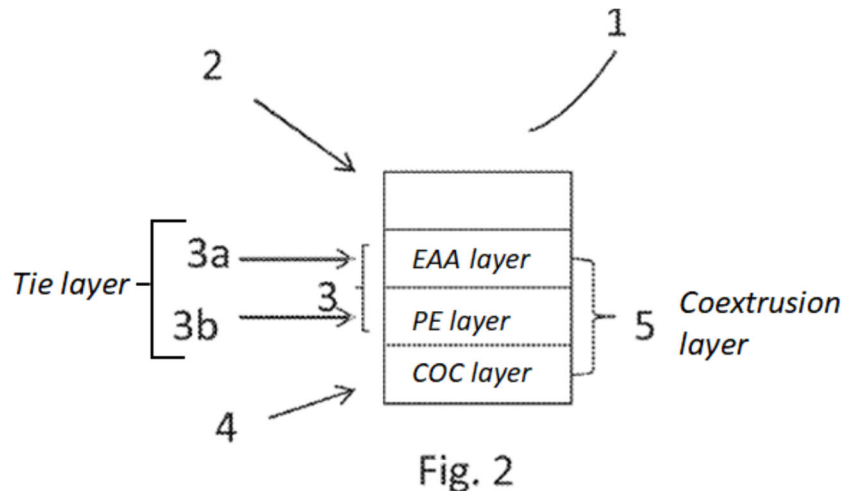
⁵ We express no opinion on whether the preamble is limiting.

- (b) “providing a base layer, wherein the base layer comprises aluminum and is resistant to one or more of water or oxygen;”

Petitioner asserts that Riis discloses that suitable moisture barrier layers and oxygen barrier layers of a film may include “aluminum foil,” such as in Example 5, which has a “three-layer coextrusion of EAA, LDPE, and Ethylene-norbornene copolymer (COC) which was extrusion coated onto the aluminum foil surface of the multilayer base film.” Pet. 31–32 (citing Ex. 1004 ¶¶ 62–63, 174; Ex. 1003 ¶¶ 124–125).

- (c) “coextruding a tie layer and a contact layer to provide a coextrusion layer,”

Petitioner asserts that Riis discloses use of “one or more adhesive layers, also known in the art as ‘tie layers,’” as well as a “product contact layer” in Example 5. Pet. 32–34 (citing Ex. 1004 ¶¶ 18, 27, 52–53, 69, 71, 74, 174; Ex. 1003 ¶¶ 126–131). Petitioner’s annotated Figure 2 of the ’624 patent is reproduced below.



Id. at 33. Figure 2 is a cross section of an embodiment of a chemical resistant film. Ex. 1001, 11:39–40. According to Petitioner, “Riis’s Example 5 is identically configured” to the ’624 patent’s Figure 2, with

Riis's EAA and LDPE layers being a "tie layer" and Riis's "product contact layer" including ethylene norbornene copolymer" being a "contact layer," each of which "are coextruded onto the aluminum foil base layer." Pet. 33–34.

(d) *"wherein the contact layer consists of a cycloolefin copolymer (COC);"*

Petitioner asserts that Riis discloses a "product contact layer" of a cyclic olefin copolymer, namely, ethylene norbornene copolymer, as the only polymer component of Riis's contact layer. Pet. 34 (citing Ex. 1004 ¶¶ 52–53, 55; Ex. 1003 ¶¶ 132–135).

(e) *"coating the coextrusion layer consisting of the tie layer and the COC of the contact layer directly to the base layer comprising the aluminum; and"*

Petitioner asserts that Riis teaches "a three-layer coextrusion of EAA, LDPE, and Ethylene-norbornene copolymer (COC) which was extrusion coated onto the aluminum foil surface of the multilayer based film." Pet. 34 (citing Ex. 1004 ¶ 174; Ex. 1003 ¶ 136).

