No. 23-

IN THE

Supreme Court of the United States

JODI A. SCHWENDIMANN,

Petitioner,

v.

NEENAH, INC.,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

Is it permissible for the Federal Circuit to issue a Rule 36 Judgment, affirming certain claims as anticipated, where the Federal Circuit has been presented with inconsistent claim constructions from (1) the United States Patent and Trademark Office's Patent Trial and Appeal Board ("PTAB") and (2) a District Court, and the Federal Circuit's Rule 36 affirmance does not state which claim constructions were held correct, thereby making it impossible for Patent Owner and the public to know how the claims were construed, and making it impossible for Patent Owner to seek review of the claim constructions?

Assuming, *arguendo* (and with no way of knowing), that the Panel found that the District Court's constructions of the claim terms were correct (and either rejected the PTAB's claim constructions or somehow reconciled the two sets of claim constructions), was it erroneous for the Panel to invalidate claims as anticipated where there was no express or inherent disclosure that the prior art reference contained each of the claim limitations in the invalidated patent claims?

RELATED PROCEEDINGS

The following proceedings are directly related to this case within the meaning of Rule 14.1(b)(iii):

- *Schwendimann v. Neenah, Inc.*, Case No. 19-361, U.S. District Court for the District of Delaware. No judgment entered; stayed pending IPRs.

- *Schwendimann v. Neenah, Inc.*, Case No. 22-1951, U.S. Court of Appeals for the Federal Circuit. Judgment entered October 11, 2023.

- *Schwendimann v. Neenah, Inc.*, Case No. 22-1952, U.S. Court of Appeals for the Federal Circuit. Judgment entered October 11, 2023.

- *Schwendimann v. Neenah, Inc.*, Case No. 22-1953, U.S. Court of Appeals for the Federal Circuit. Judgment entered October 11, 2023.

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Petitioner Jodi A. Schwendimann ("Schwendimann" or "Patent Owner") respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The Rule 36 Judgment of the court of appeals (App. Nos. 2022-1951, 2022-1952, 2022-1953) is unreported but is available at *Schwendimann v. Neenah, Inc.*, No. 2022-1951, 2023 WL 6613793, at *1 (Fed. Cir. Oct. 11, 2023). App. 1a. The court of appeals' denial of panel rehearing and rehearing en banc is unreported. App. 115a-116a.

The opinions of the Patent Trial and Appeal Board in the *inter partes* review proceedings are unreported but can be located at *Neenah, Inc. v. Schwendimann*, No. IPR2020-01361, 2021 WL 479815 (P.T.A.B. Feb. 8, 2021) (App. 2a-34a); *Neenah, Inc. v. Schwendimann*, No. IPR2020-01363, 2021 WL 467370, at *1 (P.T.A.B. Feb. 8, 2021) (App. 35a-80a); and *Neenah, Inc. v. Schwendimann*, No. IPR2021-00016, 2022 WL 1155097, at *1 (P.T.A.B. Apr. 12, 2022) (App. 81a-114a).

JURISDICTION

The judgment of the court of appeals was entered on October 11, 2023. App. 1a. The court of appeals' denial of panel rehearing and rehearing en banc was dated December 15, 2023, and the mandate of the court of appeals issued on December 22, 2023. App. 115a-116a. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

35 U.S.C. § 102(a) provides: "A person shall be entitled to a patent unless — (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent…."

Federal Circuit Rule 36 provides: "The court may enter a judgment of affirmance without opinion, citing this rule, when it determines that any of the following conditions exist and an opinion would have no precedential value: (1) the judgment, decision, or order of the trial court appealed from is based on findings that are not clearly erroneous; (2) the evidence supporting the jury's verdict is sufficient; (3) the record supports summary judgment, directed verdict, or judgment on the pleadings; (4) the decision of an administrative agency warrants affirmance under the standard of review in the statute authorizing the petition for review; or (5) a judgment or decision has been entered without an error of law." Fed. Cir. R. 36.

STATEMENT OF THE CASE

In an action filed in the U.S. District Court for the District of Delaware, Schwendimann alleged that certain products sold by Respondent Neenah, Inc. ("Neenah") infringed U.S. Patent Nos. 6,723,773, 6,410,200, and 7,008,746. The District Court construed the claims in a *Markman* Order dated February 9, 2021.

In response to Schwendimann's claims of patent infringement, Neenah filed a number of inter partes review proceedings ("IPRs") challenging the asserted

patents as anticipated and/or obvious based upon various combinations in the prior art. In each of the IPRs, the U.S. Patent and Trademark Office's Patent Trial and Appeal Board (the "PTAB") issued Final Written Decisions, in which the PTAB construed the same claim terms that the District Court had construed. The claim constructions adopted by the PTAB were different from the claim constructions the District Court had adopted. Specifically, the District Court construed the terms to have a functional requirement (e.g., a "water repellant" must be a material that "provide(s) water resistance"), whereas the PTAB's constructions did not. Based upon its claim constructions, the PTAB found that each of the challenged claims was anticipated by Kronzer, WO 96/34769, published November 7, 1996 ("Kronzer-769").

It is Patent Owner's position that, if the District Court's claim constructions were applied, the claims could not be anticipated by Kronzer-769 because Kronzer-769 does not expressly or inherently disclose the claim limitations as construed by the District Court. Neenah, however, has taken the alternative positions that (1) the PTAB's claim constructions were correct or, (2) even if the PTAB's claim constructions were not correct, the claims would still be anticipated by Kronzer-769 under the District Court's claim constructions.

On appeal, on October 11, 2023, the Court of Appeals for the Federal Circuit entered a Rule 36 Judgment affirming. Pursuant to that Rule, the affirmance included no written opinion articulating whether (1) the PTAB's constructions, (2) the District Court's constructions, or – somehow – (3) both sets of constructions were correct under *Phillips*. It is unknown which set of claim constructions the Federal

Circuit applied when it conducted its anticipation analysis and found the claims anticipated.

REASONS FOR GRANTING THE PETITION

I. This Court Should Grant the Petition to Clarify that – Where There Are Conflicting Claim Constructions Below – the Federal Circuit Must Issue an Order that States Which Claim Constructions Are Correct, in Order to Avoid Confusion as to the Scope of the Patent Claims.

Both the PTAB and the District Court were bound to apply the same standard in construing the disputed claim terms – i.e., the standard set out in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,341 (Oct. 11, 2018) (codified at 37 C.F.R. § 42.100(b) (2020) (changing the claim construction standard to be the "same claim construction standard that is used to construe the claim in a civil action in federal district court")). Nevertheless, the two bodies adopted different claim constructions. Because the Federal Circuit affirmed pursuant to Rule 36, it is unknown which claim constructions the Federal Circuit deemed correct and applied to its anticipation analysis.

The Federal Circuit's Rule 36 affirmance could have been decided at least three ways. The **first** possibility is that the Panel adopted the PTAB's claim constructions and rejected the District Court's constructions, finding the claims anticipated for the same reason the PTAB did – i.e., because Kronzer disclosed specific materials

(without reaching the issue of whether Kronzer disclosed the function of each material). A **second** possibility is that the Panel adopted the District Court's claim constructions but found, somehow, that the claims were anticipated under those claim constructions. A **third** possibility is that the Panel believed that the two sets of claim constructions could, somehow, be reconciled, though it is unclear how the Panel would have decided whether Kronzer-769 anticipated under some reconciled set of claim constructions.

Most likely, the Federal Circuit's affirmance resulted from the Federal Circuit's adopting one set of claim constructions and rejecting the other set of claim constructions. This is because the two bodies applied the same standard (*Phillips*) and, therefore, should have arrived at the same claim constructions. But they did not. Therefore, the most logical conclusion is that the Federal Circuit rejected one set of the claim constructions. The Federal Circuit's use of a Rule 36 Judgment, however, makes it unclear which claim constructions the Federal Circuit adopted when it engaged in its anticipation analysis.

The Federal Circuit's Rule 36 Judgment creates uncertainty and confusion. Patent Owner – and the public – are left to guess which of these alternative scenarios the Federal Circuit actually intended (i.e., which set of claim constructions it found was correct) when it affirmed. Patent Owner (and the public) do not know how the Federal Circuit construed the claim terms when it analyzed anticipation. Patent Owner is unable to seek review of the decisions below because it is left guessing as to the basis for affirmance: if the affirmance was based upon an

adoption of the PTAB's construction, the issue for review is whether the PTAB (and the Federal Circuit's affirmance) was contrary to *Phillips*, whereas, if the affirmance was based upon an adoption of the District Court's claim construction, the issue for review is whether the Federal Circuit erred in finding the claims anticipated where there was no express or inherent disclosure of the claim limitations in the prior art reference. Because Patent Owner does not know which it is, Patent Owner cannot meaningfully seek review at all. Patent Owner is being stripped of her property rights without any meaningful recourse for review. In addition to this unfairness with respect to the invalidated claims, for the claims of the asserted patents that have not been invalidated, the uncertainty results in the public (and Patent Owner) not knowing the scope of the patent claims.

Another reason compelling circumstances exist here is because the PTAB and the Federal Circuit departed from the accepted and usual course of judicial proceedings, such that exercise of this Court's supervisory power is needed. *See* SUP. CT. R. 10(a). First, the PTAB adopted different claim constructions from the District Court, even though the two bodies were supposed to apply the same *Phillips* standard and, accordingly, should have arrived at the same claim constructions. Second, the Federal Circuit then issued a Rule 36 Judgment making it impossible to know which constructions were correct. These departures from the accepted and usual course of judicial proceedings require exercise of this Court's supervisory power. This is particular true here, where, as a result of its role in both issuing and invalidating patents, the Patent Office is playing "both sides of the street." On the one hand, Patent Office Examiners are issuing patents to inventors,

telling inventors that their patents are valid. Inventors then rely upon the Patent Office's issuance of patents in making important business decisions. On the other hand, the Patent Office's PTAB then invalidates those very same patents at an **alarmingly high, 84% rate**.[1] Moreover, when the PTAB considers whether to invalidate issued patents, it applies a standard of review that includes **zero deference** to the Patent Office's own work. As a result of the decision below, the Patent Office will now invalidate patents issued by the Patent Office under claim constructions that differ from district courts' claim constructions (even though the Patent Office is required to apply the same standard as the district courts), and – if the Federal Circuit is permitted to issue Rule 36 Judgments – the Patent Owner and the public will never know the basis for affirmance. The need to provide fairness to patent holders before the Patent Office provides a compelling reason for review. SUP. CT. R. 10(a).

This case presents the Court with an opportunity to clarify when Rule 36 Judgments without opinions are proper (and when they are not) and to provide clarity to factfinders and litigants on this important issue. Patent Owner respectfully requests the Court exercise it supervisory power to clarify that a Rule 36 Judgment affirming invalidation of a patent is insufficient in circumstances where it is unclear which claim construction was applied to invalidate.

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1. *See* Paul Morinville & Dirk Tomsin, *The PREVAIL Act Won't Work Unless PTAB Incentives Are Balanced*, IPWATCHDOG, Aug. 6, 2023, https://ipwatchdog.com/2023/08/06/the-prevail-act-wont-work-unless-ptab-incentives-are-balanced (noting PTAB "invalidating 84% of the patents it fully adjudicates").

II. This Court Should Grant the Petition Because – to the Extent the Panel Adopted the District Court's Claim Constructions – the Panel Violated Longstanding Federal Circuit Precedent that Claims Cannot Be Anticipated Unless Each Claim Element Is Disclosed Either Expressly or Inherently in a Single Prior Art Reference.

An additional basis for Patent Owner's Petition is that – if the Panel found that the District Court's claim constructions were correct, then the PTAB's invalidation of the claims – and the Panel's affirmance – violated Federal Circuit precedent.[2] It is black-letter Federal Circuit law that, "[f]or a claim to be anticipated, each claim element must be disclosed, either expressly or inherently, in a single prior art reference." *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332–33 (Fed. Cir. 2010). To the extent the affirmance was based upon a finding that the District Court's claim constructions were correct, the Panel's affirmance of the PTAB's anticipation decision violates this rule regarding inherent or express disclosure. In particular, the District Court's claim constructions required that the materials in Kronzer-769 actually

2. To the extent that the Panel instead affirmed the PTAB's claim constructions, the Panel erred in its application of *Phillips*. The Panel should have reviewed the PTAB's claim constructions under *de novo* review. *E.g., Kaken Pharm. Co. v. Iancu*, 952 F.3d 1346, 1350 (Fed. Cir. 2020) (this Court reviews "the PTAB's claim construction de novo …." (internal citation omitted)). Applying *Phillips*, both the claim terms themselves and the specification state that the materials must perform a function. The PTAB's constructions – which did not require that the materials perform any function – failed to apply *Phillips*, and the Federal Circuit Panel erred to the extent that it affirmed the PTAB's constructions.

performed a particular function, but there was no evidence that Kronzer disclosed – expressly or inherently – that the cited materials performed the requisite functions set forth in the District Court's claim constructions.

Take, for example, the disputed claim term "retention aid." It was undisputed below that whether any particular material acts as a "retention aid"—including the materials identified as "retention aids" in the Schwendimann Patents—depends on the composition of which it is a part. As Dr. Christopher Ellison, Schwendimann's expert witness, explained, whether any given material serves the function of a "retention aid"—i.e., aids in the retention of an applied colorant—"depends entirely on the compound of which it is a part and the conditions of that composition." *See* App. 50a-51a. The same is true for each of the required components of the claimed release layer. *See id*; *see also* Manual of Patent Examining Procedures ("MPEP") at § 2164.03 (referring to "the well-known unpredictability of chemical reactions"). Neither Neenah nor the PTAB disagreed with Dr. Ellison's testimony on this point.

Under the PTAB's anticipation analysis, Neenah was not required to show – for example – that Kronzer-769 disclosed that its "latex" actually provides elastomeric properties such as mechanical stability, flexibility, and stretchability. The PTAB's anticipation analysis also did not analyze whether the materials inherently performed any function. For example, Neenah was not required to present evidence that "latex" inherently (or always) provides elastomeric properties such as mechanical stability, flexibility, and stretchability in every composition to which it is added. Therefore, to the extent that the

Panel's affirmance on anticipation was based upon a finding that the District Court's claim constructions were correct, the Panel erred in finding anticipation where there was no express or inherent disclosure that the materials served the requisite functions.

CONCLUSION

For the reasons set forth above, Petitioner respectfully requests this Court grant its petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

Respectfully submitted,

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Dated: March 14, 2024

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APPENDIX A — JUDGMENT OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, FILED OCTOBER 11, 2023

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2022-1951, 2022-1952, 2022-1953

JODI A. SCHWENDIMANN,

Appellant,

v.

NEENAH, INC.,

Appellee.

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2020-01361, IPR2020-01363, IPR2021-00016.

JUDGMENT

THIS CAUSE having been heard and considered, it is

ORDERED AND ADJUDGED:

PER CURIAM (MOORE, *Chief Judge*, STOLL and CUNNINGHAM, *Circuit Judges*).

AFFIRMED. *See* Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

October 11, 2023
Date

/s/ Jarrett B. Perlow
Jarrett B. Perlow
Clerk of Court

APPENDIX B — JUDGMENT AND FINAL WRITTEN DECISION OF THE UNITED STATES PATENT AND TRADEMARK OFFICE, PATENT TRIAL AND APPEAL BOARD, FILED FEBRUARY 2, 2022

UNITED STATES PATENT
AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

NEENAH, INC.,

Petitioner,

v.

JODI A. SCHWENDIMANN,

Patent Owner.

IPR2020-01361
Patent 6,723,773 B2

Before JEFFREY W. ABRAHAM, MICHELLE N. ANKENBRAND, and AVELYN M. ROSS, *Administrative Patent Judges.*

ROSS, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

Appendix B

I. INTRODUCTION

Neenah, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1, 10, 12, and 14 of U.S. Patent No. 6,723,773 B2 (Ex. 1002, "the '773 patent"). Pet. 1. Jodi A. Schwendimann ("Patent Owner") filed a Preliminary Response (Paper 7).[1]

Upon consideration of the Petition, Preliminary Response, and the parties' evidence, we determined that Petitioner had demonstrated a reasonable likelihood that it would prevail with respect to at least one claim of the '773 patent. Paper 8 ("Decision on Institution" or "DI"). Thus, pursuant to the Supreme Court's decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018), and USPTO Guidance,[2] we instituted review of all challenged claims on all asserted grounds. *Id.*

Following institution of trial, Patent Owner filed a Patent Owner Response (Paper 12, "PO Resp."), Petitioner filed a Reply (Paper 18, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 20, "Sur-reply"). In support

1. Petitioner identifies Neenah, Inc. and Avery Products Corporation as real parties in interest. Pet. 1. Patent Owner identifies Jodi A. Schwendimann as the real party in interest. Paper 4, 2 (Patent Owner's Mandatory Notices).

2. In accordance with USPTO Guidance, "if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition." *See* USPTO, Guidance on the Impact of *SAS* on AIA Trial Proceedings (April 26, 2018) (available at https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial) ("USPTO Guidance").

of their respective positions, Petitioner relies on the testimony of Dr. Robert A. Wanat (Ex. 1007, "Wanat Declaration"; Ex. 1085, "Wanat Reply Declaration") and Patent Owner relies on the testimony of Dr. Christopher Ellison (Ex. 2005, "Ellison Declaration"; Ex. 1081, "Ellison Deposition").

A consolidated oral hearing for this proceeding and related proceeding IPR2020-01363 was held on November 9, 2021, and a transcript of the hearing is included in the record (Paper 26, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 10, 12, and 14 of the '773 patent are unpatentable.

A. Related Proceedings

Petitioner identifies the pending lawsuit between the parties, styled *Jodi A. Schwendimann v. Neenah, Inc.*, Case No. 1:19-cv-00361-LPS (D. Del.) (the "Delaware Lawsuit") as a related proceeding in which Patent Owner asserts the '773 patent. Pet. 1; *see* Paper 4, 2. Petitioner also states that it contemporaneously filed a petition for *inter partes* review against U.S. Patent No. 6,410,200 ("the '200 patent"). Pet. 1–2; Paper 4, 2; *see* IPR2020-01363, Paper 1.

Patent Owner further identifies *Schwendimann et al. v. Stahls', Inc.*, Case Number 19-12139-BAF-MKM in the

United States District Court for the Eastern District of Michigan as an additional "[j]udicial matter[] that would affect, or be affected by, a decision in the proceeding." Paper 4, 2.

B. The '773 Patent (Ex. 1002)

The '773 patent, titled "Polymeric Composition and Printer/Copier Transfer Sheet Containing the Composition," issued on April 20, 2004. Ex. 1002, codes (45), (54).[3] The '773 patent describes polymeric compositions that include "a film forming binder, an elastomeric emulsion, a water repellant, and a plasticizer." *Id.* at 8:17–20; *see also id.* at 2:35–37 (identifying an acrylic dispersion as the film-forming binder), 31:65–67 (claim 1), 32:41–48 (claim 10), 32:65–33:6 (claim 14). "The polymeric composition of the present invention is useful as a release layer (i.e., transfer layer) in an imaging material" where the imaging material may be used to transfer images to textiles, such as T-shirts. *Id.* at 2:56–58.

