

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

PRATT RETAIL SPECIALTIES, LLC,	)	
	)	
	)	
Plaintiff/Counterclaim Defendant,	)	
	)	
v.	)	C.A. No. 1:24-cv-01073-RGA
	)	
PROAMPAC HOLDINGS INC.,	)	JURY TRIAL DEMANDED
	)	
Defendant/Counterclaim Plaintiff.	)	

**DEFENDANT PROAMPAC HOLDING INC.’S FIRST AMENDED ANSWER AND
COUNTERCLAIMS TO PLAINTIFF PRATT RETAIL SPECIALTIES, LLC’S
COMPLAINT FOR PATENT INFRINGEMENT**

ProAmpac Holdings Inc. (“ProAmpac”), by and through its attorneys, hereby files its First Amended Answer and Counterclaims to Plaintiff Pratt Retail Specialties, LLC’s (“Pratt”) Complaint for Patent Infringement.

Pratt’s Complaint misidentifies the proper defendant. It names the defendant as “ProAmpac LLC.” That entity does not exist. ProAmpac Holdings Inc. is the entity that makes, uses, and sells the product accused of infringement. Thus, ProAmpac Holdings, Inc. herein responds to the Complaint, but denies all allegations in the Complaint that pertain to ProAmpac LLC because that entity does not exist. In responding to Pratt’s Complaint, ProAmpac Holdings Inc. assumes all references to “ProAmpac” in the Complaint refer to ProAmpac Holdings Inc. Accordingly, all references herein to “ProAmpac” will refer to ProAmpac Holdings Inc.¹

ProAmpac responds to the numbered paragraphs in Pratt’s Complaint, and in doing so

¹ On June 26, 2025, the Court granted the parties’ joint stipulation to substitute parties and change case caption and substituted ProAmpac Holdings Inc. for ProAmpac LLC as the named defendant in this action. D.I. 45.

repeats the headings of that Complaint. ProAmpac makes no admissions regarding the substance of the headings. Unless otherwise stated, to the extent that a particular heading can be construed as an allegation, ProAmpac specifically denies all such allegations, including any allegations that it has or is infringing the patent-in-suit, U.S. Patent No. 11,072,148 (“the ’148 Patent”). Where necessary, ProAmpac has made amendments to Pratt’s headings in brackets.

To the extent any response is required to the unnumbered preamble of Pratt’s Complaint, ProAmpac admits that Pratt filed a Complaint against ProAmpac LLC. ProAmpac denies any remaining allegations in the unnumbered preamble of Pratt’s Complaint.

THE PARTIES

1. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 1 of the Complaint and, on that basis, denies such allegations.

2. ProAmpac admits that it is a corporation organized under the laws of the State of Delaware. ProAmpac admits that its registered agent is located at 251 Little Falls Drive, Wilmington, Delaware 19808 and its principal place of business is located at 12025 Tricon Road, Cincinnati Ohio 45246. ProAmpac denies any remaining allegations in this paragraph.

JURISDICTION AND VENUE

3. ProAmpac admits the Complaint purports to set forth an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §1 *et seq.* ProAmpac admits this Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§1331 and 1338(a) because Pratt has alleged patent infringement. But ProAmpac denies that it has committed or is committing acts of patent infringement.

4. ProAmpac does not contest, solely for purposes of the present litigation, that this

Court has personal jurisdiction over it. But ProAmpac denies that it has caused tortious injury to Pratt through alleged acts of patent infringement because ProAmpac has not committed and is not committing acts of patent infringement. ProAmpac admits that it is a corporation despite Pratt naming a non-existent limited liability company as the defendant.

5. ProAmpac does not contest, solely for purposes of the present litigation, that venue is proper in this Court. ProAmpac admits that it is incorporated notwithstanding Pratt naming a non-existent limited liability company as a defendant.

BACKGROUND

6. ProAmpac admits, based on its face, the '148 Patent is titled "Recyclable paper-containing packaging with radiant barrier insulation," and it appears the U.S. Patent & Trademark Office ("USPTO") issued that patent on July 27, 2021. ProAmpac admits that Sigma Technologies Int'l, LLC ("Sigma") is identified as the applicant and the assignee on the face of the '148 Patent. ProAmpac admits that Exhibit A to the Complaint appears to be a copy of the '148 Patent. ProAmpac denies that the '148 Patent was duly and legally issued after a full and fair examination of U.S. Patent Application Serial Number 16/238,998. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 6 of the Complaint and, on that basis, denies such allegations.

7. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 7 of the Complaint and, on that basis, denies such allegations.

8. ProAmpac admits independent claim 14 of the '148 Patent is reproduced in Paragraph 8 of the Complaint.

9. ProAmpac admits that it knew of the '148 Patent as of the date of the filing of the

Complaint or soon thereafter, which was before the Complaint was served. ProAmpac denies any remaining allegations contained in Paragraph 9 of the Complaint.

10. ProAmpac admits that it knew of the '148 Patent as of the date of the filing of the Complaint or soon thereafter. ProAmpac admits that it and Pratt are competitors. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 10 of the Complaint and, on that basis, denies such allegations.