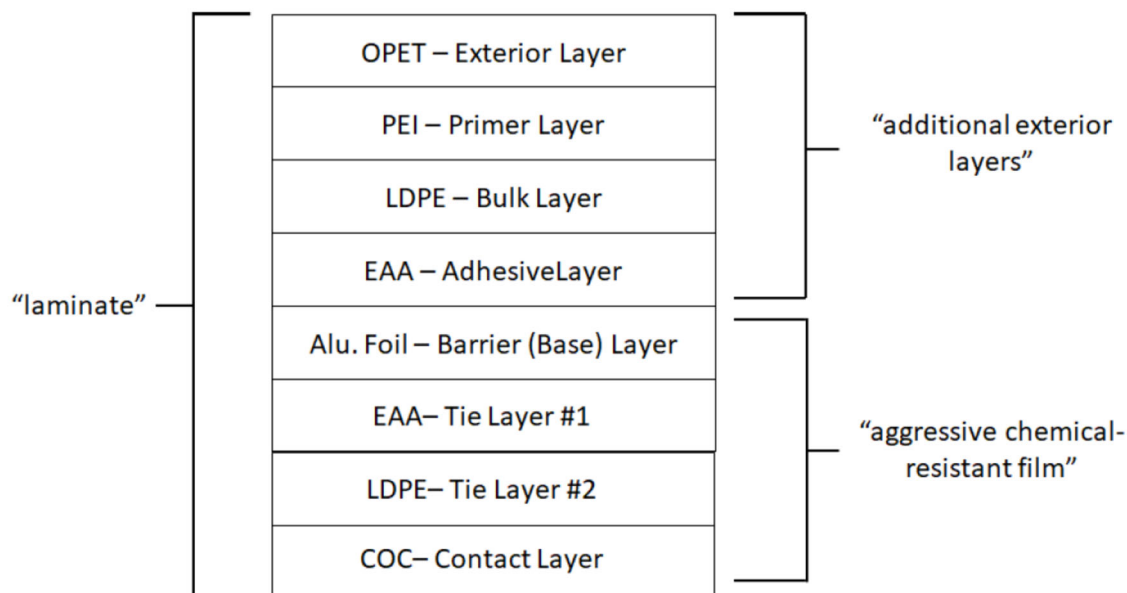
(f) *"allowing the coextrusion layer coated to the base layer to adhere to form the aggressive chemical-resistant film,"*

Petitioner argues that "Riis teaches that the sealant film of Example 5 was created by coextrusion of EAA, LDPE, and COC," and one of ordinary skill in the art "would have found it obvious to cool the coextrusion of Riis's Example 5 to cause it to adhere to form an aggressive chemical-resistant film." Pet. 35–36 (citing Ex. 1004 ¶ 158; Ex. 1003 ¶¶ 138–140).

(g) *"wherein the aggressive chemical-resistant film consists of: the base layer comprising the aluminum, and the*

coextrusion layer consisting of the tie layer, and the contact layer consisting of COC,”

Petitioner argues that Riis’s Example 5 comprises a “sealant film” consisting of a product contact layer and a multi-layer tie layer coextruded to a base layer. Pet. 36–40 (citing Ex. 1004 ¶¶ 18, 66–78, 160–174; Ex. 1003 ¶¶ 141–148). Petitioner’s interpretation of Riis’s eight-layer Example 5 laminate is reproduced below.



Pet. 38. Petitioner’s annotated schematic of the Example 5 “laminate” features, in order from top to bottom, OPET, PEI (polyethyleneimine), LDPE, and EAA as the “additional exterior layers,” followed by aluminum foil, EAA, LDPE, and COC as the “aggressive chemical-resistant film.” *Id.* Petitioner argues that one of ordinary skill in the art “would have understood that the aluminum foil serves as a water and oxygen resistant ‘base layer,’” and “also would have understood that PEI, LDPE, and EAA serve as intermediate or adhesive layers arranged on the side of the aluminum base layer opposite the tie layer and COC layer.” *Id.* Petitioner also argues that

“even if the exterior and intermediate/adhesive layers are considered part of the ‘base layer,’ Riis’s Example 5 still meets the limitation” because the claim language “requires only ‘the base layer *comprising the* aluminum,” and “the composition of the base layer is therefore open-ended.” *Id.* at 39.