C. Illustrative Claim

Petitioner challenges claims 1, 10, 12, and 14 of the '773 patent. Of the challenged claims, claims 1, 10, and 14 are

3. The '773 patent is a divisional of the '200 patent, which claims priority to U.S. Provisional Application No. 60/127,625. Ex. 1002, codes (62), (60). Petitioner explains that "[t]he specifications for the '773 patent and the '200 patent are substantively identical, and, therefore, for consistency and ease of reference, all citations . . . are made to the specification of the '200 patent." Pet. 5 n.1. In this Decision, we cite to the Specification of the '773 patent.

independent. Claim 1 is illustrative of the subject matter of the '773 patent and is reproduced below.

> 1. A polymeric composition comprising an acrylic dispersion, an elastomeric emulsion, a water repellant and a plasticizer.

Ex. 1002, 31:65–67.

D. Prior Art and Asserted Grounds of Unpatentability

Petitioner contends that claims 1, 10, 12, and 14 are unpatentable based on the following grounds:

Claims Challenged	35 U.S.C. §	Reference/Basis
1, 10, 12, 14	102[4]	Kronzer-769[5]
1, 10, 12, 14	102	Kronzer-179[6]
1, 10, 12, 14	102	Hiyoshi[7]

4. The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 102, effective March 16, 2013. Given that the application from which the '773 patent issued was filed before this date, the pre-AIA version of § 102 applies.

5. Kronzer, WO 96/34769, published November 7, 1996 (Ex. 1009, "Kronzer-769").

6. Kronzer, US 5,798,179, issued August 25, 1998 (Ex. 1010, "Kronzer-179").

7. Hiyoshi et al., US 5,362,548, issued November 8, 1994 (Ex. 1011, "Hiyoshi").

Appendix B

Claims Challenged	35 U.S.C. §	Reference/Basis
1, 10, 12, 14	102	Oez[8]
1, 10, 12, 14	102	Rao[9]
1, 10, 12, 14	102	Girgis[10]
1, 10, 12, 14	102	Schwarcz[11]

Pet. 4. We granted the Petition and instituted an *inter partes* review on the above-identified grounds. DI 4–5, 21.

II. ANALYSIS

A. Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). "In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C.

8. Oez, WO 97/41489, published November 6, 1997 (Ex. 1013, "Oez"). In this decision, our references to Oez are to Exhibit 1015, which is an English-language translation of Oez with line numbering.

9. Rao et al., US 5,460,874, issued October 24, 1995 (Ex. 1031, "Rao").

10. Girgis et al., US 4,762,750, issued August 9, 1988 (Ex. 1030, "Girgis").

11. Schwarcz, US 4,002,794, issued January 11, 1977 (Ex. 1032, "Schwarcz").

§ 312(a)(3) (requiring an *inter partes* review petition to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in an *inter partes* review).

To anticipate, a reference must "show all of the limitations of the claims arranged or combined in the same way as recited in the claims." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Although the elements must be arranged or combined in the same way as the claim, "the reference need not satisfy an *ipsissimis verbis* test," i.e., the identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d at 832. Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art

at the time of invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Petitioner contends that

> [a] person of ordinary skill in the art ("POSITA") for the purposes of the '773 patent would have at least a Bachelor's degree in chemistry, chemical engineering, polymer science, or material science with at least three years of experience in polymer coating technologies, or an Associate's degree in chemistry, chemical engineering, or material science, or a similar field, with approximately five years of experience relating to polymer coating technologies.

Pet. 10. Petitioner further asserts that "[a]dditional education (*e.g.*, masters or Ph.D. in chemistry, chemical engineering, polymer science, or material science) might substitute for experience, while significant experience in the field of polymer coating technologies might substitute for formal education." *Id.*

Patent Owner contends that a person of ordinary skill in the art would have "a bachelor's degree in Chemistry, Chemical Engineering, Imaging Technology or Materials Science and Engineering with at least one year of experience in coating technologies and imaging technologies, or at least five years of work experience in the field of coating technologies and imaging technologies." PO Resp. 11.

Patent Owner acknowledges that its definition differs from Petitioner's definition, but states that the differences are "not determinative of the issues in this proceeding,"

and that "the cited prior art references do not anticipate the Challenged Claims regardless of which description of the level of ordinary skill in the art is applied." PO Resp. 11.

In light of the record before us, we adopt Patent Owner's proposal regarding the level of one of ordinary skill in the art. The parties' proposals are not materially different, and Petitioner does not dispute Patent Owner's contention that any differences are not determinative of the issues in this proceeding. *See generally* Pet. Reply. Additionally, Patent Owner's proposal is similar to the level of skill in the art we adopted in other proceedings addressing similar technology. *See, e.g.*, *Neenah, Inc. v. Avery Products Corp.*, IPR2020-00629, Paper 39 at 12–13. Furthermore, we find that the prior art of record reflects the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). Under that standard, we construe claims "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.* Furthermore, we expressly construe the claims only to the extent necessary to determine whether to institute *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms

'that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The parties dispute the meaning of the terms "film-forming binder" or "acrylic dispersion," "elastomeric emulsion," "plasticizer," "water repellant," and "wax dispersion." Pet. 11–19; PO Resp. 12–17.

Petitioner contends that these terms "are used in the '200 patent as labels to refer to broad categories of suitable polymers/materials," and that "[t]he breadth of these terms is demonstrated by the numerous examples of well-known polymers/materials explicitly set forth in the specification." Pet. 11.[12] Petitioner directs us to the portions of the '200 patent specification that list examples of film-forming binders (Ex. 1001, 8:61–9:9, 12:2–5, 12:44–13:29, corresponding to Ex. 1002 (the '733 patent), 8:21–31, 11:23–26, 11:58–12:44), elastomeric emulsions (Ex. 1001, 2:46–54, 14:56–15:28 corresponding to Ex. 1002, 2:46–54, 13:63–14:31), water repellants (Ex. 1001, 10:47–11:6 corresponding to Ex. 1002, 9:65–10:22), and plasticizers. Pet. 19–25. Petitioner also contends that nothing in the claims themselves requires any particular amount of these materials, or that these materials perform any particular function, and that importing additional limitations into the claim would be improper. Pet. 13–19.

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12. Petitioner cites to the specification for the '200 patent in the Petition. *See generally* Pet. (citing Ex. 1001). But, as requested (DI 3), both Petitioner and Patent Owner cite to the Specification of the '773 patent in subsequent filings.

Appendix B

In our Institution Decision, we agreed with Petitioner that the claims simply require the presence of the recited polymers/materials, and do not require a specific amount or that the polymers/materials perform a specific function. DI 7–13 (declining to adopt Patent Owner's proposed construction that requires each material to be present "in ***a sufficient amount to actually provide the desired characteristic***" because it would result in importing limitations into the claims). For purposes of the Institution Decision, we did not adopt specific constructions for each term, but determined that the claims at least encompass the explicit examples of the polymers/materials recited in the '200 patent Specification. *Id.*

Patent Owner asserts that we should "abandon" our preliminary determination on claim construction because the claims require the recited materials to perform a particular function. PO Resp. 12–15; Sur-reply 1–3. Patent Owner contends the plain language of the claims supports its assertion:

> The claims do not refer to specific materials, or classes of materials, but instead recite materials by their function in the composition. A "film-forming binder" is a material that "form[s]" a "film" and "bind[s]" (*i.e.*, creates adhesion). An "elastomeric emulsion" is a material that provides "elastomeric" properties. A "water repellant" is a material that "repel[s]" or resists "water." A "plasticizer" is a material that provides plasticity, *i.e.*, softens another material or materials. A "retention aid" is a material that

> "aid[s]" in "retention." If an identified material does not perform the function that defines the claim limitation, it cannot meet that limitation.

PO Resp. 15 (alterations in original).

Patent Owner also contends that the "specification of the '773 Patent does, in fact, require a particular function as a part of the definition or understanding of the [claim] terms." PO Resp. 14–15 (quoting Ex. 1002, 10:59–61 (stating that the film-forming binder and acrylic dispersion "***provide*** adhesion of the release layer and image to the receptor element"), 10:65–67 (stating that the elastomeric emulsion "***provides*** the elastomeric properties such as mechanical stability, flexibility and stretchability"), 11:3–5 (stating the water repellant "***provides*** water resistance and repellency"), 11:9–10 (stating the plasticizer "***provides*** plasticity and antistatic properties") (emphasis added by Patent Owner)); *see also* Sur-reply 2–4 (citing additional portions of the specification discussing the claimed materials).

Additionally, Patent Owner disagrees that the recited materials in the claims at least encompass the explicit examples of the polymers/materials recited in the '773 patent Specification because it "suggests that the explicit examples will **always** act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellent." PO Resp. 16. Based on testimony from Dr. Ellison, Patent Owner asserts that whether any given material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant "depends entirely on the compound of

which it is a part and the conditions of that composition." *Id.* (quoting Ex. 2005 ¶ 27). Using polyethylene glycol (PEG), one of the plasticizers listed in the '200 patent, as an example, Patent Owner states that PEG

> is **potentially** a plasticizer and may be used in some applications for that purpose, but does not **always** act as a plasticizer or softening agent. [Ex. 2005 ¶ 27.] PEG will only act as a softening agent, and will only be a plasticizer, if the composition of the compound of which it is a part enables that function. *Id.* In other compounds, PEG simply is not a plasticizer, and will not act as a softening agent, because of the nature of the materials with which it is combined. *Id.*

Id. Patent Owner emphasizes that chemical compounds and reactions are unpredictable, and asserts that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant is to test the compound, or, in the context of prior art references, if the reference expressly discloses that the material performs a particular function. PO Resp. 16–17.

Finally, Patent Owner notes that on February 9, 2021, the day after we issued the Institution Decision, the District Court for the District of Delaware issued a Claim Construction Order[13] in the Delaware Lawsuit construing

13. The Claim Construction Order from the Delaware Lawsuit appears in the record as Exhibit 1041 and Exhibit 2003.

the disputed terms. *Id.* at 13. Patent Owner contends that we should apply Delaware district court's constructions in this proceeding. *Id.* at 14. According to Patent Owner, the district court's constructions reflect the fact that the claims recite the required materials by their function in the composition. *Id.* at 15–16 (providing the example that a material is a "water repellent" only if it "provides water resistance"); Sur-reply 1–2. Patent Owner also states that the Delaware district court declined to include a list of exemplary materials in its constructions and urges that we do the same. PO Resp. 14 n.1, 15–16.

In its Reply, Petitioner maintains that the claims require only a composition including the recited components, not that the components impart any specific function or property on the composition as a whole. Pet. Reply 4. Petitioner contends that Patent Owner incorrectly characterizes the district court's constructions as being consistent with Patent Owner's position. *Id.* at 4 n.1. Petitioner explains that the district court rejected Patent Owner's "improper attempts to read-in 'sufficient amounts' of each material to 'actually provide the desired characteristic,'" and agreed with Petitioner that the claims only require components that are "capable of providing" the identified characteristics. *Id.* at 3 (quoting Ex. 1041, 14). Petitioner also contends that Patent Owner did not dispute that the claimed components cover at least the exemplary materials listed in the Specification. Instead, according to Petitioner, Patent Owner "only argued that including these lists in each construction was 'neither necessary nor desirable' and might confuse the jury," and the district court agreed. *Id.* (citing Ex. 1063, 80, 84–85; Ex. 1041; PO Resp. 14 n.1).

Additionally, Petitioner argues that there is no support in the Specification for Patent Owner's argument that PEG (or any other exemplary materials listed in the specification) only qualifies as a plasticizer if it actually softens the composition in which it is used. *Id.* at 4–5. Petitioner further argues that "the specification makes clear that the exemplary materials are suitable plasticizers because those materials act as softening agents," and that a person of ordinary skill in the art would have understood that the Specification makes clear that the exemplary materials listed in the '773 patent provide functions/properties described. *Id.* at 5 n.3.

We begin our analysis by looking at the language of the claims. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("First, we look to the words of the claims themselves . . . to define the scope of the patented invention."). Claim 1 recites a "polymeric composition comprising an acrylic dispersion, an elastomeric emulsion, a water repellant and a plasticizer." Ex. 1002, 31:65–67. Claim 10 recites a "polymeric composition comprising a film forming binder, an elastomeric emulsion, a water repellant and a plasticizer," and further requires that the film-forming binder is one of the recited ingredients. *Id.* at 32:41–48. Claim 14 recites "a polymeric composition comprising: a film-forming binder, an elastomeric emulsion, a water repellant and a plasticizer," where the elastomeric emulsion is one of the recited ingredients. *Id.* at 32:65–33:6.

The language of the claims themselves demonstrates that there is no express requirement of a specific amount

of a film-forming binder or acrylic dispersion, elastomeric emulsion, water repellant, or plasticizer, in any of the independent claims. Nor is there an express requirement in any of the independent claims that the film-forming binder or acrylic dispersion, elastomeric emulsion, water repellant, or plasticizer perform a particular function.

Furthermore, claims 10 and 12 require that the "film-forming binder is at least one selected from the group consisting of polyacrylates, poly-acrylic acid, polymethacrylates, polyvinyl acetates, co-polymer blends of vinyl acetate and ethylene/acrylic acid co-polymers, ethylene-acrylic acid copolymers, polyolefins, and natural and synthetic waxes." *Id.* at 32:46–48, 32:54:–59. And claim 14 requires that the "elastomeric emulsion is selected from the group consisting of polybutadienes, polyurethanes, styrene-butadiene polymers, styrene-butadiene-styrene polymers, acrylonitrile-butadiene-styrene polymers, acrylonitrile-ethylene-styrene polymers, polyacrylates, polychloroprene, ethylene-vinyl acetate polymers, and poly(vinyl chloride)." *Id.* at 32:67–33:5. Therefore, the claims themselves identify the specific ingredients corresponding to the claimed components without requiring any particular function.

Thus, based on the language of the claims, we agree with Petitioner that Patent Owner's position—that the claims recite materials by their function in the composition—is improper because it requires importing limitations into the claims. Pet. 10–19; Pet. Reply 3–5; PO Resp. 14–16.

Appendix B

We turn next to the Specification of the '773 patent. *Vitronics*, 90 F.3d at 1582 ("[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"). It is undisputed that the Specification of the '773 patent lists examples of film-forming binders, elastomeric emulsions, water repellants, plasticizers, wax dispersions, and retention aids that are suitable for use in the claimed invention. Pet 10–19; PO Resp. 16–17; Sur-reply 4–5. When describing these exemplary materials, the Specification does not require that the materials provide any specific function in the claimed polymeric composition.

For example, with regard to the film-forming binder, the '773 patent states

> the film forming binder is selected from the group consisting of polyester, polyolefin and polyamide or blends thereof. More preferably, the film forming binder is selected from the group consisting of polyacrylates, polyacrylic acid, polymethacrylates, polyvinyl acetates, co-polymer blends of vinyl acetate and ethylene/acrylic acid co-polymers, ethylene-acrylic acid copolymers, polyolefins, and natural and synthetic waxes.

Ex. 1002, 8:20–28. The '773 patent contains similar discussions of elastomeric emulsions (*id.* at 2:46–52), water repellants (*id.* at 9:65–10:13), and plasticizers (*id.* at 9:54–63).

Appendix B

Patent Owner nevertheless argues that the Specification "require[s] a particular function as a part of the definition or understanding of the terms." PO Resp. 14. To support this assertion, Patent Owner directs us to portions of the Specification that purportedly recite what function the film-forming binder, elastomer emulsion, water repellant, and plasticizer *must* "provide." *id.* at 14–15 (citing Ex. 1002, 10:59–61 (film-forming binder and acrylic dispersion), 10:65–67 and 12:47–49 (elastomeric emulsion), 11:3–5 (water repellant), and 11:9–10 and 14:34–38 (plasticizer)); Sur-reply 2–4 (citing Ex. 1002, 10:49–11:15 (film-forming binder and acrylic dispersion), 10:50–11:15 and 12:45–49 (elastomeric emulsion), 10:59–11:15 and 13:7–14 (water repellant), and 10:59–11:15 and 14:33–39 (plasticizer)). At most, however, these statements in the Specification describe the specific function of the film-forming binder, elastomeric emulsion, water repellant, and plasticizer in Release Layer Formulation 1, a preferred embodiment of the invention. *See* Ex. 1002, 10:35–40. Similar language does not appear in the earlier portions of the Specification listing the suitable examples of the recited materials. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) ("[E]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.") (internal quotation marks and citation omitted).

The Specification of the '773 patent explains that plasticizers and water repellants "may be included

[or incorporated] in order to soften hard polymer[s]" or "improve the wash/wear resistance," respectively. Ex. 1002, 9:53–10:6. The phrase "may be included [or incorporated] in order to" is permissive, and undermines Patent Owner's argument that the Specification requires a plasticizer and a water repellant to perform a specific function in the recited composition.

The inclusive, permissive language in the Specification undermines Patent Owner's argument that due to the unpredictable nature of the chemical arts, whether any given material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant "depends entirely on the compound of which it is a part and the conditions of that composition." PO Resp. 16. It also undermines Patent Owner's argument that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder/acrylic dispersion, or water repellant is to test the compound, or, in the context of prior art references, if the reference expressly discloses that the material performs a particular function. PO Resp. 15–17. The Specification does not contain any qualifications regarding whether the examples of the claimed materials listed in the Specification act as plasticizers, elastomeric emulsions, film-forming binders/acrylic dispersions, or water repellants. Nor does the Specification contain any discussion of testing necessary to determine whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder/acrylic dispersion, or water repellant.

In view of the foregoing, we agree with Petitioner that the Specification uses the claim terms to refer to broad

categories of suitable polymers/materials as opposed to requiring the materials perform specific functions in the polymeric composition, as Patent Owner contends. Pet. 11. Thus, we determine that the Specification supports a construction of the disputed terms that includes the examples listed in the Specification.

Pursuant to 37 C.F.R. § 42.100(b), we have considered the Delaware district court's Claim Construction Order, and find it to be consistent with this determination. For example, the district court agreed with Petitioner that

> "nothing in the claim language requires that any of these materials 'impart' any 'desired characteristics' to the release layer." Indeed, "[n]othing in the claims refers to—let alone requires—any 'amount' of any of the recited materials. Likewise, nothing in the specification suggests that . . . any other material in the claims [] is required to be present in any particular amount." . . . [Patent Owner's] construction threatens to limit the claims to the disclosed embodiments, which here would be improper.

Ex. 1041, 14 (citations omitted) (first and second alteration in original). Additionally, although the court did not expressly include all of the exemplary materials in its construction, we discern nothing in the court's decision suggesting that the materials listed in the Specification

are not examples of the claimed materials.[14] Accordingly, we disagree with Patent Owner that the district court constructions are consistent with its constructions, or that the Claim Construction Order provides a basis to abandon the constructions adopted in our Institution Decision.

In view of the foregoing, based on the language of the claims themselves, as well as the Specification of the '773 patent, we determine that the claimed "film-forming binder" or "acrylic dispersion," "elastomeric emulsion," "water repellant," and "plasticizer" would at least encompass the explicit examples recited in the '773 patent Specification. *See Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.").

D. Anticipation by Kronzer-769 (claims 1, 10, 12, and 14)

Petitioner contends claims 1, 10, 12, and 14 are unpatentable as anticipated by Kronzer-769. Pet. 19. Petitioner directs us to portions of Kronzer-769 that purportedly disclose each of the limitations in the challenged claims. *Id.* at 19–26. Petitioner also relies on the declaration testimony of Dr. Wanat to support its arguments. *See id.*

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14. Indeed, as Petitioner explains (Pet. Reply 3), Patent Owner argued against including a list of examples in the construction of the terms because "such a list may mislead the jury, if it concludes—despite the statement that these are mere examples—that the accused products must include one of the listed materials." Ex. 1063, 84–85. There is no such danger here.

Appendix B

1. Kronzer-769 (Ex. 1009)

Kronzer-769 relates to a multilayer heat transfer material for transferring images to articles of clothing, such as T-shirts. Ex. 1009, 1:6–12, 4:12–15. According to Kronzer-769, "the first layer may be a film or a nonwoven web[,] [t]he second layer is composed of a first thermoplastic polymer . . . [and a] third layer is composed of a second thermoplastic polymer." *Id.* The third layer may also contain a release agent and a plasticizer. *Id.* at 4:24, 4:35–5:8. Kronzer-769 further explains that other additives include, e.g., acrylic copolymers, ethylene-vinyl acetate copolymers, lubricants, petroleum-based waxes, amide and ester waxes, and silicone oils. *Id.* at 8:35–9:10.

2. Analysis of Claim 1

Petitioner contends that Kronzer-769 teaches the polymeric composition of the '773 patent because "[e]ach layer comprises one or more polymers and/or materials such as first and second 'thermoplastic polymers,' which may include resins, waxes, rubbers and other copolymers." Pet. 19–20 (citing Ex. 1009, 6:1–7:18, 15:24–17:4; Ex. 1007 ¶¶ 121–123). Petitioner argues that the third layer of Kronzer-769 comprises a second thermoplastic polymer that "may include polyacrylates and polymethacrylates" thereby describing the claimed "film-forming binder." *Id.* at 20 (citing Ex. 1009, 7:7–14, 15:24–17:4; Ex. 1007 ¶ 125). According to Petitioner, Kronzer-769's third layer also "can include a 'polymeric adhesion-transfer aid' that 'may be an ethylene-acrylic acid copolymer or an ethylene vinyl acetate copolymer'" in the form of an acrylic dispersion.

Id. at 21–22 (citing Ex. 1009, 5:2–8, 16:9–12, 22:14–15, 24:2–4, 26:5, 28:37, 30:20; Ex. 1007 ¶ 128).

Petitioner further asserts that "Kronzer-769's third layer is 'typically formed of an emulsion or dispersion'" and "can include polymer blends such as '**acrylonitrile-butadiene-styrene copolymers**, poly(E-caprolactone), **ethylene-vinyl acetate copolymers** . . . **polyurethanes** . . . nitrile-butadiene rubbers . . . and the like.'" *Id.* at 22 (citing Ex. 1009, 19:4–5, 7:29–35; Ex. 1007 ¶ 130). According to Petitioner, "Kronzer-769 discloses that 'the third layer may be formed from latex'" and the '773 patent makes clear that both nitrile-butadiene rubber and latex are elastomeric emulsions. *Id.* at 23 (citing Ex. 1009, 13:14–16, 16:1–17:3; Ex. 1002, 2:48, 12:45–46; Ex. 1007 ¶¶ 131–132). Petitioner contends that Kronzer-769, therefore, discloses the claimed "elastomeric emulsion." *Id.*

Furthermore, Petitioner asserts Kronzer-769's third layer may include polyurethanes and other additives like "petroleum-based waxes, mineral and vegetable oils, low molecular weight polyethylene, and amide and ester waxes . . . and the like" and polyurethanes and waxes were known water repellants. *Id.* at 24 (citing Ex. 1009, 7:32, 8:35–9:7, 15:25–35, 17:5–30; Ex. 1007 ¶¶ 135–136). Additionally, argues Petitioner, "Kronzer-769 explicitly discloses that the third layer includes 'a plasticizer'" within its third layer. *Id.* at 25 (citing Ex. 1009, Abstract, 4:35–5:2, 9:33–10:33; Ex. 1007 ¶ 138).

Patent Owner contends Petitioner has failed to meet its burden of proving that Kronzer-769 anticipates the

challenged claims of the '773 patent. *See* PO Resp. 21–31. In particular, Patent Owner argues that Kronzer-769 fails to disclose a material that provides water resistance or a material that provides elastomeric properties. *Id.* at 24–29. In addition, Patent Owner asserts that Petitioner has not shown that Kronzer-769 discloses every limitation of the challenged claims "**as arranged in the claim**." *Id.* at 29. We address Patent Owner's arguments below.

a) whether Kronzer-769 discloses use of a material that provides water resistance or elastomeric properties

Patent Owner argues that "Petitioner has not met its burden of proving that Kronzer[-769] discloses a polymeric composition that contains a water repellant and an elastomeric emulsion" because Petitioner has not shown that the materials identified provide either water resistance or elastomeric properties. PO Resp. 21, 24–39.

With regard to water repellency, Patent Owner does not dispute that Kronzer-769 discloses its third layer may contain waxes or polyurethanes. *Id.* at 24–25. Instead, Patent Owner argues that Kronzer-769 does not state or teach that the waxes and polyurethanes in the compositions provide water resistance. *Id.* at 25. Patent Owner asserts that "[b]ecause of the unpredictable nature of chemical compositions and chemical reactions, persons of skill in the art cannot readily anticipate whether waxes and polyurethanes will provide water resistances in a particular composition without experimentation or the teachings of a reference that discusses the particular composition." *Id.* (citing Ex. 2005 ¶ 115). Patent Owner

presents similar arguments regarding Petitioner's assertion that Kronzer-769 discloses an elastomeric emulsion. PO Resp. 27–29 (not disputing that Kronzer-769 discloses that its third layer can include latex or polymer blends, but arguing that a person of ordinary skill in the art cannot determine whether the identified materials will provide elastomeric properties in a particular composition without experimentation or express disclosure in a reference).

Patent Owner's arguments are based on its proposed construction of the terms water repellant and elastomeric emulsion, which requires demonstrating the materials provide water resistance and elastomeric properties in the composition itself.[15] For the reasons discussed above, we do not adopt Patent Owner's construction. Instead, we determine that the terms "water repellant" and "elastomeric emulsion" include at least the examples listed in the Specification of the '773 patent. As Petitioner points out, the '773 patent includes waxes and polyethylene in its list of water repellants, and includes acrylonitrile-butadiene-styrene, ethylene-vinyl acetate, and poly (vinyl chloride) in its list of elastomeric emulsions. Pet. 22–24 (citing Ex. 1001, 2:47–54 and 13:29–34 corresponding to Ex. 1002, 2:46–52 and 12:45–49 (exemplary elastomeric emulsions); Ex. 1001, 10:49–56 corresponding to Ex. 1002,

15. Patent Owner also argues that Kronzer-769 does not anticipate the challenged claims because it does not enable a polymeric composition with a water repellant. PO Resp. 26. Patent Owner, however, acknowledges that this argument is only applicable under Patent Owner's proposed construction of the claim terms. Tr. 44:25–45:4. Because we do not adopt Patent Owner's proposed construction, we do not address Patent Owner's enablement arguments.

9:65–10:6 (exemplary water repellants)). It is undisputed that Kronzer-769 teaches that its third layer can include polyethylene or waxes, as well as acrylonitrile-butadiene-styrene, ethylene-vinyl acetate, or poly (vinyl chloride). Pet. 22–24; Ex. 1007 ¶¶ 130–132, 135–136; Ex. 1009, 7:29–35, 8:35–9:7, 13:14–16, 15:25–35, 16:1–17:30, 19:4–5, 31:1–27. As a result, contrary to Patent Owner's assertion, Petitioner persuasively demonstrates that Kronzer-769 discloses a third layer comprising a water repellant and an elastomeric emulsion.

Patent Owner does not dispute Petitioner's contentions that Kronzer-769 discloses the remaining limitations in claim 1. *See* PO Resp. 21–29; Ex. 1081, 121:16–25, 123:22–124:12. We have reviewed Petitioner's arguments and evidence, and agree—based on the information provided in the Petition—that Kronzer-769 discloses the remaining limitations in claim 1.

b) whether Kronzer-769 discloses a polymeric composition as arranged in the challenged claims

Patent Owner's argument that Kronzer-769 does not anticipate claim 1 because Petitioner has not shown that Kronzer-769 discloses the required elements as arranged in the claim as a single embodiment is unavailing. PO Resp. 29. Claim 1 requires a polymeric composition comprising four components. In order for a reference to disclose every limitation "in the same way as arranged" in claim 1, the reference must disclose all four components in the same polymeric composition. As Petitioner points out, Kronzer-769 teaches that its third layer (the release layer) may include all

four claimed components. Pet. 20–25 (citing Ex. 1009, 4:19–25, 4:35–5:8, 7:7–14, 7:29–35, 8:35–9:7, 9:33–10:33, 13:14–16, 15:24–17:35, 19:4–5, 20:29–34, 22:14–15, 24:2–4, 26:5, 38:37, 30:20; Ex. 1007 ¶¶ 126–128, 130–132, 135–136, 138). Thus, the present facts are distinguishable from those in cases such as *In re Arkley* that Patent Owner cites, because here the various disclosures *are* "directly related to each other" as they describe the ingredients contained in the same third layer. PO Resp. 18–19 (citing *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972)); *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1344 (Fed. Cir. 2016) (noting that "a reference need not always include an express discussion of the actual combination to anticipate," but "may still anticipate if that reference teaches that the disclosed components or functionalities may be combined and one of skill in the art would be able to implement the combination").

Thus, contrary to Patent Owner's arguments, the portions of Kronzer-769 that Petitioner directs us to are not "multiple embodiments" from which Petitioner and Dr. Wanat "pick, choose, and combine various disclosures." PO Resp. 29; Sur-reply 11–12. Nor does Petitioner treat the claims "as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." *Therasense Inc. v. Becton, Dickinson & Co.,* 593 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1459 (Fed. Cir.1984)); *see* PO Resp. 18–19. Instead, because Petitioner demonstrates persuasively that Kronzer-769's third layer comprises all four of the recited components, Petitioner maintains the "part-to-part relationships set forth in the claims." *Therasense,* 730 F.2d at 1459.

Additionally, Petitioner directs us to Example 7F of Kronzer-769, asserting that Example 7F contains a third layer comprising the components claim 1 requires. Pet. Reply 12–14 (citing Ex. 1007 ¶¶ 128–129; Ex. 1085 ¶¶ 30, 35–37, 42, 44–51; Ex. 1009, 31:1–27, 17:3–4, 17:29–30). Specifically, Dr. Wanat explains that Example 7F contains (1) a film-forming binder—component 2P-K, which is Michem Prime 4983, an ethylene-acrylic acid dispersion; (2) an elastomeric emulsion—component 2P-W, which is Geon 352, a poly(vinyl chloride) latex; (3) a water repellant/wax dispersion—component O-C, which is Micropowders MPP 635VF, described as a high density polyethylene wax; and (4) a plasticizer—component PL-N, which is Santicizer® 160, a butyl benzyl phthalate. Ex. 1007 ¶ 129 (citing Ex. 1009, 16:9–12, 17:3–4, 17:29–30, 18:22–23, 18:33–34, 31:1–27).

Patent Owner argues that Petitioner has not shown that Example 7F contains a water repellant or elastomeric emulsion because Petitioner fails to prove that the materials that Petitioner maps to the water repellant and elastomeric emulsion in Example 7F actually provided water resistance or elastomeric properties in the Kronzer-769 composition. PO Resp. 30–31; Sur-reply 11–14. Patent Owner's argument, however, similar to those discussed above, is based on Patent Owner's proposed construction of water repellant and elastomeric emulsion, which we do not adopt.

Patent Owner otherwise does not dispute Petitioner's arguments and evidence, or Dr. Wanat's testimony, that component 2P-K (an ethylene-acrylic acid dispersion) is a film-forming binder/acrylic dispersion, component 2P-W (a poly(vinyl chloride) latex) is an elastomeric emulsion,

component O-C (a high density polyethylene wax) is a water repellant, and component PL-N (a butyl benzyl phthalate) is a plasticizer. Pet. Reply 12–13; Ex. 1007 ¶¶ 127–130, 140; Ex. 1085 ¶¶ 25, 39, 49; Ex. 1081, 121:16–25 (Dr. Ellison testifying during cross-examination that he formed no opinion on whether Kronzer-769 has a film-forming binder), 123:22–124:12 (Dr. Ellison testifying that he formed no opinion about whether Kronzer-769 has a plasticizer); *see also* Ex. 1002, 9:54–63 (listing aromatic compounds such as phthalates as exemplary plasticizers), 8:18–28 (listing ethylene-acrylic acid copolymers as exemplary film-forming binders), 2:46–52 (listing poly(vinyl chloride) as an exemplary elastomeric emulsion), 10:1–6 (listing polyethylene as an exemplary water repellant). Accordingly, we determine Petitioner has demonstrated persuasively that Example 7F is a single embodiment that includes the required elements as arranged in claim 1 of the '773 patent.

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claim 1 of the '773 patent.

3. Remaining Claims (claims 10, 12, and 14)

Petitioner alleges that Kronzer-769 anticipates independent claims 10 and 14 and dependent claim 12. Pet. 25–26.

Claims 10 and 12 additionally require that a "film-forming binder" is selected from the group consisting of "polyacrylates, poly-acrylic acid, polymethacrylates, polyvinyl acetates, co-polymer blends of vinyl acetate

and ethylene/acrylic acid co-polymers, ethylene-acrylic acid copolymers, polyolefins, and natural and synthetic waxes." Ex. 1002, 32:41–48, 32:53–59. Petitioner alleges that Kronzer-769 describes its third layer as including polyacrylates, polymethacrylates, ethylene-acrylic acid, or ethylene vinyl acetate copolymers, thereby disclosing the claimed "film-forming binder." Pet. 25, 26 (citing Ex. 1009, Abstract, 4:19–25, 5:2–8, 7:7–14, 16:9–12, 22:14–15, 24:2–4; 26:5, 28:37, 30:20; Ex. 1007 ¶¶ 140, 144).

Claim 14 further recites that the "elastomeric emulsion" include "polybutadienes, polyurethanes, styrene-butadiene polymers, styrene-butadiene-styrene polymers, acrylonitrile-butadiene-styrene polymers, acrylonitrile-ethylene-styrene polymers, polyacrylates, polychloroprene, ethylene-vinyl acetate polymers, and poly(vinyl chloride)." Ex. 1002, 32:65–33:6. Petitioner contends that Kronzer-769 teaches the claimed "elastomeric emulsion" because "Kronzer-769's third layer is 'typically formed from an emulsion or dispersion' and can include polymer blends such as 'acrylonitrile-butadiene-styrene copolymers, poly(E-caprolactone), ethylene-vinyl acetate copolymers … polyurethanes … nitrile-butadiene rubbers … and the like.'" *Id.* at 26 (citing Ex. 1009, 7: 29–35, 19:4–5; Ex. 1007 ¶ 142).

Patent Owner does not present any arguments specific to challenged claims 10, 12, and 14, but instead appears to rely on the same arguments and reasons it raises with respect to claim 1. PO Resp. 21–31. Therefore, Patent Owner has forfeited any additional arguments based on these uncontested claims. *Cf. NuVasive*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (explaining that patent owner waives

an argument presented in the preliminary response if it fails to renew that argument in the patent owner response during the instituted trial).

After reviewing the evidence of record, including the testimony of Dr. Wanat and the analysis and evidence Petitioner presents above with respect to claim 1, Petitioner shows persuasively that Kronzer-769 teaches the limitations of claims 10, 12, and 14 of the '773 patent. *See* Pet. 40–48. Because a preponderance of the evidence supports Petitioner's arguments as to claims 10, 12, and 14, we adopt Petitioner's analysis as our own. Accordingly, Petitioner establishes that claims 10, 12, and 14 are anticipated by Kronzer-769.

E. Remaining Grounds

Petitioner argues that each of the challenged claims, i.e., 1, 10, 12, and 14, are anticipated by Kronzer-179 (Pet. 27–34), Hiyoshi (*id.* at 34–42), Oez (*id.* at 42–47), Girgis (*id.* at 47–55), Rao (*id.* at 55–62), and Schwarcz (*id.* at 62–68). Petitioner directs us to portions of the asserted references that purportedly disclose the limitations in these claims. *Id.* at 27–68.

Having determined that Petitioner establishes by a preponderance of the evidence that Kronzer-769 renders claims 1, 10, 12, and 14 of the '773 patent unpatentable, we need not address Petitioner's additional grounds challenging claims 1, 10, 12, and 14. *See SAS*, 138 S. Ct. at 1359 (holding a petitioner "is entitled to a final written decision addressing all of the claims it has challenged"); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x

984, 990 (Fed. Cir. 2020) (nonprecedential) ("We agree that the Board need not address [alternative grounds] that are not necessary to the resolution of the proceeding.").

III. CONCLUSION[16]

For the foregoing reasons, we conclude that Petitioner has satisfied its burden of demonstrating, by a preponderance of the evidence, that the subject matter of claims 1, 10, 12, and 14 of the '773 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, Petitioner established by a preponderance of the evidence that claims 1, 10, 12, and 14 of U.S. Patent No. 6,723,773 are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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16. Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Appendix B

Claim(s)	35 U.S.C. §	Reference(s)/ Basis[17]	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 10, 12, 14	102	Kronzer-769	1, 10, 12, 14	
1, 10, 12, 14	102	Kronzer-179		
1, 10, 12, 14	102	Hiyoshi		
1, 10, 12, 14	102	Oez		
1, 10, 12, 14	102	Rao		
1, 10, 12, 14	102	Girgis		
1, 10, 12, 14	102	Schwarcz		
Overall Outcome		1, 10, 12, 14		

17. In view of our determination that claims 1, 10, 12, and 14 are anticipated by Kronzer-769, we do not reach grounds for which the last two columns of this table are blank. *See* Section II.D.