(h) “*wherein the tie layer comprises one or more layers, and*”

Petitioner asserts that Riis’s tie layer further comprising EAA and LDPE meets this limitation. Pet. 39 (citing Ex. 1004 ¶ 174; Ex. 1003 ¶ 149).

(i) “*wherein the tie layer, or the one or more layers of the tie layer, has a loading in the range of 7 to 20 g/m².*”

Petitioner asserts that Riis’s teachings regarding Example 5 and preferred commercially available polymers would have rendered this limitation obvious. Pet. 39–43 (citing Ex. 1004 ¶¶ 93, 95, 174; Ex. 1003 ¶¶ 151–158, 160–165, 186). Petitioner presents calculations provided by its declarant to support Petitioner’s argument that Riis’s metrics would have led one of ordinary skill in the art to determine “loading” within the claimed range. *Id.* at 41–42 (citing Ex. 1003 ¶¶ 151–157).

(j) *Motivation to Combine and Reasonable Expectation of Success*

Petitioner argues that “a skilled artisan would have been motivated to follow Riis’s disclosure to recreate the film of Example 5 and would have had a reasonable expectation of doing so to arrive at the claimed invention.” Pet. 43. Regarding the aluminum base layer, Petitioner argues that all of Riis’s examples use aluminum foil as the base layer, and one of ordinary skill in the art “would have been motivated to use aluminum foil as the base layer because (1) Riis taught success in doing so, (2) aluminum foil provides suitable oxygen and moisture barrier properties with a single material, and (3) aluminum foil provides costs savings over other barrier materials.” *Id.*

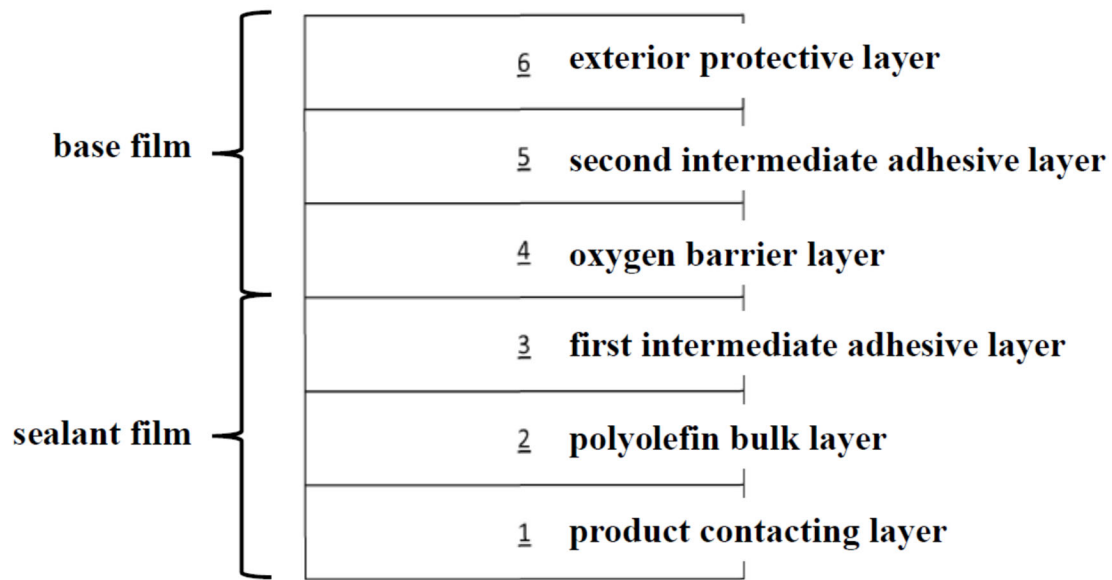
at 43–44 (citing Ex. 1004 ¶¶ 159–174; Ex. 1003 ¶ 161). Regarding the tie layer, Petitioner argues that all of Riis’s examples “coextrude an LDPE layer and EAA layer onto an aluminum base layer,” which “is consistent with known tie layers in the art used to join layers to metal foil barrier layers.” *Id.* at 44 (citing Ex. 1004 ¶¶ 159–174; Ex. 1003 ¶ 162). Regarding the COC contact layer, Petitioner argues that one of ordinary skill in the art would have been motivated to use “Topas COCs as a suitable product contact layer to be implemented in multi-layer films.” *Id.* at 44–45 (citing Ex. 1004 ¶¶ 7, 52, 54, 97, 158; Ex. 1003 ¶ 163).