APPENDIX C — JUDGMENT AND FINAL WRITTEN DECISION OF THE UNITED STATES PATENT AND TRADEMARK OFFICE, PATENT TRIAL AND APPEAL BOARD, DATED FEBRUARY 2, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEENAH, INC.,

Petitioner,

v.

JODI A. SCHWENDIMANN,

Patent Owner.

IPR2020-01363
Patent 6,410,200 B1

Before JEFFREY W. ABRAHAM, MICHELLE N. ANKENBRAND, and AVELYN M. ROSS, *Administrative Patent Judges.*

ABRAHAM, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

Appendix C

I. INTRODUCTION

Neenah, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of U.S. Patent No. 6,410,200 B1 (Ex. 1001, "the '200 patent"). Pet. 1. Jodi A. Schwendimann ("Patent Owner") filed a Preliminary Response (Paper 7).

On February 8, 2021, we instituted *inter partes* review of all of the challenged claims based on all of the grounds identified in the Petition. Paper 8 ("Inst. Dec."). Subsequently, Patent Owner filed a Response (Paper 12, "PO Resp."), Petitioner filed a Reply (Paper 18, "Reply"), and Patent Owner filed a Sur-reply (Paper 20, "Sur-reply").

We held a consolidated oral hearing for this proceeding and related proceeding IPR2020-01361 on November 9, 2021, and have entered a transcript of the hearing into the record. Paper 26 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent are unpatentable.

Appendix C

II. BACKGROUND

A. Related Proceedings

The parties identify the following lawsuits involving the '200 patent: *Jodi A. Schwendimann et al. v. Neenah, Inc. et al.*, Case No. 1:19-cv-01363 (D. Del.) and *Jodi A. Schwendimann et al. v. Siser North America, Inc.*, Case No. 1:19-cv-01364 (D. Del.) (which have been consolidated with Case No. 1:19-cv-00361, referred to as the "Delaware Lawsuit"); and *Jodi A. Schwendimann et al. v. Stahls', Inc.*, Case No. 2:19-cv-12139-BAF-MKM (E.D. Mich.). Pet. 1; Paper 4, 2. Patent Owner also identifies IPR2020-01361 involving related U.S. Patent No. 6,723,773. Paper 4, 2.

B. The '200 Patent (Ex. 1001)

The '200 patent, titled "Polymeric Composition and Printer/Copier Transfer Sheet Containing the Composition," issued on June 25, 2002. Ex. 1001, codes (45), (54). The '200 patent relates to a polymeric composition, a transfer sheet comprising the polymeric composition that can be used in electrostatic printers or copiers, and a method for transferring an image from the sheet to a textile, such as a shirt. Ex. 1001, 1:13–23, 4:4–7. The '200 patent explains that its image transfer sheet can include a substrate, a release layer, an optional barrier layer, and an optional image-receiving layer. Ex. 1001, 2:58–62. The '200 patent further explains that its polymeric composition is "useful as a release layer (i.e., transfer layer) in an imaging material," and discloses embodiments wherein the release layer comprises a film-forming binder, an

elastomeric emulsion, a water repellant and a plasticizer, or an acrylic binder, a wax emulsion, and a retention aid. Ex. 1001, 2:58–60, 8:61–63, 15:60–62.

One example of a method for transferring an image from the image transfer sheet to a textile disclosed in the '200 patent includes placing the coated substrate in a laser copier or printer to provide an image on top of the image receiving layer, placing the image side of the printed sheet against the textile, applying heat and pressure to the non-image side of the substrate to transfer the release layer and image receiving layer, allowing the substrate to cool, and removing the substrate from the textile. Ex. 1001, 4:40–48.

According to the '200 patent, the release layer is

> highly suited for compatibilizing the stringent requirements of the electrostatic imaging process with the requirements of heat transfer image technology to provide a product having good image quality and permanence under the demanding conditions of textile application, wear and wash resistance in use, and adhesion to wash resistance on decorated articles.

Ex. 1001, 11:7–13.

C. Illustrative Claims

Petitioner challenges claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent. Of the challenged claims,

claims 1, 19, 29, 57, 64, and 70 are independent. Claims 1, 29, and 57 are illustrative and are reproduced below.

> 1. A coated transfer sheet comprising:
>
> a substrate having a first and second surface; and
>
> at least one release layer overlaying said first surface, said release layer comprising a film-forming binder, an elastomeric emulsion, a water repellant and a plasticizer.

Ex. 1001, 35:38–43.

> 29. A method of applying an image to a receptor element which comprises the steps of:
>
> (i) imaging a coated transfer sheet, wherein said transfer sheet comprises:
>
> a substrate having a first and second surface, and
>
> a release layer, wherein said release layer is coated on the first surface of the substrate;
>
> said release layer comprising: a polymeric composition comprising:
>
> (a) a film-forming binder, (b) an elastomeric emulsion, (c) a plasticizer, and (d) a water repellant;

(ii) positioning the front surface of the transfer sheet against said receptor element,

(iii) applying energy to the rear surface of the imaging system to transfer said image to said receptor element,

(iv) optionally allowing the substrate to cool, and

(v) removing the transfer sheet from the substrate.

Ex. 1001, 37:48–65.

57. A coated transfer sheet comprising:

a substrate having a first and second surface; and

at least one release layer overlaying said first surfaces said release layer comprising at least three separate components:

a first component comprising a film-forming binder which melts in the range of from about 65° C. to about 180° C.;

a second component comprising a wax dispersion; and

a third component comprising a retention aid to aid in the binding of an applied colorant.

Ex. 1001, 39:53–64.

D. Reviewed Unpatentability Challenges

We instituted *inter partes* review of the challenged claims on the following grounds of unpatentability:

Claim(s)	35 USC §[1]	Reference(s)/Basis
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	102	Kronzer-769[2]
1, 2, 6, 11, 19–21, 29,	102	Kronzer-179[3]
57, 58, 64, 70		

1. The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102 and 103, effective March 16, 2013. Because the application from which the '200 patent issued was filed before this date, the pre-AIA versions of §§ 102 and 103 apply.

2. WO 96/34769, published Nov. 7, 1996 (Ex. 1009).

3. US 5,798,179, issued Aug. 25, 1998 (Ex. 1010).

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Claim(s)	35 USC §1	Reference(s)/Basis
1, 2, 11, 19–21, 29, 57, 58, 64, 70	102	Hiyoshi[4]
6	103	Hiyoshi, Kronzer-179
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	102	Taniguchi[5]
1, 2, 6, 11	102	Oez[6]

E. Testimonial Evidence

Petitioner filed a Declaration of Robert A. Wanat, Ph.D. (Ex. 1007, "Wanat Declaration") with its Petition. Petitioner also filed a Declaration of Robert A. Wanat, Ph.D. in Support of Petitioner's Reply (Ex. 1085, "Wanat Reply Declaration").

Patent Owner filed a Declaration of Christopher Ellison, Ph.D. (Ex. 2005) with its Patent Owner Response. Petitioner deposed Dr. Ellison and filed the transcript of the deposition as Exhibit 1081 in this proceeding.

4. US 5,362,548, issued Nov. 8, 1994 (Ex. 1011).

5. US 5,981,077, issued Nov. 9, 1999 (Ex. 1012).

6. WO 97/41489, published Nov. 6, 1997 (Ex. 1013 (original language); Ex. 1014 (English translation)).

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III. ANALYSIS

A. Legal Standards

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

To anticipate, a reference must "show all of the limitations of the claims arranged or combined in the same way as recited in the claims." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Although the elements must be arranged or combined in the same way as the claim, "the reference need not satisfy an *ipsissimis verbis* test," i.e., the identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

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A claim is unpatentable under 35 U.S.C. § 103(a) if "the differences between the subject matter sought to be patented 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). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when presented, objective evidence of nonobviousness.[7] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

To show obviousness, it is not enough to merely show that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR*, 550 U.S. at 418–419.

On the other hand, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person

7. The parties have not asserted or otherwise directed our attention to any objective evidence of nonobviousness. *See generally* PO Resp.; Pet.

of ordinary skill in the art would employ." *Id.* at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined or modified the prior art references. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *see also Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1366 (Fed. Cir. 2017) ("In determining whether there would have been a motivation to combine prior art references to arrive at the claimed invention, it is insufficient to simply conclude the combination would have been obvious without identifying any reason why a person of skill in the art would have made the combination."); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) ("[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.") (citing *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014)).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of invention. *Graham*, 383 U.S. at 17. Petitioner contends as follows:

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> A person of ordinary skill in the art ("POSITA") for the purposes of the '200 patent would have at least a Bachelor's degree in chemistry, chemical engineering, polymer science, or material science with at least three years of experience in polymer coating technologies, or an Associate's degree in chemistry, chemical engineering, or material science, or a similar field, with approximately five years of experience relating to polymer coating technologies.

Pet. 14. Petitioner further asserts that "[a]dditional education (*e.g.*, masters or Ph.D. in chemistry, chemical engineering, polymer science, or material science) might substitute for experience, while significant experience in the field of polymer coating technologies might substitute for formal education." Pet. 14.

Patent Owner contends that a person of ordinary skill in the art would have "a bachelor's degree in Chemistry, Chemical Engineering, Imaging Technology or Materials Science and Engineering with at least one year of experience in coating technologies and imaging technologies, or at least five years of work experience in the field of coating technologies and imaging technologies." PO Resp. 9.

Patent Owner acknowledges that its definition differs from Petitioner's definition, but states that the differences are "not determinative of the issues in this proceeding," and that "the cited prior art references do not anticipate

the Challenged Claims regardless of which description of the level of ordinary skill in the art is applied." PO Resp. 9.

In light of the record before us, we adopt Patent Owner's proposal regarding the level of one of ordinary skill in the art. The parties' proposals are not materially different, and Petitioner does not dispute Patent Owner's contention that any differences are not determinative of the issues in this proceeding. *See generally*, Reply. Additionally, Patent Owner's proposal is similar to the level of skill in the art we adopted in other proceedings addressing similar technology. *See, e.g.*, IPR2020-00629, Paper 39, 12–13. Furthermore, we find that the prior art of record reflects the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). Under that standard, we construe claims "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.* Furthermore, we expressly construe the claims only to the extent necessary to determine whether to institute *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary

to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The parties dispute the meaning of the terms "film-forming binder," "elastomeric emulsion," "plasticizer," "water repellant," "wax dispersion," and "retention aid." Pet. 14–22; PO Resp. 10–16.

Petitioner contends that these terms "are used in the '200 patent as labels to refer to broad categories of suitable polymers/materials," and that "[t]he breadth of these terms is demonstrated by the numerous examples of well-known polymers/materials explicitly set forth in the specification." Pet. 14–15. Petitioner directs us to the portions of the '200 patent specification that list examples of film-forming binders (Ex. 1001, 8:61–9:9, 12:2–5, 12:44–13:29), elastomeric emulsions (Ex. 1001, 2:46–54, 14:56–15:28), water repellants (Ex. 1001, 10:50–56), plasticizers (Ex. 1001, 10:37–46, 15:29–38), wax dispersions (Ex. 1001, 10:47–11:6), and retention aids (Ex. 1001, 9:57–10:8). Pet. 15–22. Petitioner also contends that nothing in the claims themselves requires any particular amount of these materials, or that these materials perform any particular function, and that importing additional limitations into the claim would be improper. Pet. 16–22.

In our Institution Decision, we agreed with Petitioner that the claims simply require the presence of the recited polymers/materials, and do not require a specific amount or that the polymers/materials perform a specific function. Inst. Dec. 10–15 (declining to adopt Patent Owner's proposed construction that requires

each material to be present "in ***a sufficient amount to actually provide the desired characteristic***" because it would result in importing limitations into the claims). For purposes of the Institution Decision, we did not adopt specific constructions for each term, but determined that the claims at least encompass the explicit examples of the polymers/materials recited in the '200 patent Specification. Inst. Dec. s10–15.

Patent Owner asserts that we should "abandon" our preliminary determination on claim construction because the claims require the recited materials to perform a particular function. PO Resp. 13–15; Sur-reply 1–4. Patent Owner contends the plain language of the claims supports its assertion:

> The claims do not refer to specific materials, or classes of materials, but instead recite materials by their function in the composition. A "film-forming binder" is a material that "form[s]" a "film" and "bind[s]" (*i.e.*, creates adhesion). An "elastomeric emulsion" is a material that provides "elastomeric" properties. A "water repellant" is a material that "repel[s]" or resists "water." A "plasticizer" is a material that provides plasticity, *i.e.*, softens another material or materials. A "retention aid" is a material that "aid[s]" in "retention." If an identified material does not perform the function that defines the claim limitation, it cannot meet that limitation.

PO Resp. 14 (alterations in original).

Patent Owner also contends that the "specification of the '200 Patent does, in fact, require a particular function as a part of the definition or understanding of the [claim] terms." PO Resp. 13 (quoting Ex. 1001, 11:44–46 (stating that the film-forming binder and acrylic dispersion "***provide*** adhesion of the release layer and image to the receptor element"), 11:50–52 (stating that the elastomeric emulsion "***provides*** the elastomeric properties such as mechanical stability, flexibility, and stretchability"), 11:55–57 (stating the water repellant "***provides*** water resistance and repellency"), 11:62–63 (stating the plasticizer "***provides*** plasticity and antistatic properties) (emphasis added by Patent Owner)); *see also* Sur-reply 2–4 (citing additional portions of the Specification discussing the claimed materials).

Additionally, Patent Owner disagrees that the recited materials in the claims at least encompass the explicit examples of the polymers/materials recited in the '200 patent Specification because it "suggests that the explicit examples will **always** act as a plasticizer, elastomeric emulsion, film- forming binder, or water repellant." PO Resp. 14. Based on testimony from Dr. Ellison, Patent Owner asserts that whether any given material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant "depends entirely on the compound of which it is a part and the conditions of that composition." PO Resp. 14–15 (quoting Ex. 2005 ¶ 27). Using polyethylene glycol (PEG), one of the plasticizers listed in the '200 patent, as an example, Patent Owner states that PEG

> is **potentially** a plasticizer and may be used in some applications for that purpose, but does not **always** act as a plasticizer or softening agent. [Ex. 2005 ¶ 27.] PEG will only act as a softening agent, and will only be a plasticizer, if the composition of the compound of which it is a part enables that function. *Id.* In other compounds, PEG simply is not a plasticizer, and will not act as a softening agent, because of the nature of the materials with which it is combined. *Id.*

PO Resp. 15. Patent Owner emphasizes that chemical compounds and reactions are unpredictable, and asserts that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant is to test the compound, or, in the context of prior art references, is if the reference expressly discloses that the material performs a particular function. PO Resp. 15–16.

Finally, Patent Owner notes that on February 9, 2021, the day after we issued the Institution Decision, the District Court for the District of Delaware issued a Claim Construction Order[8] in the Delaware Lawsuit construing the disputed terms. PO Resp. 11–12. Patent Owner contends that we should apply Delaware district court's constructions in this proceeding. PO Resp.

8. The Claim Construction Order from the Delaware Lawsuit appears in the record as Exhibit 1041 and Exhibit 2003.

11–12. According to Patent Owner, the district court's constructions reflect the fact that the claims recite the required materials by their function in the composition. PO Resp. 14 (providing the example that a material is a "water repellent" only if it "provides water resistance"); Sur-reply 1–2. Patent Owner also states that the district court declined to include a list of exemplary materials in its constructions and urges that we do the same. PO Resp. 12 n.1, 13–14.

In its Reply, Petitioner maintains that the claims require only a composition including the recited components, not that the components impart any specific function or property on the composition as a whole. Reply 4. Petitioner contends that Patent Owner incorrectly characterizes the district court's constructions as being consistent with Patent Owner's position. Reply 4 n.1. Petitioner explains that the district court rejected Patent Owner's "improper attempts to read-in 'sufficient amounts' of each material to 'actually provide the desired characteristic,'" and agreed with Petitioner that the claims only require components that are "capable of providing" the identified characteristics. Reply 3 (quoting Ex. 1041, 14). Petitioner also contends that Patent Owner did not dispute that the claimed components cover at least the exemplary materials listed in the Specification. Instead, according to Petitioner, Patent Owner "only argued that including these lists in each construction was 'neither necessary nor desirable' and might confuse the jury," and the district court agreed. Reply 3 (citing Ex. 1063, 80, 84–85; Ex. 1041).

Additionally, Petitioner argues that there is no support in the Specification for Patent Owner's argument that PEG (or any other exemplary materials listed in the specification) only qualifies as a plasticizer if it actually softens the composition in which it is used. Reply 5. Petitioner further argues that "the specification makes clear that the exemplary materials are suitable plasticizers because those materials act as softening agents," and that a person of ordinary skill in the art would have understood that the Specification makes clear that the exemplary materials listed in the '200 patent provide functions/properties described. Reply 5, 5 n.3.

We begin our analysis by looking at the language of the claims. *Vitronics Corp. v. Conceptronic, Inc.,* 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("First, we look to the words of the claims themselves . . . to define the scope of the patented invention."). Claim 1 recites a "release layer comprising a film-forming binder, an elastomeric emulsion, a water repellant and a plasticizer." Ex. 1001, 35:40–43. Claim 29 recites a "release layer comprising: a polymeric composition comprising: (a) a film-forming binder, (b) an elastomeric emulsion, (c) a plasticizer, and (d) a water repellant." Ex. 1001, 37:56–59. Claims 19 and 64 recite a release layer comprising at least three components, the first component comprising a film-forming binder, the second component comprising a wax dispersion, and a third least three separate components, the first component comprising a film- forming binder, the second component comprising a wax dispersion, and "a third component comprising a retention aid to aid in the binding of an applied colorant." Ex. 1001, 39:56–64 (claim 57), 42:18–24 (claim 70).

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The language of the claims themselves demonstrates that there is no express requirement of a specific amount of a film-forming binder, elastomeric emulsion, water repellant, plasticizer, wax dispersion, or retention aid in any of the independent claims. Nor is there an express requirement in any of the independent claims that the film-forming binder, elastomeric emulsion, water repellant, plasticizer, or wax dispersion perform a particular function. Similarly, there is no express requirement in independent claims 19 and 64 that the retention aid perform a particular function.

By way of contrast, claims 57 and 70 do expressly require that the retention aid helps with binding an applied colorant. Patent Owner does not address the fact that certain claims explicitly require that the retention aid "aid[s] in the binding of an applied colorant," whereas other claims do not. Instead, Patent Owner argues that *all* claims that recite a retention aid must include a retention aid that performs a specific function, i.e., aids in retention. PO Resp. 14. According to the Federal Circuit, however, "when a patent claim 'does not contain a certain limitation and another claim does, that limitation cannot be read into the former claim.'" *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1326 (Fed. Cir. 2003). Therefore, because independent claims 57 and 70 explicitly recite that the aiding in the binding of an applied colorant into claims 19 and 64. The express recitation of a functional requirement in some claims but not others also suggests that when the inventors desired the claims to require the recited materials to perform a specific function, they expressly included that functional requirement in the claims themselves.

Thus, based on the language of the claims, we agree with Petitioner that Patent Owner's position—that the claims recite materials by their function in the composition—is improper because it requires importing limitations into the claims. Pet. 14–22; Reply 3–5; PO Resp. 13–14.

We turn next to the Specification of the '200 patent. *Vitronics*, 90 F.3d at 1582 ("[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"). It is undisputed that the Specification of the '200 patent lists examples of film-forming binders, elastomeric emulsions, water repellants, plasticizers, wax dispersions, and retention aids that are suitable for use in the claimed invention. Pet 14–22; PO Resp. 14; Sur-reply 4–5. When describing these exemplary materials, the Specification does not require that they provide a specific function in the claimed release layer.

For example, with regard to the film-forming binder, the '200 patent states

> the film forming binder is selected from the group consisting of polyester, polyolefin and polyamide or blends thereof. More preferably, the film forming binder is selected from the group consisting of polyacrylates, polyacrylic acid, polymethacrylates, polyvinyl acetates, co-polymer blends of vinyl acetate and ethylene/ acrylic acid co-polymers, ethylene-acrylic acid copolymers, polyolefins, and natural and synthetic waxes.

Ex. 1001, 8:64–9:6. The '200 patent contains similar discussions of elastomeric emulsions (Ex. 1001, 2:47–54), water repellants (Ex. 1001, 10:51–56), plasticizers (Ex. 1001, 10:37–46), wax dispersions (Ex. 1001, 10:57–64), and retention aids (Ex. 1001, 9:59–10:8).

Patent Owner nevertheless argues that the Specification "require[s] a particular function as a part of the definition or understanding of the terms." PO Resp. 13. To support this assertion, Patent Owner directs us to portions of the Specification that purportedly recite what function the film-forming binder, elastomeric emulsion, water repellant, and plasticizer *must* "provide." PO Resp. 13 (citing Ex. 1001, 11:44–46 (film-forming binder), 11:50–52 and 13:32–34 (elastomeric emulsion), 11:55–57 (water repellant), and 11:62–63, 15:30–31, and 15:34–35 (plasticizer)); Sur-reply 2–4 (using citations to Ex. 1002 that correspond to Ex. 1001, 11:44–12:1 (film-forming binder), 11:50–52 and 13:32–35 (elastomeric emulsion), 11:55–57 and 13:61–14:2 (water repellant), and 11:62–63 and 15:29–36 (plasticizer)). At most, however, these statements in the Specification describe the specific function of the film-forming binder, elastomeric emulsion, water repellant, and plasticizer in Release Layer 1, a preferred embodiment of the invention. *See* Ex. 1001, 11:20–24. Similar language does not appear in the earlier portions of the Specification listing the suitable examples of the recited materials. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) ("Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention

to limit the claim scope using words or expressions of manifest exclusion or restriction.") (internal quotation marks and citation omitted).

Notably, Patent Owner provides no citation that describes what function the retention aid "provides" in Release Layer 1. *See* PO Resp. 13 (providing a table that does not include retention aid). Instead, for retention aid, Patent Owner directs us to the portion of the Specification that states retention aids "may be incorporated for the purpose of aiding in the binding of the applied colorant." Sur-reply 4 (quoting Ex. 1002, 9:5–10, which corresponds to Ex. 1001, 9:54–58); Pet. 21 (citing Ex. 1001, 9:54–10:8). The phrase "may be incorporated for the purpose of" is permissive, and undermines Patent Owner's argument that the Specification *requires* a retention aid perform a specific function in the recited composition. Similar permissive language appears in the portions of the Specification discussing plasticizers and water repellants. Ex. 1001, 10:35–37, 10:47–50. These portions also include lists of exemplary plasticizers, water repellants, and retention aids. Ex. 1001, 9:54–10:8; 10:37–46, 10:51–56.

The inclusive, permissive language in the Specification that these materials *may* be included to impart a particular property also undermines Patent Owner's other arguments. *See* PO Resp. 14–15 (referring to the unpredictable nature of the chemical arts and arguing that whether any given material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant "depends entirely on the compound of which it is a part and the conditions of that composition"); 15–16

(arguing that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder, or water repellant is to test the compound, or, in the context of prior art references, is if the reference expressly discloses that the material performs a particular function). The Specification does not contain any qualifications regarding whether the examples of the claimed materials listed in the Specification act as plasticizers, elastomeric emulsions, film-forming binders, retention aids, or water repellants in a composition. Nor does the Specification contain any discussion of testing necessary to determine whether a material will act as a plasticizer, elastomeric emulsion, film-forming binder, retention aid, or water repellant in a composition.

In view of the foregoing, we agree with Petitioner that the Specification uses the claim terms to refer to broad categories of suitable polymers/materials as opposed to requiring the materials perform specific functions in the release layer, as Patent Owner contends. Pet. 15. Thus, we determine that the Specification supports a construction of the disputed terms that includes the examples listed in the Specification.

Pursuant to 37 C.F.R. § 42.100(b), we have considered the Delaware district court's Claim Construction Order, and find it to be consistent with our determination. For example, the district court agreed with Petitioner that

> "nothing in the claim language requires that any of these materials 'impart' any 'desired

> characteristics' to the release layer." Indeed, "[n]othing in the claims refers to—let alone requires—any 'amount' of any of the recited materials. Likewise, nothing in the specification suggests that . . . any other material in the claims [] is required to be present in any particular amount." . . . [Patent Owner's] construction threatens to limit the claims to the disclosed embodiments, which here would be improper.

Ex. 1041, 14. Additionally, although the court did not expressly include all of the exemplary materials in its construction, we discern nothing in the district court's decision suggesting that the materials listed in the Specification are not examples of the claimed materials.[9] Accordingly, we disagree with Patent Owner that the district court constructions are consistent with Patent Owner's constructions, or that the Claim Construction Order provides a basis to abandon the constructions adopted in our Institution Decision.

In view of the foregoing, based on the language of the claims themselves, as well as the Specification of the '200 patent, we determine that the claimed "film-forming binder," "elastomeric emulsion," "water repellant,"

9. Indeed, as Petitioner explains (Reply 3), Patent Owner argued against including a list of examples in the construction of the terms because "such a list may mislead the jury, if it concludes—despite the statement that these are mere examples—that the accused products must include one of the listed materials." Ex. 1063, 84–85. There is no such danger here.

"plasticizer," "wax dispersion," and "retention aid" would at least encompass the explicit examples recited in the '200 patent Specification. *See Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.").

D. Anticipation by Kronzer-769 (claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70)

Petitioner contends Kronzer-769 anticipates claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70. Pet. 23–38. Petitioner directs us to portions of Kronzer-769 that purportedly disclose all the limitations in the challenged claims. Pet. 23–38; Reply 12–15. Petitioner also relies on the declaration testimony of Dr. Wanat to support its arguments. Ex. 1007; Ex. 1085.

1. Kronzer-769 (Ex. 1009)

Kronzer-769 relates to a multilayer heat transfer material for transferring images to articles of clothing, such as T-shirts. Ex. 1009, 1:6–12, 4:12–15. According to Kronzer-769, "the first layer may be a film or a nonwoven web[,] [t]he second layer is composed of a first thermoplastic polymer [and t]he third layer is composed of a second thermoplastic polymer." Ex. 1009, 4:15–20. The third layer may also contain a release agent and a plasticizer. Ex. 1009, 4:24, 4:35–5:8. Kronzer-769 further explains that other additives may be included in the thermoplastic polymers including acrylic copolymers,

ethylene-vinyl acetate copolymers, lubricants, petroleum-based waxes, amide and ester waxes, and silicone oils. Ex. 1009, 8:35–9:10.

2. Claim 1

a) Whether Petitioner has shown that Kronzer-769 discloses all elements of claim 1

Petitioner argues Kronzer-769 discloses a "printable heat transfer material" comprising three layers and forming these layers by coating. Pet. 24 (citing Ex. 1009, 14:15–25, 19:18–20). Petitioner further argues that Kronzer-769 discloses that its first layer "has first and second surfaces" and "may be a cellulosic nonwoven web, such as a paper." Pet. 24–25 (citing Ex. 1009, code (57), 4:12–30, 5:18–32). Petitioner thus contends that Kronzer-769 discloses a "coated transfer sheet comprising[] a substrate having a first and second surface," as claim 1 requires.

Claim 1 further requires "at least one release layer overlaying said first surface." Ex. 1001, 35:40. Petitioner contends Kronzer-769 discloses a third layer that includes a release agent, and "explains that 'upon transfer the release splits from [the substrate] and form[s] a protective coating over the transferred image.'" Pet. 25 (quoting Ex. 1009, code (57), 4:22–25, 2:32–34, 20:29–34). Petitioner also contends that Kronzer-769 teaches that this third layer/release layer overlays the first layer. Pet. 25 (citing Ex. 1009, code (57), 4:12–25).

Finally, claim 1 requires the release layer comprises a film-forming binder, an elastomeric emulsion, a water repellant, and a plasticizer. Ex. 1001, 35:41–43. According to Petitioner, "Kronzer-769 discloses a specific example of its third layer (Example 7F), which includes all of the claimed polymers/materials within this single release layer." Pet. 25 (citing Ex. 1007 ¶¶ 128–129).

Additionally, Petitioner contends that Kronzer-769 discloses a release layer having a film-forming binder because Kronzer-769 teaches that the second thermoplastic polymer in its third layer can include polyacrylates, polymethacrylates, an ethylene-acrylic acid copolymer, or an ethylene vinyl acetate copolymer, and the '200 patent states that the film-forming binder is "more preferably . . . selected from the group consisting of polyacrylates, polyacrylic acid, polymethacrylates . . . ethylene-acrylic acid copolymers." Pet. 26 (quoting Ex. 1001, 8:64–9:9). Petitioner also notes that both Kronzer-769 and the '200 patent teach that Michem Prime 4983 is a suitable film-forming binder. Pet. 26 (citing Ex. 1001, 11:25–35; Ex. 1009, 16:9–12).

Petitioner argues that Kronzer-769 also discloses a release layer including an "elastomeric emulsion" because Kronzer-769 indicates its third layer is "typically formed from an emulsion or dispersion," and can include acrylonitrile-butadiene-styrene copolymers, ethylene-vinyl acetate copolymers, polyurethanes, nitrile-butadiene rubbers, or latex, which are all materials the '200 patent includes among its list of exemplary elastomeric emulsions. Pet. 27 (citing Ex. 1001, 2:47–54, 3:29–34).

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Petitioner argues that Kronzer-769 discloses a release layer including a "water repellant" because Kronzer-769 teaches that the third layer can include polyurethane or additives such as "petroleum-based waxes, mineral and vegetable oils, low molecular weight polyethylene, and amide and ester waxes . . . and the like." Pet. 28 (quoting Ex. 1009, 8:35–9:7 and citing Ex. 1009, 17:5–30). Petitioner contends a person of ordinary skill in the art would have understood that polyurethane and/or waxes are materials that resist and repel water, and asserts that the '200 patent considers polyurethanes and wax dispersions to be examples of water repellant materials. Pet. 28 (citing Ex. 1001, 10:49–56).

Petitioner also argues that Kronzer-769 discloses a release layer that includes a "plasticizer," and the plasticizer is "any material which softens the high glass transition temperature polymer (*i.e.*, the second thermoplastic polymer) of which the third layer is composed." Pet. 28–29 (citing Ex. 1009, code (57), 4:35–5:2, 9:33–10:33).

Patent Owner argues that "Petitioner has not met its burden of proving that Kronzer discloses a polymeric composition that contains a water repellant and an elastomeric emulsion." PO Resp. 19.

With regard to water repellency, Patent Owner does not dispute that Kronzer-769 discloses its third layer may contain waxes or polyurethanes. PO Resp. 21–24. Instead, Patent Owner argues that Kronzer-769 does not state or teach that the waxes and polyurethanes in the

compositions provide water resistance. PO Resp. 21–24. Patent Owner asserts that "[b]ecause of the unpredictable nature of chemical compositions and chemical reactions, persons of skill in the art cannot readily anticipate whether waxes and polyurethanes will provide water resistances in a particular composition without experimentation or the teachings of a reference that discusses the particular composition." PO Resp. 22 (citing Ex. 2005 ¶ 115). Patent Owner presents similar arguments regarding Petitioner's assertion that Kronzer-769 discloses an elastomeric emulsion. PO Resp. 24–25 (not disputing that Kronzer-769 discloses that its third layer can include latex or polymer blends, but arguing that a person of ordinary skill in the art cannot determine whether the identified materials will provide elastomeric properties in a particular composition without experimentation or express disclosure in a reference).

Patent Owner's arguments are based on its proposed construction of the terms water repellant and elastomeric emulsion, which requires demonstrating the materials provide water resistance and elastomeric properties in the composition itself.[10] For the reasons discussed above, we do not adopt Patent Owner's construction. Instead, we determine that the terms "water repellant" and

10. Patent Owner also argues that Kronzer-769 does not anticipate the challenged claims because it does not enable a release layer with a water repellant. PO Resp. 23. Patent Owner, however, acknowledges that this argument is only applicable under Patent Owner's proposed construction of the claim terms. Tr. 44:25–45:4. Because we do not adopt Patent Owner's proposed construction, we do not address Patent Owner's enablement arguments.

"elastomeric emulsion" include at least the examples listed in the Specification of the '200 patent. As Petitioner points out, the '200 patent includes waxes and polyethylene in its list of water repellants, and includes acrylonitrile-butadiene-styrene, ethylene-vinyl acetate, and poly (vinyl chloride) in its list of elastomeric emulsions. Pet. 27–28 (citing Ex. 1001, 2:47–54 (exemplary elastomeric emulsions), 10:49–56 (exemplary water repellants)). It is undisputed that Kronzer-769 teaches that its third layer can include polyethylene or waxes, as well as acrylonitrile-butadiene-styrene, ethylene-vinyl acetate, or poly (vinyl chloride). Pet. 25, 27–28; Ex. 1007 ¶¶ 128–129, 141–142, 146–147; Ex. 1009, 7:29–35, 8:35–9:7, 13:14–16, 16:1–17:30, 19:4–5, 31:1–27. As a result, contrary to Patent Owner's assertion, Petitioner persuades us that Kronzer-769 discloses a third layer comprising a water repellant and an elastomeric emulsion.

Patent Owner does not dispute Petitioner's contentions that Kronzer-769 discloses the remaining limitations in claim 1. *See* PO Resp. 21–29; Ex. 1081, 121:16–25, 123:22–124:12. We have reviewed Petitioner's arguments and evidence, and agree—based on the information provided in the Petition—that Kronzer-769 discloses the remaining limitations in claim 1.

b) Whether Petitioner has shown that Kronzer-769 discloses the required elements as arranged in the claim

Patent Owner also argues that Kronzer-769 does not anticipate claim 1 because Petitioner has not shown

that Kronzer-769 discloses the required elements as arranged in the claim as a single embodiment. PO Resp. 19, 26. This argument is unavailing. Claim 1 requires a release layer comprising four components. In order for a reference to disclose every limitation "in the same way as arranged" in claim 1, the reference must disclose all four components in the same release layer. As Petitioner points out, Kronzer-769 teaches that its third layer (the release layer) may include all four claimed components. Pet. 26–29 (citing Ex. 1009, 2:32–34, 4:35–5:8, 7:29–35, 8:35–9:7, 9:33–10:33, 13:14–16, 15:25–35, 16:1–17:30, 16:9–12, 19:4–5, 20:29–34, 22:14–15, 24:2–4, 26:5, 38:37, 30:20; Ex. 1007 ¶¶ 99, 137–139, 141–144, 146–150). Thus, the present facts are distinguishable from those in cases such as *In re Arkley* that Patent Owner cites, because here the various disclosures *are* "directly related to each other" as they describe the ingredients contained in the same third layer. PO Resp. 16–17 (citing *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972)); *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1344 (Fed. Cir. 2016) (noting that "a reference need not always include an express discussion of the actual combination to anticipate," but "may still anticipate if that reference teaches that the disclosed components or functionalities may be combined and one of skill in the art would be able to implement the combination").

Thus, contrary to Patent Owner's arguments, the portions of Kronzer-769 that Petitioner directs us to are not "multiple embodiments" from which Petitioner and Dr. Wanat "pick, choose, and combine various disclosures." PO Resp. 27; Sur-reply 11–12. Nor does Petitioner treat the

claims "as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." *Therasense Inc. v. Becton, Dickinson & Co.,* 593 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1459 (Fed. Cir.1984)); *see* PO Resp. 17. Instead, because Petitioner demonstrates persuasively that Kronzer-769's third layer comprises all four of the recited components, Petitioner maintains the "part-to-part relationships set forth in the claims." *Therasense,* 730 F.2d at 1459.

Additionally, as noted above, Petitioner directs us to Example 7F of Kronzer-769, asserting that Example 7F contains a release layer comprising the components claim 1 requires. Pet. 25 (citing Ex. 1007 ¶¶ 128–129). Specifically, Dr. Wanat explains that Example 7F contains (1) a film- forming binder—component 2P-K, which is Michem Prime 4983, an ethylene-acrylic acid dispersion; (2) an elastomeric emulsion—component 2P-W, which is Geon 352, a poly(vinyl chloride) latex; (3) a water repellant/ wax dispersion—component O-C, which is Micropowders MPP 635VF, described as a high density polyethylene wax; and (4) a plasticizer—component PL-N, which is Santicizer 160, a butyl benzyl phthalate. Ex. 1007 ¶ 129 (citing Ex. 1009, 16:9–12, 17:3–4, 17:29–30, 18:22–23, 18:33–34, 31:1–27).

Patent Owner argues that Petitioner has not shown that Example 7F contains a water repellant or elastomeric emulsion because Petitioner fails to prove that the materials that Petitioner maps to the water

repellant and elastomeric emulsion in Example 7F actually provided water resistance or elastomeric properties in the Kronzer-769 composition. PO Resp. 28–29; Sur-reply 9–11. Patent Owner's argument, however, similar to those discussed above, is based on Patent Owner's proposed construction of water repellant and elastomeric emulsion, which we do not adopt.

Patent Owner otherwise does not dispute Petitioner's arguments and evidence, or Dr. Wanat's testimony, that component 2P-K (an ethylene- acrylic acid dispersion) is a film-forming binder, component 2P-W (a poly(vinyl chloride) latex) is an elastomeric emulsion, component O-C (a high density polyethylene wax) is a water repellant, and component PL-N (a butyl benzyl phthalate) is a plasticizer. Pet. 25–28; Ex. 1007 ¶¶ 128–129; Ex. 1085 ¶¶ 25, 39, 49; Ex. 1081, 121:16–25 (Dr. Ellison testifying during cross-examination that he formed no opinion on whether Kronzer-769 has a film-forming binder), 123:22–124:12 (Dr. Ellison testifying that he formed no opinion about whether Kronzer-769 has a plasticizer); *see also* Ex. 1001, 10:37–40 (listing aromatic compounds such as phthalates as exemplary plasticizers); Ex. 1001, 8:66–9:4 (listing ethylene-acrylic acid copolymers as exemplary film-forming binders); Ex. 1001, 2:47–54 (listing poly(vinyl chloride) as an exemplary elastomeric emulsion); Ex. 1001, 10:50–53 (listing polyethylene as an exemplary water repellant). Accordingly, we determine Petitioner has demonstrated persuasively that Example 7F is a single embodiment that includes the required elements as arranged in claim 1 of the '200 patent.