(k) Claims 2–13

Petitioner also alleges that claims 2–13 would have been obvious in view of Riis (Pet. 46–53). Petitioner’s allegations with respect to independent claim 13 are substantively similar to those of independent claim 1. *Compare* Pet. 51–53 *with id.* at 31–45.

3. Patent Owner’s Arguments

Patent Owner argues that “Riis fails to teach or suggest the features recited in claims 1 through 13 of the ’624 Patent.” Prelim. Resp. 43. Patent Owner asserts that Riis depicts a six-layer film with a series of layers. *Id.* at 44. Patent Owner’s annotated Figure 1 of Riis is reproduced below.



Id. at 45. Figure 1 of Riis, as annotated by Patent Owner, depicts (from bottom to top) “a product contacting layer 1, a polyolefin bulk layer 2, a first intermediate adhesive layer 3, an oxygen barrier layer 4, a second intermediate adhesive layer 5, and an exterior protective layer 6.” *Id.* at 44. Patent Owner labels layers 1–3 the “sealant film” and layers 4–6 the “base film.” Patent Owner argues that, in Example 5 of Riis, “the base film and sealant film result in an eight-layer film having the following structure .92 mil OPET/ primer/ .42 mil LDPE/ .1 mil EAA/ .35 mil foil/ .17 mil EAA/ .65 mil LDPE/ .43 mil COC.” *Id.* at 45 (citing Ex. 1004 ¶ 174). Patent Owner’s interpretation of Riis’s eight-layer Example 5 film is reproduced below.

base film	.92 mil OPET – Exterior Protective Layer
	(Not Given) mil PEI – Primer Layer
	.42 mil LDPE – Bulk Layer
	.1 mil EAA – 2nd Intermediate Adhesive Layer
	.35 mil Foil – Barrier Layer
sealant film	.17 mil EAA – First Intermediate Adhesive Layer
	.65 mil LDPE – Bulk Layer
	.43 mil COC – Contact Layer

Response, Figure 1

Id. at 46. Patent Owner’s interpretation of the Example 5 film depicts, in order from top to bottom, OPET, PEI, LDPE, EAA, and foil as the “base film,” followed by EAA, LDPE, and COC as the “sealant film.” *Id.*

First, Patent Owner argues that Riis fails to teach or suggest that “an aggressive chemical-resistant film consists of: the base layer comprising the aluminum, and the coextrusion layer consisting of the tie layer, and the contact layer consisting of COC” as recited in claim 1. *Id.* at 47. More particularly, Patent Owner argues that the sealant film of Riis lacks “the base layer” comprising aluminum, and includes a bulk layer omitted from the “aggressive chemical-resistant film.” *Id.* Patent Owner also argues that the base film of Riis lacks “the contact layer” in the “aggressive chemical-resistant film,” and includes a primer layer and a bulk layer omitted from the “aggressive chemical-resistant film.” *Id.* at 47–48. In sum: “Since the foil layer is a component of a different film than the EAA, LDPE, and COC layers, the foil, EAA, LDPE, and COC layers cannot make up the

‘aggressive chemical resistant film’ of independent claim 1.” *Id.* at 49. Regarding Petitioner’s “alternative” argument that even if the exterior and intermediate/adhesive layers are considered part of the base layer, Riis’s Example 5 still meets the disputed limitation, Patent Owner criticizes this argument as “inconsistent with the disclosure of Riis which explicitly states that the OPET, PEI, LDPE, EAA, and foil layers are included in a base film and that the EAA, LDPE, and COC layers are included in a sealant film.” *Id.* at 50.

Second, Patent Owner argues that Riis fails to teach “loading in the range of 7 to 20 g/m².” *Id.* at 51. According to Patent Owner’s assessment of Petitioner’s calculations, Riis discloses a tie layer with a loading of 3.97–4.15 g/m². *Id.* at 51–52.

Third, Patent Owner argues that Riis does not disclose the limitations of claim 13. *Id.* at 52–55. For the “aggressive chemical resistant film” limitation of claim 13, Patent Owner refers to its arguments for claim 1, and “submits that it is improper for Huhtamaki to assert conflicting interpretations of Riis in this Petition, and requests that Huhtamaki’s § 103 allegations be limited to one of the conflicting interpretations.” *Id.* at 54. For the “loading” limitation, Patent Owner again argues that Petitioner’s calculations result in a “a tie layer having a loading of 3.97–4.15 g/m²,” which does not meet the limitation. *Id.* at 55.

4. Analysis

Regarding Patent Owner’s argument about the “aggressive chemical-resistant film,” Patent Owner characterizes the “sealant film” of Riis as lacking the “oxygen barrier layer” comprising aluminum, and characterizes the “base film” of Riis as including the “oxygen barrier layer” comprising

aluminum. Prelim. Resp. 45–46 (discussing Patent Owner’s annotated Figure 1 of Riis), 46–47 (discussing Patent Owner’s depiction of Example 5 of Riis). In sum, discussing the Example 5 depiction of Riis, Patent Owner argues that because “the foil layer is a component of a different film than the EAA, LDPE, and COC layers, the foil, EAA, LDPE, and COC layers cannot make up the ‘aggressive chemical resistant film.’” *Id.* at 49.

Petitioner takes the position that the “sealant film” of Riis consists of “a product contact layer and a multi-layer tie layer coextruded to a base layer,” and together the “‘sealant film’ along with the aluminum foil base layer forms an ‘aggressive chemical-resistant film.’” Pet. 37, 39. On this record, we are persuaded that Petitioner supports its argument with sufficient evidence. Patent Owner argues that the oxygen barrier layer, or aluminum foil layer, is part of a different section of the Example 5 film in Riis, but lacks support for this position. Prelim. Resp. 45–49. Petitioner sufficiently establishes, on this record, that “Riis’s Example 5 comprises a ‘sealant film’ consisting of a product contact layer and a multi-layer tie layer coextruded to a base layer.” Pet. 37 (citing Ex. 1004 ¶ 174; Ex. 1003 ¶ 144). We credit the testimony that “the ‘sealant film’ consists of ‘a three-layer coextrusion of EAA, LDPE and Ethylene-norbornene copolymer (COC) which was extrusion coated onto the aluminum foil surface’ of a ‘multilayer base layer.’” Ex. 1003 ¶ 144 (quoting Ex. 1004 ¶ 174). Petitioner also persuasively argues, and its declarant supports, that the oxygen barrier layer, or aluminum foil base layer, together with the three-layer sealant film, would form an “aggressive chemical-resistant film.” Pet. 39 (citing Ex. 1003 ¶ 146).

Regarding Patent Owner’s argument about Petitioner’s “alternative” position that “all of the layers of the eight-layer film compose the ‘aggressive chemical-resistant film,’” we do not perceive that to be a “conflicting interpretation” of Riis. Prelim. Resp. 51. As noted by Petitioner, the “plain language of the claims requires only ‘the base layer *comprising the* aluminum,’” and “the composition of the base layer is therefore open-ended.” Pet. 39. On this record, the “comprising” claim language appears broad enough to allow Petitioner’s alternative argument, in which the base layer is more than just an aluminum layer, and remain consistent with Petitioner’s other argument and also the “comprising” and “consists of” language of the challenged claims. We do not fault Petitioner for making alternative arguments, which are not in and of themselves improper, and will decide the merits of the entirety of Petitioner’s arguments on the full record. At this stage, we discern no irreconcilable barrier to institution in Petitioner’s position, alternative or otherwise, regarding this limitation.