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claim 1 of the '200 patent.

3. Claim 29[11]

Independent claim 29 recites a method of applying an image to a receptor element comprising the steps of (1) imaging a coated transfer sheet that comprises a substrate and a release layer, (2) positioning the front surface of the transfer sheet against the receptor element, (3) applying energy to the rear surface of the imaging system to transfer the image to the receptor element, (4) optionally allowing the substrate to cool, and (4) removing the transfer sheet from the substrate. Ex. 1001, 37:48–65.

Petitioner contends that Kronzer-769 discloses each step recited in claim 29, and directs us to portions of Kronzer-769 that support its contentions. Pet. 29–32. Patent Owner does not dispute Petitioner's arguments or evidence that Kronzer-769 discloses the method steps claim 29 requires and, therefore, has forfeited any arguments based on claim 29's method steps. *See generally* PO Resp. 19–29; *cf. NuVasive*, 842 F.3d at 1381 (explaining that a patent owner waives an argument presented in the preliminary response if it fails to renew that argument in the patent owner response during the instituted trial).

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11. We address claim 29 before claim 19 because of the similarities between claim 29 and claim 1.

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We have considered Petitioner's arguments and evidence, and determine that Petitioner has demonstrated persuasively that Kronzer-769 discloses the method steps of claim 29. As Petitioner explains, Kronzer-769 discusses "allow[ing] consumers to transfer enlargements of their own photographs to T-shirts and other fabrics." Ex. 1009, 3:21–24; Pet. 29. Additionally, we agree with Petitioner that Kronzer-769 teaches the use of thermal transfer printing to form an image on a transfer sheet, placing the printed paper image-side down on a T-shirt, applying heat, and removing the paper substrate. Ex. 1009, 20:29–35; Pet. 30–32 (explaining that Kronzer-769 discloses the steps in claim 29 and noting that claim 29 does not require allowing the substrate to cool before removing the transfer sheet).

Claim 29 also requires that the release layer of the coated transfer sheet comprises a polymeric composition comprising a film-forming binder, an elastomeric emulsion, a plasticizer, and a water repellant. Ex. 1001, 37:55–58. Petitioner notes that these limitations are the same as the limitations in claim 1, and asserts that Kronzer-769 discloses each limitation in claim 29 for at least the same reasons discussed above for claim 1. Pet. 30. Patent Owner presents the same arguments for both claim 1 and 29. PO Resp. 21–29. For the same reasons discussed above with regard to claim 1, we find Petitioner has demonstrated persuasively that Kronzer-769 discloses a release layer comprising a film-forming binder, an elastomeric emulsion, a plasticizer, and a water repellant.

We are also persuaded by Petitioner's undisputed arguments and evidence that Kronzer-769 discloses that the release layer is coated on the first surface of the substrate and discloses a polymeric composition having the four components discussed above, as claim 29 requires. Pet. 30; Ex. 1009, 14:32–15:23; Ex. 1007 ¶ 157.

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claim 29 of the '200 patent.

4. Claim 19

Claim 19, similar to claim 1, recites a coated transfer sheet comprising a substrate having a first and second surface, and at least one release layer overlaying said first surface. Ex. 1001, 36:58–60. Petitioner contends, and Patent Owner does not dispute, that Kronzer-769 discloses these limitations in claim 19 for the same reasons discussed above with regard to claim 1. Pet. 32–33. For the same reasons discussed above, we agree with Petitioner that Kronzer-769 discloses these limitations in claim 19.

Claim 19 differs from claim 1 in that it requires the release layer comprises "at least three separate components," a first component comprising a film-forming binder which melts in the range of from about 65° C to about 180° C, a second component comprising a wax dispersion, and a third component comprising a retention aid. Ex. 1001, 36:60–67.

Petitioner contends Kronzer-769 discloses a release layer including a film-forming binder with a melting point within the claimed range because a person of ordinary skill in the art "would have understood that the 'film-forming binder' disclosed in Kronzer-769, and specifically the ethylene acrylic acid copolymer (*e.g.,* Michem Prime 4983) would have a melting range of about 103-108°." Pet. 33 (citing Ex. 1007 ¶¶ 169–170). Additionally, Petitioner notes that the '200 patent refers to Michem Prime 4983 as a suitable film-forming binder. Pet. 33 (citing Ex. 1001, 12:44–63).

Petitioner also contends that Kronzer-769 discloses a release layer including a retention aid because Kronzer-769 discloses that the third layer may be formed from a latex, and lists examples of suitable latexes including ethylene-vinyl acetate, polyacrylates, and poly(vinyl chloride). Pet. 34. Petitioner states that the '200 patent includes latex polymers and vinyl co- polymer blends such as "ethylene-vinyl acetate[,] . . . polyacrylate and other polyacrylate-vinyl copolymer blends" as examples of retention aids. Pet. 34–35 (quoting Ex. 1001, 9:54–10:7); Ex. 1007 ¶ 177.

Patent Owner does not dispute Petitioner's arguments or evidence regarding these limitations in claim 19 and, therefore, has forfeited any arguments based on these limitations. *Cf. NuVasive*, 842 F.3d at 1381. We have reviewed Petitioner's arguments and evidence, and agree—based on the information provided in the Petition and the '200 patent—that Kronzer-769 discloses the film-forming binder and retention aid components recited in claim 19.

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Petitioner next contends that Kronzer-769 discloses a release layer including a wax dispersion because Kronzer-769 teaches its third layer can be formed from an emulsion or dispersion, and can comprise additives such as petroleum-based waxes, polyethylene waxes, and ester waxes. Pet. 33–34 (citing Ex. 1009, 9:5–7, 17:5–30, 19:4–5; Ex. 1007 ¶¶ 172–173). Petitioner explains that the '200 patent states that the claimed "wax dispersion" can include petroleum waxes, and synthetic waxes such as polyethylene and oxidized polyethylene waxes. Pet. 34 (quoting Ex. 1001, 10:51–56).

Patent Owner does not dispute Petitioner's contention that Kronzer-769 discloses an image transfer sheet comprising a wax dispersion. Instead, Patent Owner argues that Kronzer-769 does not disclose a *suitable* image transfer sheet that contains any wax dispersion. PO Resp. 26. According to Patent Owner,

> This is because, as discussed above, all of the examples in Kronzer-769 that used wax were not successful. Thus, the Examples in Kronzer-769 that involved wax did not result in printable material **suitable for use** as a dye diffusion thermal transfer printable heat transfer material. Petitioner has failed to demonstrate a reasonable likelihood of success in showing that Kronzer-769 discloses a suitable image transfer sheet containing any wax.

PO Resp. 26.

Claim 19, however, simply recites a "coated transfer sheet," and therefore does not require a coated transfer sheet that is "suitable" for a particular use. Thus, even if we were to agree with Patent Owner's assertion regarding unsuccessful examples in Kronzer-769, where no particular result is reported, the failure to achieve a favorable outcome does not negate anticipation. *Gleave*, 560 F.3d at 1335–1336 ("[W]here the claims themselves do not require a particular activity, we have no call to require something more from the anticipating reference."); *see also Shering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1380 (Fed. Cir. 2003) ("Anticipation does not require the actual creation or reduction to practice of the prior art subject matter."); *Bristol-Meyers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1377–1378 (Fed. Cir. 2001) (rejecting appellant's argument that the prior art reference "cannot anticipate the claims because [it] is a failed experiment").

Patent Owner also argues that Petitioner has not shown that Kronzer-769 discloses the required elements as arranged in the claim as a single embodiment. PO Resp. 26–29. This argument, however, is no more convincing here than it was when considered in the context of claim 1. As discussed above, Petitioner explains sufficiently how Kronzer-769 teaches that its third layer (the release layer) may include all three claimed components. Pet. 33–35. Accordingly, we disagree with Patent Owner's contention that Petitioner directs us to "multiple embodiments" from which Petitioner and Dr. Wanat "pick, choose, and combine various disclosures." PO Resp. 27; Sur-reply 11–12.

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claim 19 of the '200 patent.

5. Claim 57

Independent claim 57 is identical to claim 19 with the exception that it requires the third component of the release layer to comprise "a retention aid to aid in the binding of an applied colorant." Ex. 1001, 39:63–64.

For the portions of claim 57 that are the same as claim 19, Petitioner relies on the same evidence and arguments it presented for claim 19. Pet. 32–36. For the retention aid limitation in claim 57, Petitioner directs us to Kronzer-769's statement that the printable material is "especially suitable for use as a dye diffusion thermal transfer printable heat transfer material . . . [where] dye diffusion thermal transfer printing generally results in colors which stay brighter during the heat transfer process." Pet. 35 (quoting Ex. 1009, 4:3–11). Petitioner argues that based on this disclosure, a person of ordinary skill in the art "would have understood this to mean that any of the retention aids discussed directly above, such as the latexes, plasticizers, and adhesion-transfer aids disclosed in Kronzer-769, aid with the retention of a colorant (*e.g.*, dye/ink) that is applied (*e.g.*, printed on) to the transfer sheet and transferred to the receptor element." Pet. 35–36 (citing Ex. 1007 ¶ 180).

Patent Owner does not separately address this limitation in claim 57 and, therefore, has forfeited any

arguments based on this uncontested limitation. *See generally* PO Resp. 20–42; *cf. NuVasive*, 842 F.3d at 1381. Instead, Patent Owner relies on the same arguments discussed above with regard to claims 1, 19, and 29. PO Resp. 26–29.

We have reviewed the information Petitioner provides, including the relevant portions of the Wanat Declaration, and agree with Petitioner's undisputed arguments and evidence that Kronzer-769 discloses the retention aid limitation of claim 57. Additionally, for the same reasons discussed above, we are persuaded by Petitioner's arguments and evidence demonstrating that Kronzer-769 discloses the remaining limitations of claim 57. We, therefore, find Petitioner has established, by a preponderance of evidence, that Kronzer-769 anticipates claim 57.

6. Claims 64 and 70

Independent claim 64 is similar to claim 57, but does not require that the film-forming binder melts in a certain temperature range. Ex. 1001, 40:42–49. Independent claim 70 is similar to claim 19, but requires "at least one retention aid to aid in the binding of an applied colorant." Ex. 1001, 42:15–24. Petitioner argues that Kronzer-769 discloses each limitation of claims 64 and 70, relying on the same arguments it presented for similar limitations in claims 1, 19, and 57. Pet. 32–36. Patent Owner likewise relies on the same arguments discussed above regarding claims 1, 19, and 57.

We have reviewed the information Petitioner provides, including the relevant portions of the Wanat Declaration, and, for the reasons discussed above, agree with Petitioner's arguments and evidence that Kronzer-769 discloses all of the limitations of claims 64 and 70. Accordingly, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claims 64 and 70 of the '200 patent.

7. Dependent Claims

Claims 2, 6, and 11 depend from claim 1, claims 20 and 21 depend from claim 19, and claim 58 depends from claim 57. Petitioner directs us to portions of Kronzer-769 that purportedly disclose the limitations in these claims. Pet. 36–38. Patent Owner does not address the dependent claims in its Patent Owner Response or Sur-reply and, therefore, has forfeited any arguments based on these uncontested claims. *See generally* PO Resp.; Sur-reply; *cf NuVasive*, 842 F.3d at 1381. We have considered Petitioner's arguments and evidence, and determine Petitioner has directed us to evidence demonstrating persuasively that Kronzer-769 teaches all of the limitations in claims 2, 6, 11, 20, 21, and 58. As a result, Petitioner has demonstrated by a preponderance of evidence that Kronzer-769 anticipates claims 2, 6, 11, 20, 21, and 58 of the '200 patent.

8. Conclusion

For all of the foregoing reasons we determine Petitioner has demonstrated by a preponderance of evidence that Kronzer-769 anticipates claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent.

E. Remaining Unpatentability Challenges

Having determined that Petitioner establishes by a preponderance of the evidence that Kronzer-769 anticipates claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent, we do not address Petitioner's additional grounds challenging these same claims. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner "is entitled to a final written decision addressing all of the claims it has challenged"); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (nonprecedential) ("We agree that the Board need not address [alternative grounds] that are not necessary to the resolution of the proceeding.").

IV. CONCLUSION

After reviewing the complete record developed during the course of the trial, we conclude that Petitioner has satisfied its burden of demonstrating, by a preponderance of the evidence, that claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent are unpatentable.[12]

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12. Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Appendix C

V. ORDER

It is hereby

ORDERED that, Petitioner established by a preponderance of evidence that claims 1, 2, 6, 11, 19–21, 29, 57, 58, 64, and 70 of the '200 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claim(s)	**35 U.S.C.**	**References/ Basis**	**Claim(s) Shown Unpatentable**	**Claim(s) Not Shown Unpatentable**
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	§ 102	Kronzer-769	1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	102	Kronzer-179[13]		

13. As explained above, we do not reach this ground, or any of Petitioner's other remaining grounds, in view of our determination that the challenged claims are unpatentable as anticipated by Kronzer-769.

Appendix C

Claim(s)	**35 U.S.C.**	**References/ Basis**	**Claim(s) Shown Unpatent-able**	**Claim(s) Not Shown Unpatent-able**
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	102	Hiyoshi		
6	103	Hiyoshi, Kronzer-179		
1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	102	Taniguchi		
1, 2, 6, 11	102	Oez		
Overall Outcome			1, 2, 6, 11, 19–21, 29, 57, 58, 64, 70	

APPENDIX D — JUDGMENT AND FINAL WRITTEN DECISION OF THE UNITED STATES PATENT AND TRADEMARK OFFICE, PATENT TRIAL AND APPEAL BOARD, FILED APRIL 12, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEENAH, INC.,

Petitioner,

v.

JODI A. SCHWENDIMANN,

Patent Owner.

IPR2021-00016
Patent 7,008,746 B2

Before MICHELLE N. ANKENBRAND, JEFFREY W. ABRAHAM, and AVELYN M. ROSS, *Administrative Patent Judges.*

ROSS, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

Appendix D

I. INTRODUCTION

Neenah, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 5 and 19 of U.S. Patent No. 7,008,746 B2 (Ex. 1003, "the '746 patent"). Pet. 1. Jodi A. Schwendimann ("Patent Owner") filed a Preliminary Response (Paper 7).[1]

Upon consideration of the Petition, Preliminary Response, and the parties' evidence, we determined that Petitioner had demonstrated a reasonable likelihood that it would prevail with respect to at least one claim of the '746 patent. Paper 8 ("Decision on Institution" or "DI"). Thus, pursuant to the Supreme Court's decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018), and USPTO Guidance,[2] we instituted review of all challenged claims on all asserted grounds. *Id.*

Following institution of trial, Patent Owner filed a Patent Owner Response (Paper 13, "PO Resp."), Petitioner filed a Reply (Paper 14, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 17, "Sur-reply"). In support of their respective positions, Petitioner relies on the

1. Petitioner identifies Neenah, Inc. and Avery Products Corporation as real parties in interest. Pet. 1. Patent Owner identifies Jodi A. Schwendimann as the real party in interest. Paper 3, 2 (Patent Owner's Mandatory Notices).

2. In accordance with USPTO Guidance, "if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition." *See* USPTO, Guidance on the Impact of SAS on AIA Trial Proceedings (April 26, 2018) (available at https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial) ("USPTO Guidance").

testimony of Dr. Robert A. Wanat (Ex. 1007 (declaration); Ex. 1085 (reply declaration)) and Patent Owner provides the testimony of Dr. Christopher Ellison (Ex. 2005 (declaration); Ex. 1081 (deposition transcript)).

We held an oral hearing for this proceeding on February 16, 2022, and a transcript of the hearing is included in the record (Paper 25, "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 5 and 19 of the '746 patent are unpatentable.

A. Related Proceedings

Petitioner identifies the pending lawsuit between the parties, styled *Jodi A. Schwendimann v. Neenah, Inc.*, Case No. 1:19-cv-00361-LPS (D. Del.) ("the Delaware Lawsuit") as a related proceeding in which Patent Owner asserts the '746 patent. Pet. 1; *see* Paper 3, 2. Petitioner also states that it filed a petition for *inter partes* review against U.S. Patent No. 6,410,200 ("the '200 patent") and U.S. Patent No. 6,723,773 ("the '773 patent"). Pet. 1–2; Paper 3, 2; *see* IPR2020-01363, Paper 1; IPR2020-01361, Paper 1.[3]

3. On February 2, 2022, the Board issued a Final Written Decision in IPR2020-01361 (Paper 29) and IPR2020-01363 (Paper 29).

Patent Owner further identifies *Schwendimann et al. v. Stahls', Inc.*, Case Number 19-12139-BAF-MKM in the United States District Court for the Eastern District of Michigan as an additional "[j]udicial matter[] that would affect, or be affected by, a decision in the proceeding." Paper 3, 2.

B. The '746 Patent (Ex. 1003)

The '746 patent, titled "Polymeric Composition and Printer/Copier Transfer Sheet Containing the Composition," issued on March 7, 2006. Ex. 1003, codes (45), (54).[4] The '746 patent describes a polymeric composition that includes "an ethylene acrylic acid dispersion, a wax dispersion, and a retention aid." *Id.* at 4:4–7; *see also id.* at 2:37 (identifying an acrylic dispersion as the film-forming binder), 33:31–35 (claim 6), 33:52–57 (claim 11), 34:1–3 (claim 13). "The polymeric composition of the present invention is useful as a release layer (i.e., transfer layer) in an imaging material" where the imaging material may be used to transfer images to textiles, such as T-shirts. *Id.* at 2:54–3:10.

4. The '746 patent is a divisional of the '773 patent, which is a divisional of the '200 patent, and claims priority to U.S. Provisional Application No. 60/127,625. Ex. 1003, codes (62), (60). Petitioner explains that "[t]he specifications for the '746 patent and the '200 patent are substantively identical, and, therefore, for consistency and ease of reference, all citations . . . are made to the specification of the '200 patent." Pet. 4–5, n.1. In this Decision, we cite to the Specification of the '746 patent.

C. Illustrative Claims

Petitioner challenges claims 5 and 19 of the '746 patent. Claims 5 and 19 are illustrative of the subject matter of the '746 patent and are reproduced below.

> 5. A coated transfer sheet comprising:
>
> a substrate having a first and second surface; and
>
> at least one release layer overlaying said first surface, said release layer comprising a film forming binder, a wax emulsion, and a retention aid.