Regarding Patent Owner’s “loading” argument, Patent Owner looks only at the EAA layer of Riis to argue that “EAA has a density within the range of .92–.96 g/cm³” and, thus, by Petitioner’s calculations, “Riis discloses a tie layer with a loading of 3.97–4.15 g/m²,” which Patent Owner asserts is not within the claimed range. Prelim. Resp. 51–52. Patent Owner’s argument, however, does not address Petitioner’s argument that the tie layer of Riis is made up of both the EAA layer and the LDPE layer. Pet. 40–43 (relying on Ex. 1003 ¶¶ 149–165). Petitioner’s calculations of the loading limitation based on both the EAA and LDPE layers as the tie layer result in a loading within the claimed range. *Id.* at 42 (“loading” is

“represented by the sum of the ‘loading’ of the two layers of EAA and LDPE”). Based on the information presented in the Petition, which is supported by the explanation and calculations of Petitioner’s declarant, we are persuaded that Petitioner has demonstrated that it is more likely than not to make its case as to this limitation.

Patent Owner’s claim 13 arguments encompass the same arguments made by Patent Owner in connection with claim 1, and we refer to our earlier analysis of these arguments in connection with claim 1.

We have reviewed the information Petitioner provides, including the relevant portions of the Spontak Declaration and Petitioner’s arguments and evidence, and determine that that Petitioner has established that it is more likely than not to prevail on its Ground 2 challenge.

H. Ground 3: Asserted Obviousness of Claims 1–13 based on Riis, Wypych, and Tatarka

1. Wypych (Ex. 1005)

Wypych is titled “Handbook of Polymers” and includes information of interest to the plastics industry and other industries, and information on polymeric materials such as the properties of COC, EAA, and LDPE. Ex. 1005, 4–12, 20–25.

2. Tatarka (Ex. 1008)

Tatarka is titled “Melt Blends of Amorphous Cycloolefin Polymers and Partially Crystalline Cycloolefin Elastomers with Improved Toughness,” and is directed to “a melt-blend resin composition prepared by melt-blending.” Ex. 1008, codes (54), (57). A preferred embodiment “is directed to melt blends of norbornene/ethylene resins which provides an improved property profile; especially improved toughness.” *Id.* at 1:20–23.

3. Discussion

Petitioner presents arguments identifying where it believes every element of the claim 1 is found in the combination of Riis, Wypych, and Tatarka, including reasons to combine those elements of the prior art with a reasonable expectation of success. Pet. 53–64. Petitioner relies in large part on its arguments for Ground 2, obviousness based on Riis alone, but adds reasoning for certain limitations based on Wypych. *Id.* at 59–62.

Petitioner also alleges that the subject matter of claims 2–13 is rendered obvious by Riis, Wypych, and Tatarka. Pet. 64–71. Petitioner’s allegations for independent claim 13 are based on its arguments for independent claim 1. *Compare* Pet. 53–64 *with id.* at 71.

Patent Owner disputes Petitioner’s contentions. *See* Prelim. Resp. 56. Patent Owner argues that because “the addition of Wypych and Tatarka does not alter the § 103 analysis” based on Riis alone, “it follows that Riis, Wypych, Tatarka, or any combination thereof, similarly fails to render obvious claims 1 through 13 of the ’624 Patent.” *Id.*

We have reviewed the information Petitioner provides, including the relevant portions of the Spontak Declaration and Petitioner’s arguments and evidence, and determine that that Petitioner has established that it is more likely than not to prevail on its Ground 3 challenge.

III. CONCLUSION

Based on the evidence before us, we determine Petitioner demonstrates that it is more likely than not that it will prevail in its assertions that the challenged claims of the ’624 patent are unpatentable over the asserted prior art. Accordingly, post-grant review shall proceed in this case on all grounds raised in the Petition. *See SAS Inst., v. Iancu*, 138 S. Ct.

1348, 1359–60 (2018) (holding that a decision to institute may not institute on fewer than all claims challenged in the petition); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”); 37 C.F.R. § 42.208(a) (“When instituting post-grant review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

Our determination in this Decision is not a final determination on either the patentability of any challenged claims or the construction of any claim term and, thus, leaves undecided any remaining fact issues necessary to determine whether sufficient evidence supports Petitioner’s contentions in the final written decision.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that, pursuant to 35 U.S.C. § 324(a), post-grant review of claims 1–13 of U.S. Patent No. 11,260,624 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324(c) and 37 C.F.R. § 42.4(b), post-grant review of U.S. Patent No. 11,260,624 B2 shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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