Ex. 1003, 33:25–30.

> 19. A method of applying an image to a receptor element which comprises the steps of:
>
> (i) imaging a coated transfer sheet according to claim 5;
>
> (ii) positioning the front surface of the transfer sheet against said receptor element,
>
> (iii) applying energy to the rear surface of the imaging system to transfer said image to said receptor element,
>
> (iv) optionally allowing the substrate to cool, and

(v) removing the transfer sheet from the substrate.

Id. at 34:29–30.

D. Prior Art and Asserted Grounds of Unpatentability

Petitioner contends that claims 5 and 19 are unpatentable based on the following grounds:

Claim(s) Challenged	Statutory Basis	Reference(s)/ Basis
5, 19	§ 102	Kronzer-769[5]
5, 19	§ 102	Kronzer-179[6]
5, 19	§ 102	Hiyoshi[7]
5, 19	§ 102	Taniguchi[8]
5	§ 102	Oez[9]

Pet. 4. We granted the Petition and instituted an *inter partes* review on the above-identified grounds. DI 4–5, 22.

5. Kronzer, WO 96/34769, published November 7, 1996 (Ex. 1009, "Kronzer-769").

6. Kronzer, US 5,798,179, issued August 25, 1998 (Ex. 1010, "Kronzer-179").

7. Hiyoshi, et al., US 5,362,548, issued November 8, 1994 (Ex. 1011, "Hiyoshi").

8. Taniguchi, et al., US 5,981,077, issued November 9, 1999 (Ex. 1012, "Taniguchi").

9. Oez, WO 97/41489, published November 6, 1997 (Ex. 1013, "Oez"). In this decision, our references to Oez are to Exhibit 1015, which is an English-language translation of Oez with line numbering.

Appendix D

II. ANALYSIS

A. Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). "In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring an *inter partes* review petition to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in an *inter partes* review).

To anticipate, a reference must "show all of the limitations of the claims arranged or combined in the same way as recited in the claims." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008); *accord In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Although the elements must be arranged or combined in the same way as the claim, "the reference need not satisfy an *ipsissimis verbis* test," i.e., the identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d at 832. Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339,

1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Petitioner contends as follows:

> A person of ordinary skill in the art ("POSITA") for the purposes of the '746 patent would have [had] at least a Bachelor's degree in chemistry, chemical engineering, polymer science, or material science with at least three years of experience in polymer coating technologies, or an Associate's degree in chemistry, chemical engineering, or material science, or a similar field, with approximately five years of experience relating to polymer coating technologies.

Pet. 10. Petitioner further asserts that "[a]dditional education (*e.g.*, masters or Ph.D. in chemistry, chemical engineering, polymer science, or material science) might substitute for experience, while significant experience in the field of polymer coating technologies might substitute for formal education." *Id.* at 10–11.

Patent Owner contends that a person of ordinary skill in the art would have had "a bachelor's degree in

Chemistry, Chemical Engineering, Imaging Technology or Materials Science and Engineering with at least one year of experience in coating technologies and imaging technologies, or at least five years of work experience in the field of coating technologies and imaging technologies." PO Resp. 7.

Patent Owner acknowledges that its definition differs from Petitioner's definition, but states that the differences are "not determinative of the issues in this proceeding" and that "the cited prior art references do not anticipate the Challenged Claims regardless of which description of the level of ordinary skill in the art is applied." *Id.*

In light of the record before us, we adopt Patent Owner's proposal regarding the level of ordinary skill in the art. The parties' proposals are not materially different, and Petitioner does not dispute Patent Owner's contention that any differences are not determinative of the issues in this proceeding. *See generally* Pet. Reply. Additionally, Patent Owner's proposal is similar to the level of skill in the art we adopted in other proceedings addressing similar technology. *See, e.g.*, IPR2020-00629, Paper 39, 12–13. Furthermore, we find that the prior art of record reflects the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37

C.F.R. § 42.100(b). Under that standard, we construe each claim "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.* Furthermore, we expressly construe the claims only to the extent necessary to resolve the patentability issues before us. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner proposes constructions for the terms "film-forming binder," "wax emulsion," "retention aid," "substrate," and "release layer." Pet. 11–18. Patent Owner proposes constructions for the terms "film-forming binder" and "retention aid," but does not address any other term. PO Resp. 8–12. Therefore, only "film forming binder" and "retention aid" are disputed.

Petitioner contends that these terms "are used in the '200 patent as labels to refer to broad categories of suitable polymers/materials," and that "[t]he breadth of these terms is demonstrated by the numerous examples of well-known polymers/materials explicitly set forth in the specification." Pet. 11.[10] Petitioner directs us to the portions of the '200 patent specification that list examples of film-forming binders (Ex. 1001, 8:61–9:9, 11:44–12:1,

10. Petitioner cites to the specification of the '200 patent in the Petition. *See generally* Pet. (citing Ex. 1001). But, as requested (DI 3), both Petitioner and Patent Owner cite to the Specification of the '746 patent in subsequent filings.

12:2–8, 12:44–13:29 corresponding to Ex. 1003, 8:18–30, 11:13–19, 11:20–25, 11:58–12:44) and retention aids (Ex. 1001, 9:54–10:8 corresponding to Ex. 1003, 9:6–25). Pet. 12–17. Petitioner also contends that nothing in the claims themselves requires any particular amount of these materials or performance of any particular function by these materials and that importing additional limitations into the claim would be improper. Pet. 13–16.

In our Institution Decision, we agreed with Petitioner that the claims simply require the presence of the recited polymers/materials and do not require a specific amount or that the polymers/materials perform a specific function. DI 7–13 (declining to adopt Patent Owner's proposed construction that requires each material to be present "in ***a sufficient amount to actually provide the desired characteristic***" because it would result in importing limitations into the claims). For purposes of the Institution Decision, we did not adopt specific constructions for each term but determined that the claims at least encompass the explicit examples of the polymers/materials recited in the '746 patent Specification. *Id.*

Patent Owner asserts that we should "abandon" our preliminary determination on claim construction because the claims require the recited materials to perform a particular function. PO Resp. 8–12; Sur-reply 1–4. Patent Owner contends the plain language of the claims supports its assertion:

> The claims do not refer to specific materials, or classes of materials, but instead recite materials by their function in the composition.

> A "film-forming binder" is a material that "form[s]" a "film" and "bind[s]" (*i.e.*, creates adhesion). A "retention aid" is a material that "aid[s]" in "retention." If an identified material does not perform the function that defines the claim limitation, it cannot meet that limitation.

PO Resp. 10–11.

Patent Owner also contends that the "specification of the '746 Patent does, in fact, require a particular function as a part of the definition or understanding of the [claim] terms." PO Resp. 10 (quoting Ex. 1003, 10:59–61 (stating that the film-forming binder "**provide[s]** adhesion of the release layer and image to the receptor element"), 9:7–10 (stating that the retention aid "may be incorporated **for the purpose of aiding in the binding of the applied colorant**") (Patent Owner's emphasis)); *see also* Sur-reply 2–4 (citing additional portions of the Specification discussing the claimed materials).

Patent Owner emphasizes that chemical compounds and reactions are unpredictable, and asserts that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a film-forming binder or wax emulsion is to test the compound, or, in the context of prior art references, if the reference expressly discloses that the material performs a particular function. PO Resp. 11–12.

Finally, Patent Owner notes that on February 9, 2021, the U.S. District Court for the District of Delaware

issued a Claim Construction Order[11] in the Delaware Lawsuit construing the disputed terms. *Id.* at 9. Patent Owner contends that we should apply the Delaware district court's constructions in this proceeding. *Id.* at 8–9. Specifically, Patent Owner urges us to apply the following constructions:

> "film-forming binder" means "a material, or a combination of materials, that facilitates release and/or adhesion of the composition; and
>
> "retention aid" means "a material that aids in the binding of an applied colorant."

Id. (citing Ex. 2003, 17, 18–19). According to Patent Owner, the Delaware district court's constructions reflect the fact that the claims recite the required materials by their function in the composition. *Id.* at 10–11 (providing the example that a material is a "retention aid" only if it "aids in the binding of the applied colorant"); Sur-reply 1–2. Patent Owner also states that the Delaware district court declined to include a list of exemplary materials in its constructions and urges that we do the same. PO Resp. 10 n.1.

In its Reply, Petitioner maintains that the claims require only a composition including the recited components, not that the components impart any specific function or property on the composition as a whole.

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11. The Claim Construction Order from the Delaware Lawsuit appears in the record as Exhibit 1041 and Exhibit 2003.

Pet. Reply 4–5. Petitioner contends that Patent Owner incorrectly characterizes the district court's constructions as being consistent with Patent Owner's position. *Id.* at 4 n.1. Specifically, Petitioner explains that the district court (1) rejected Patent Owner's "improper attempts to read-in 'sufficient amounts' of each material to 'actually provide the desired characteristic,'" and (2) agreed with Petitioner that the claims only require components that are "capable of providing" the identified characteristics. *Id.* at 3 (quoting Ex. 1041, 14). Petitioner also contends that Patent Owner did not dispute in the Delaware Lawsuit that the claimed components cover at least the exemplary materials listed in the Specification. Instead, according to Petitioner, Patent Owner "only argued that including these lists in each construction was 'neither necessary nor desirable' and might confuse the jury," and the district court agreed. *Id.* (citing Ex. 1063, 80, 84–85; Ex. 1041; PO Resp. 14 n.1).

We begin our analysis by looking at the language of the claims. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("First, we look to the words of the claims themselves . . . to define the scope of the patented invention."). Claim 5 recites a "a coated transfer sheet" comprising a substrate and a release layer. The release layer includes three components—"a film forming binder, a wax emulsion, and a retention aid." Ex. 1003, 33:25–30. Claim 19 recites a "method of applying an image to a receptor element which comprises the steps of (i) imaging a coated transfer sheet according to claim 5, (ii) positioning the . . . transfer sheet against the receptor element, (iii) applying energy . . . to transfer said

image to said receptor element, (iv) optionally allowing the substrate to cool, and (v) removing the transfer sheet from the substrate." *Id.* at 34:29–38.

The language of the claims themselves demonstrates that there is no express requirement of a specific amount of a "film forming binder," a wax emulsion, or retention aid, in any of the challenged claims. Nor is there an express requirement in any of the challenged claims that the "film forming binder," wax emulsion, or retention aid perform a particular function.

Thus, based on the language of the claims, we agree with Petitioner that Patent Owner's position—that the claims recite materials by their function in the composition—is improper because it requires importing limitations into the claims. Pet. 13–14, 15–16; Pet. Reply 2–6.

We turn next to the Specification of the '746 patent. *Vitronics*, 90 F.3d at 1582 ("[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"). It is undisputed that the Specification of the '746 patent lists examples of film-forming binders, wax emulsions, and retention aids that are suitable for use in the claimed invention. Pet. 12–17; PO Resp. 8–11, 18–19; Sur-reply 4–6. When describing these exemplary materials, the Specification does not require that the materials provide any specific function in the claimed polymeric composition.

For example, with regard to the film-forming binder, the '746 patent states as follows:

> the film forming binder is selected from the group consisting of polyester, polyolefin and polyamide or blends thereof. More preferably, the film forming binder is selected from the group consisting of polyacrylates, polyacrylic acid, polymethacrylates, polyvinyl acetates, co-polymer blends of vinyl acetate and ethylene/acrylic acid co-polymers, ethylene-acrylic acid copolymers, polyolefins, and natural and synthetic waxes.

Ex. 1003, 8:20–31. The '746 patent contains a similar discussion for retention aids. *Id.* at 9:10–25.

Patent Owner nevertheless argues that the Specification "require[s] a particular function as a part of the definition or understanding of the terms." PO Resp. 10. To support this assertion, Patent Owner directs us to portions of the Specification that purportedly recite what functions the film-forming binder and retention *must* "provide." *Id.* at 10 (citing Ex. 1003, 10:59–62 (film-forming binder) and 9:7–10 (retention aid)); Sur-reply 2–4 (citing Ex. 1003, 10:49–11:15 (film-forming binder and acrylic dispersion) and 9:5–10 (retention aid)). At most, however, these statements in the Specification describe the specific function of the film-forming binder and retention aid in Release Layer Formulation 1, a preferred embodiment of the invention. *See* Ex. 1003, 10:40–57. Similar language does not appear in the earlier portions of the Specification

listing the suitable examples of the recited materials. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) ("[E]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.") (internal quotation marks and citation omitted).

The Specification of the '746 patent explains that retention aids "*may be* incorporated for the purpose of aiding in the binding of the applied colorant such as water-based ink jet colorants and/or dry or liquid toner formulations." Ex. 1003, 9:7–9 (emphasis added). The phrase "may be incorporated for the purpose of aiding" is permissive as to the function, and undermines Patent Owner's argument that the Specification requires a retention aid to perform a specific function in the recited composition. Further, as to the film-forming binder, "the nature of the film-forming binder is not known to be critical. That is, *any* film-forming binder can be employed as long as it meets the criteria specified herein. As a practical matter, water-dispersible ethylene-acrylic acid copolymers have been found to be *especially effective* film forming binders." *Id.* at 11:20–25 (emphasis added), 11:26–12:67 (explaining that film-forming binders should "melt[] and flow[] under conditions of a melt-transfer process to result in a substantially smooth film" and identifying exemplary binders A–G).

The inclusive, permissive language in the Specification undermines Patent Owner's argument that due to the

unpredictable nature of the chemical arts, whether any given material will act as a film-forming binder, or retention aid "depends entirely on the compound of which it is a part and the conditions of that composition." PO Resp. 11. It also undermines Patent Owner's argument that the only way for a person of ordinary skill in the art to know for certain whether a material will act as a film-forming binder or retention aid is to test the compound, or, in the context of prior art references, if the reference expressly discloses that the material performs a particular function. *Id*. at 11–12. The Specification does not contain any qualifications regarding whether the examples of the claimed materials listed in the Specification act as film-forming binders or retention aids. Nor does the Specification contain any discussion of testing necessary to determine whether a material will act as a film-forming binder or retention aid.

In view of the foregoing, we agree with Petitioner that the Specification uses the claim terms "film forming binder" and "retention aid" to refer to broad categories of suitable polymers/materials as opposed to requiring the materials perform specific functions in the polymeric composition, as Patent Owner contends. Pet. 11. Thus, we determine that the Specification supports a construction of the disputed terms that includes the examples listed in the Specification. Ex. 1003, 8:18–31 and 11:58–12:67 (exemplary film-forming binders), 9:7:25 (exemplary retention aids).

Pursuant to 37 C.F.R. § 42.100(b), we have considered the Delaware district court's Claim Construction Order

and find it to be consistent with this determination. For example, the district court agreed with Petitioner that

> "nothing in the claim language requires that any of these materials 'impart' any 'desired characteristics' to the release layer." Indeed, "[n]othing in the claims refers to—let alone requires—any 'amount' of any of the recited materials. Likewise, nothing in the specification suggests that . . . any other material in the claims [] is required to be present in any particular amount." . . . [Patent Owner's] construction threatens to limit the claims to the disclosed embodiments, which here would be improper.

Ex. 1041, 14[12] (citations omitted) (first and second alteration in original). Additionally, although the court did not expressly include all of the exemplary materials in its construction, we discern nothing in the court's decision as suggesting that the materials listed in the Specification are not examples of the claimed materials.[13]

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12. We cite to the page numbers as originally numbered in the district court's Claim Construction Order and not to the secondary pagination Petitioner provided when numbering the pages of Exhibit 1041.

13. Indeed, as Petitioner explains (Pet. Reply 3), Patent Owner argued against including a list of examples in the construction of the terms because "such a list may mislead the jury, if it concludes—despite the statement that these are mere examples—that the accused products must include one of the listed materials." Ex. 1063, 84–85. There is no such danger here.

Accordingly, we disagree with Patent Owner that the district court constructions are consistent with Patent Owner's proposed constructions in this proceeding and require the film-forming binder and retention aid perform a specific function, or that the Claim Construction Order provides a basis to abandon the constructions adopted in our Institution Decision.

In view of the foregoing, based on the language of the claims themselves, as well as the Specification of the '746 patent, we determine that the claimed "film forming binder" and "retention aid" would at least encompass the explicit examples recited in the '746 patent Specification. *See, e.g.*, Ex. 1003, 8:18–31 and 11:58–12:67 (exemplary film-forming binders), 9:7:25 (exemplary retention aids); *see Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction."). We need not construe these terms any further to resolve the parties' dispute.

D. Anticipation by Kronzer-769 (claims 5, 19)

Petitioner contends claims 5 and 19 are unpatentable as anticipated by Kronzer-769. Pet. 18. Petitioner directs us to portions of Kronzer-769 that purportedly disclose each of the limitations in the challenged claims. *Id.* at 18–26. Petitioner also relies on the declaration testimony of Dr. Wanat to support its arguments. *See id.*

Appendix D

1. Kronzer-769 (Ex. 1009)

Kronzer-769 relates to a multilayer heat transfer material for transferring images to articles of clothing, such as T-shirts. Ex. 1009, 1:6–12, 4:12–15. According to Kronzer-769, "the first layer may be a film or a nonwoven web[,] [t]he second layer is composed of a first thermoplastic polymer . . . [and a] third layer is composed of a second thermoplastic polymer." *Id*. The third layer may also contain a release agent and a plasticizer. *Id.* at 4:24, 4:35–5:8. Kronzer-769 further explains that other additives include, e.g., acrylic copolymers, ethylene-vinyl acetate copolymers, lubricants, petroleum-based waxes, amide and ester waxes, and silicone oils. *Id.* at 8:35–9:10.

2. Analysis of Claims 5 and 19

Petitioner contends that Kronzer-769 describes "'printable material [that] is especially suitable for use as a dye diffusion thermal transfer printable heat transfer material,' wherein the printable material (*i.e.*, transfer sheet) comprises a 'first layer' a 'second layer [that] overlays the first surface of the first layer' and 'third layer [that] overlays the second layer,'" where each of the layers are formed by coating. Pet. 18–19 (citing Ex. 1009, 1:11–18, 14:15–25, 19:18–20; Ex. 1007 ¶¶ 111, 116–118). Therefore, Petitioner reasons that Kronzer-769 discloses the claimed "coated transfer sheet" recited in claims 5 and 19. *Id.* at 19 (citing Ex. 1007 ¶¶ 119–121).

Petitioner further contends that Kronzer-769's first layer, made of "a cellulosic nonwoven web, such as paper," is a substrate having a first and second surface as recited in claim 5. *Id.* (quoting Ex. 1009, 4:12–30; citing Ex. 1009, 5:18–32; Ex. 1007 ¶¶ 122–123). In addition, Petitioner alleges that Kronzer-769's third layer includes a release agent and is a "release layer" as recited in claim 5 because it overlays the substrate and "upon transfer, the release splits from [the substrate] and form[s] a protective coating over the transferred image." *Id.* at 19–20 (quoting Ex. 1009, 2:32–34 (alteration in original); citing Ex. 1009, 4:12–25, 20:29–34; Ex. 1007 ¶¶ 117, 118, 124, 125).

Petitioner also contends that Kronzer-769's third layer corresponds to the claimed release layer and includes each of the claimed components (i.e., a film-forming binder, a wax emulsion, and a retention aid). Pet. 18–23; *see, e.g.*, *id.* at 21 (Petitioner relying on Dr. Wanat's testimony that Kronzer-769 Example 7F describes a release layer that contains (1) a film forming binder—component 2P-K, which is Michem Prime 4983, an ethylene-acrylic acid dispersion; (2) a wax emulsion—component O-C, which is Micropowders MPP 635VF, described as a high density polyethylene wax; and (3) a retention aid—component 2P-W, which is Geon® 352, a polyvinyl chloride latex) (citing Ex. 1007 ¶ 118 and supporting evidence). For example, Petitioner explains that Kronzer-769's third layer includes a film-forming binder formed of thermoplastic polymers such as polyacrylates, polymethacrylates, ethylene-acrylic acid copolymers, ethylene vinyl acetate, and polyacrylic acid. *Id.* at 20 (citing Ex. 1009, Abstract, 4:19–25, 5:2–8, 7:7–14, 16:9–12, 22:14–15, 24:2–4, 28:37, 30:20; Ex. 1007

¶¶ 126–129; Ex. 1001, 8:64–9:9, 11:25–35, 12:55–60, corresponding to Ex. 1003, 8:18–31, 10:59–64, 11:66–6). Petitioner also states that the third layer of Kronzer-769 includes a "wax emulsion" because the layer can include additives "such as 'petroleum-based waxes, mineral and vegetable oils, low molecular weight polyethylene, and amide and ester waxes'" and is formed from a dispersion or emulsion. *Id.* at 21 (citing Ex. 1009, 2:34–36, 8:35–9:7, 17:5–30, 19:4–5, 20:29–34; Ex. 1009 ¶¶ 130–132; Ex. 1001, 9:5–8, 10:51–56, corresponding to Ex. 1003, 8:28–31, 10:1–6). Lastly, Petitioner contends that Kronzer-769 states that its "third layer may be formed from latex" and "discloses use of 'Orgasol,'" among others. *Id.* at 22 (citing Ex. 1009, 13:14–16, 16:1–17:3, 33:1–34:18). Petitioner contends that "[t]hese materials are well-known to be 'retention aids.'" *Id.* (citing Ex. 1007 ¶¶ 133–135, 136). Petitioner contends that the '746 patent discloses similar materials as retention aids. *Id.* (citing Ex. 1001, 9:54–57, 16:36–40, corresponding to Ex. 1003, 9:7–9, 15:39–41).

Petitioner alleges that Kronzer-769 anticipates claim 19. Pet. 23–26. Claim 19 is directed to a method of applying an image to a receptor element which includes imaging a coated transfer sheet recited in claim 5, positioning the front surface of the transfer sheet against the receptor element, applying heat, pressure, or other energy to the rear surface of the imaging system to transfer the image to the receptor element, optionally allowing the substrate to cool, and removing the transfer sheet from the substrate. Ex. 1003, 34:29–30. Petitioner alleges that Kronzer-769 describes the method of using the coated transfer sheet (of claim 5) as recited in claim 19. Pet.

23–26 (citing Ex. 1009, Abstract, 3:9–36, 4:3–11, 4:34–5:8, 20:34–21:35; Ex. 1007 ¶¶ 133–148).

Patent Owner contends Petitioner has failed to meet its burden of proving that Kronzer-769 anticipates the challenged claims of the '746 patent. *See* PO Resp. 16–21. In particular, Patent Owner argues that (a) Petitioner has not shown that Kronzer-769 discloses every limitation of the challenged claims "**as arranged in the claim**" (*id.* at 19–21); (b) Kronzer-769 fails to disclose a wax emulsion (*id.* at 18–29); and (c) Petitioner has failed to "identify any material in Trial 7-F that aids in the binding of an applied colorant," i.e., a retention aid (Sur-reply 9). We have reviewed the information Petitioner relies upon and determine Petitioner's arguments and evidence establish, by a preponderance of the evidence, that Kronzer-769 teaches each limitation of claims 5 and 19, except those Patent Owner disputes. We address Patent Owner's arguments and resolve the parties' dispute below.

a) whether Kronzer-769 discloses a polymeric composition as arranged in the challenged claims

Patent Owner argues that Kronzer-769 does not anticipate claims 5 and 19 because Petitioner has not shown that Kronzer-769 discloses the required elements *as arranged in the claim* in a single embodiment. PO Resp. 19. Patent Owner argues that "this means that a reference does not anticipate unless it discloses 'a release layer' that contains each of the three components" and that "[t]he Petition, however, does not cite **a** 'release layer'

in any of the references that includes all of the required materials." Sur-reply 7.

Claims 5 and 19 require a coated transfer sheet comprising a substrate and a release layer where the release layer includes three components. In order for a reference to disclose every limitation "in the same way as arranged" in claims 5 and 19, the reference must disclose all three components in the same layer. As Petitioner points out, Kronzer-769 teaches that its third layer (the release layer) may include all three claimed components. Pet. 20–23 (citing Ex. 1009, 2:34–36, 5:2–8, 8:35–9:7, 13:14–16, 16:1–17:30, 22:14–15, 24:2–4, 26:5, 28:37, 30:20, 33:1–34:18; Ex. 1007 ¶¶ 126–136). Thus, the present facts are distinguishable from those in cases such as *In re Arkley* that Patent Owner cites, because here the various disclosures *are* "directly related to each other" as they describe the ingredients contained in the same third layer. Sur-reply 7 (citing *In re Arkley*, 455 F.2d 586, 587 (C.C.P.A. 1972)); PO Resp. 19–20; *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1344 (Fed. Cir. 2016) (noting that "a reference need not always include an express discussion of the actual combination to anticipate," but "may still anticipate if that reference teaches that the disclosed components or functionalities may be combined and one of skill in the art would be able to implement the combination").

Therefore, contrary to Patent Owner's arguments, the portions of Kronzer-769 that Petitioner directs us to are not "multiple embodiments" from which Petitioner and Dr. Wanat "pick, choose, and combine various disclosures."

PO Resp. 20; Sur-reply 10. Nor does Petitioner treat the claims "as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." *Therasense Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1459 (Fed. Cir. 1984)); *see* PO Resp. 13–14. Instead, because Petitioner demonstrates persuasively that Kronzer-769's third layer comprises all three of the recited components, Petitioner maintains the "part-to-part relationships set forth in the claims." *Therasense*, 730 F.2d at 1459.

In particular, Petitioner directs us to a single example, i.e., Example 7F of Kronzer-769, that contains a third layer comprising the components claims 5 and 19 require, "as arranged in the claims." Pet. 20 (citing Ex. 1009, 30:20 (Example 7)), 21 (citing Ex. 1007 ¶¶ 130–132 (Example 7F)), 22 (citing Ex. 1007 ¶ 135 (Example 7)); Pet. Reply 12–14 (citing Ex. 1007 ¶¶ 93–94, 130–132; Ex. 1085 ¶¶ 4–6, 30, 35–37, 42, 44–51; Ex. 1009, 31:1–27); Ex. 1007 ¶¶ 69–70, 116–118; Ex. 1085 ¶¶ 9–12. Dr. Wanat explains that Example 7F contains (1) a film-forming binder—component 2P-K, which is Michem Prime 4983, an ethylene-acrylic acid dispersion; (2) a wax emulsion—component O-C, which is Micropowders MPP 635VF, described as a high density polyethylene wax; and (3) a retention aid—component 2P-W, which is Geon 352, a polyvinyl chloride latex. Ex. 1007 ¶ 118 (citing Ex. 1009, 16:9–12, 17:3–4, 17:29–30, 22:14–15, 31:1–27).

Patent Owner does not dispute Petitioner's arguments and evidence, or Dr. Wanat's testimony, that component

2P-K (an ethylene-acrylic acid dispersion) is a film-forming binder/acrylic dispersion, component O-C (a high density polyethylene wax) is a wax emulsion, and component 2P-W, a polyvinyl chloride latex, is a retention aid. Pet. Reply 12–13; Ex. 1007 ¶¶ 117–118, 126–136; Ex. 1085 ¶¶ 6, 9–12; Ex. 1081, 121:16–25 (Dr. Ellison testifying during cross-examination that he formed no opinion on whether Kronzer-769 has a film-forming binder), 131:9–16 (Dr. Ellison testifying that he does not dispute that Example 7F includes a wax emulsion),[14] 124:8–12 (Dr. Ellison testifying that he formed no opinion about whether Kronzer-769 has a retention aid); *see also* Ex. 1003, 8:18–28, 11:20–25, 15:43–47 (listing ethylene-acrylic acid copolymers as exemplary film-forming binders), 10:1–13 (listing polyethylene as an exemplary wax emulsion), 9:7–25 (listing latex polymers as retention aids). Thus, the record evidence demonstrates that Kronzer-769's third layer comprises all three of the recited components and we determine Petitioner has demonstrated persuasively that Example 7F is a single embodiment that includes the required elements as arranged in claims 5 and 19 of the '746 patent.

b) whether Kronzer-769 discloses successfully using a wax emulsion

Patent Owner argues that "Kronzer-769 does not disclose a suitable image transfer sheet that contains any wax emulsion." PO Resp. 18. Patent Owner contends

14. Patent Owner's argument that Kronzer-769 does not disclose a transfer sheet *successfully* using a wax emulsion is addressed below.

that the "trials that used wax were not successful." *Id.* According to Patent Owner, "[b]ecause Kronzer-769 was unable to successfully use waxes in a composition, Kronzer-769 does not enable a composition that contains a wax emulsion." *Id.* at 19. According to Patent Owner, "the trials in Example 2 were unsuccessful, either because (1) the print was too light ('lacking in print density'); (2) the ribbon stuck to the third layer; or (3) the print was 'too blue and too red.'" *Id.*; *see also id.* at 20–21 (stating that Example 7F was "not successful because [it] developed 'tackiness,' and, . . . therefore, do[es] not enable the Challenged Claims"). Patent Owner explains that Kronzer-769 attributes these failures, at least in part, to the use of polyethylene wax. *Id.* at 19.

Petitioner argues that Patent Owner "***does not dispute*** Kronzer-769 discloses everything in the challenged claims except for the 'wax emulsion,'" nor does Patent Owner "***dispute*** that Kronzer-769 discloses the same materials exemplified in the '746 patent for this component (including all materials within Kronzer's specific Trial 7-F)." Pet. Reply 12. Instead, Patent Owner asserts that the wax emulsion Petitioner identifies fails to teach a "wax emulsion" because the examples in Kronzer-769 were not successful. *Id.* at 13. Petitioner contends that Patent Owner's argument is "legally flawed because the claims do not recite any particular result, much less the cherry picked 'unsuccessful' results cited by [Patent Owner]." *Id.*

The Federal Circuit has stated that "[i]n order to be anticipating, a prior art reference must be enabling so that the claimed subject matter may be made or used

by one skilled in the art." *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 468 F.3d 1366, 1381 (Fed. Cir. 2006). The enablement requirement, however, "does not require utility, unlike the enablement requirement for patents under section 112." *Id.* (citing *Rasmusson v. SmithKline Beecham Corp.*, 413 F.3d 1318, 1325–26 (Fed. Cir. 2005)). And where no particular result is claimed, the failure to achieve a favorable outcome does not negate anticipation. *In re Gleave*, 560 F.3d 1331, 1335– 1336 (Fed. Cir. 2009) (holding that "where the claims themselves do not require a particular activity, we have no call to require something more from the anticipating reference"); *see also Bristol-Meyers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1377–1378 (Fed. Cir. 2001) (rejecting appellant's argument that the prior art reference "cannot anticipate the claims because [it] is a failed experiment").

Neither claim 5 nor claim 19 requires any particular result. Therefore, that the Kronzer-769 examples do not achieve perfect results is of little consequence to Petitioner's anticipation ground. As discussed above, Petitioner has met the anticipation standard for claims 5 and 19.

We also observe that Example 7F is characterized as "excellent" and coming "very close to being commercially acceptable." Ex. 1009, 32. And though Kronzer-769 states that the third layer "developed a very slight tackiness after several days," which may result in feeding or handling problems, Kronzer-769 describes those problems as possible, not certain. Ex. 1009, 32 (stating that "this [tackiness] *could* cause problems in sheet

feeding or roll handling" (emphasis added)). Furthermore, Kronzer-769 provides a successful solution to the possible tackiness problem noted in trials 7F and 7G by altering certain ingredients within the formulation. Specifically, Kronzer-769 explains that increasing the amount of calcium stearate and decreasing the amount of plasticizer achieved "optimum results." *Id.* Thus, we disagree with Patent Owner that the trial 7F is a failure. For this additional reason, we disagree with Patent Owner's argument that Petitioner has not met the anticipation standard for claims 5 and 19.

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of evidence, that Kronzer-769 anticipates claims 5 and 19 of the '746 patent.

c) Patent Owner's Remaining Argument

Patent Owner, in its Sur-reply, argues that Petitioner has failed to "identify any material in Trial 7-F that aids in the binding of an applied colorant," i.e., a retention aid. Sur-reply 9. Patent Owner explains that Petitioner's citation to Geon® 352 is insufficient because Petitioner does "not provide any evidence that that material actually acts to aid in the binding of the applied colorant in Example 7F." *Id.* Instead, Patent Owner contends that "Geon is used for other purposes–i.e., as a 'second thermoplastic polymer'" or "[t]he binder." *Id.*

"Sur-replies should only respond to arguments made in reply briefs, comment on reply declaration testimony,

or point to cross-examination testimony." Consolidated Trial Practice Guide (Nov. 2019) ("CTPG") 73–74. And, "[w]hile replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered." *Id.* at 74.

Here, whether Petitioner has provided evidence of a "retention aid," and specifically whether Petitioner has shown that Geon® 352 acts as a retention aid under Patent Owner's proffered construction—that is, a material that aids in the binding of the applied colorant—is a new argument.[15] In its Petition, Petitioner identified Geon® 352 as a "retention aid." Pet. 22. Furthermore, in the Decision on Institution, we found that Kronzer-769 Examples 2E, 7F, and 7G separately described a third layer comprising each of the claimed materials, including a retention aid. DI 16. Patent Owner did not dispute Petitioner's allegation or our findings in its Patent Owner Response, and instead focused its argument on whether a "wax emulsion" was present in Kronzer-769. PO Resp. 18–21. Patent Owner raises arguments regarding the absence of a "retention aid" for the first time in its Sur-reply. Sur-reply 9. As a result, Petitioner has not had the opportunity to provide any responsive argument. Thus, Patent Owner's argument

15. In any event, we do not adopt Patent Owner's construction for the term "retention aid" that requires the performance of a particular function. *See supra* Section II.C. As noted above, Petitioner has shown that Kronzer-769 teaches a release layer including a retention aid as claimed. Ex. 1007 ¶¶ 118, 133–135, 136; Ex. 1009, 13:14–16, 16:1–12, 17:3–4, 17:29–30, 22:14–15, 31:1–27, 33:1–34:18).

is too late and, therefore, is waived. *See* CTPG 73–74; Paper 9, 10 ("any arguments not raised in the response may be deemed waived").

E. Remaining Grounds

Petitioner argues that claims 5 and 19 are anticipated by Kronzer-179 (Pet. 26–34), Hiyoshi (*id.* at 34–42), and Taniguchi (*id.* at 42–49), and that claim 5 is anticipated by Oez (*id.* at 49–53). Petitioner directs us to portions of the asserted references that purportedly disclose the limitations in these claims. *Id.* at 26–53.

Having determined that Petitioner establishes by a preponderance of the evidence that Kronzer-769 renders claims 5 and 19 of the '746 patent unpatentable, we need not address Petitioner's additional grounds challenging claims 5 and 19. *See SAS*, 138 S. Ct. at 1359 (holding a petitioner "is entitled to a final written decision addressing all of the claims it has challenged"); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (nonprecedential) ("We agree that the Board need not address [alternative grounds] that are not necessary to the resolution of the proceeding.").

III. CONCLUSION[16]

For the foregoing reasons, we conclude that Petitioner has satisfied its burden of demonstrating, by a preponderance of the evidence, that claims 5 and 19 of the '746 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner established by a preponderance of the evidence that claims 5 and 19 of U.S. Patent No. 7,008,746 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

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16. Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Appendix D

Claim(s)	35 U.S.C. §	Reference(s)/ Basis[17]	Claims Shown Unpatent-able	Claims Not Shown Unpatent-able
5, 19	102	Kronzer-769	5, 19	
5, 19	102	Kronzer-179		
5, 19	102	Hiyoshi		
5, 19	102	Taniguchi		
5	102	Oez		
Overall Outcome			5, 19	

17. In view of our determination that claims 5 and 19 are anticipated by Kronzer-769, we do not reach grounds for which the last two columns of this table are blank. *See* Section II.E.

APPENDIX E — DENIAL OF REHEARING OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, FILED DECEMBER 15, 2023

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2022-1951, 2022-1952, 2022-1953

JODI A. SCHWENDIMANN,

Appellant

v.

NEENAH, INC.,

Appellee

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2020-01361, IPR2020-01363, IPR2021-00016.

ON PETITION FOR PANEL REHEARING AND REHEARING EN BANC

Before MOORE, *Chief Judge*, LOURIE, DYK, PROST, REYNA, TARANTO, CHEN, HUGHES, STOLL, and CUNNINGHAM, Circuit Judges.[1]

PER CURIAM.

1. Circuit Judge Newman and Circuit Judge Stark did not participate.

Appendix E

ORDER

Jodi A. Schwendimann filed a combined petition for panel rehearing and rehearing en banc. The petition was referred to the panel that heard the appeal, and thereafter the petition was referred to the circuit judges who are in regular active service.

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue December 22, 2023.

FOR THE COURT

December 15, 2023
Date

APPENDIX F — RELEVANT STATUTORY PROVISIONS

Fed. Cir. R. Rule 36, 28 U.S.C.

Rule 36. Entry of Judgment

(a) Judgment of Affirmance Without Opinion. The court may enter a judgment of affirmance without opinion, citing this rule, when it determines that any of the following conditions exist and an opinion would have no precedential value:

(1) the judgment, decision, or order of the trial court appealed from is based on findings that are not clearly erroneous;

(2) the evidence supporting the jury's verdict is sufficient;

(3) the record supports summary judgment, directed verdict, or judgment on the pleadings;

(4) the decision of an administrative agency warrants affirmance under the standard of review in the statute authorizing the petition for review; or

(5) a judgment or decision has been entered without an error of law.

(b) Separate Judgment. The clerk of court will not prepare a separate judgment when a case is disposed of by order without opinion. The order of the court serves as the judgment when entered.