11. ProAmpac admits that, on June 4, 2024, it issued a press release, titled "Keeping it Cool: ProAmpac Unveils Revolutionary FiberCool Curbside Recyclable Insulated Bag" ("ProAmpac's Online Press Release"), announcing the launch of a product called the ProActive Recyclable® FiberCool, the product Pratt accused of infringement in this action ("the Accused Product"). ProAmpac admits the first image in Paragraph 11 of the Complaint is from ProAmpac's Online Press Release and admits that footnote 1 is a link to ProAmpac's Online Press Release, available on ProAmpac's website (ProAmpac.com). ProAmpac denies the Accused Product has or is infringing any claim of the '148 Patent. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 11 of the Complaint and, on that basis, denies such allegations.

12. Admitted.

13. ProAmpac admits ProAmpac's Online Press Release states the following:

"When subjected to a rigorous testing protocol, depending on the products, FiberCool outperforms a standard paper bag by demonstrating temperature retention by as much as 30%," states Ray Recchia, global innovation manager of sustainable paper packaging for ProAmpac. "This improved thermal performance reduces food spoilage and waste, while also reducing packaging weight compared to traditional multi-part thermal bag packaging," continued Recchia."

ProAmpac denies the remaining allegations in Paragraph 13 of the Complaint.

14. ProAmpac admits the packaging of the Accused Product is recyclable. ProAmpac

admits ProAmpac's Online Press Release states the Accused Product is a "curbside recyclable insulated bag" and "it has been pre-qualified for curbside recyclability." ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the allegations in Paragraph 14 of the Complaint related to any purported pre-suit recyclability testing of the Accused Product done by or for Pratt and, on that basis, denies such allegations. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent. ProAmpac denies the remaining allegations in Paragraph 14 of the Complaint.

15. ProAmpac admits Paragraph 15 of the Complaint refers to Paragraph 11 of the Complaint and the first image in Paragraph 11 of the Complaint (ECF No. 1 at 4) is from ProAmpac's Online Press Release. ProAmpac denies the remaining allegations in Paragraph 15 of the Complaint. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent.

16. Denied. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent.

17. Denied. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent.

18. ProAmpac lacks knowledge or information sufficient to form a belief as to the truth of the allegations contained in Paragraph 18 of the Complaint and, on that basis, denies such

allegations. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent.

19. Denied. Upon information and belief, Pratt did not conduct sufficient testing of the Accused Product and/or good faith analysis of the test results, as such testing would have demonstrated the Accused Product cannot infringe any valid claim of the '148 Patent.

COUNT 1

[ALLEGED] INFRINGEMENT OF THE '148 PATENT

20. To the extent any response is required to Paragraph 20 of the Complaint, ProAmpac hereby restates and incorporates by reference each of its responses to Paragraphs 1-19 of the Complaint as if fully set forth herein in their entireties.

21. Denied.

22. Denied.

23. Denied.

24. Denied.

25. Denied.

26. Denied.

27. Denied.

[PRATT'S] PRAYER FOR RELIEF

To the extent any response is required to any paragraph in Pratt's Prayer for Relief, including without limitation the paragraphs numbered 1-5, ProAmpac denies that Pratt is entitled to any of the relief requested in the Complaint or any other relief against ProAmpac.

JURY DEMAND

ProAmpac admits that Pratt has demanded a jury trial on all issues so triable and joins in that demand.

PROAMPAC'S GENERAL DENIAL

To the extent that any factual allegations in the Complaint have not been specifically admitted or denied, ProAmpac denies them.

AFFIRMATIVE DEFENSES

Pursuant to Federal Rule of Civil Procedure 8(b) and (c), without assuming any burden that it would not otherwise bear, without reducing or removing Pratt's burdens of proof on Pratt's affirmative claims against ProAmpac, reserving its right to assert additional defenses, and affirmatively solely to the extent deemed necessary by the Court to maintain any or all of the following defenses, ProAmpac asserts the following defenses to Pratt's Complaint for Patent Infringement.

FIRST AFFIRMATIVE DEFENSE

1. ProAmpac does not and has not infringed, directly, either literally or under the doctrine of equivalents, indirectly, either by inducing others to infringe or by contributing to the infringement of others, or willfully, any valid and enforceable claim of U.S. Patent No. 11,072,148 ("the '148 Patent").

SECOND AFFIRMATIVE DEFENSE

2. The claims of the '148 Patent are invalid and/or unenforceable for failure to comply with one or more of the conditions of patentability set forth in Title 35 of the United States Code, including without limitation, §§102, 103, and 112.

THIRD AFFIRMATIVE DEFENSE

3. Pratt's claims are barred, in whole or in part, by the doctrine of prosecution history estoppel and/or prosecution disclaimer based on amendments, statements, admissions, omissions, representations, disclaimers, and/or disavowals made during the prosecution of the '148 Patent.

FOURTH AFFIRMATIVE DEFENSE

4. Any claim by Pratt for damages is limited or barred under 35 U.S.C. § 287.

5. To the extent that Pratt, Sigma, any predecessors in interest to Pratt or Sigma, and/or any licensees to the '148 Patent failed to properly mark any of their relevant products or materials as required by 35 U.S.C. §287, or otherwise failed to give proper notice that ProAmpac's actions allegedly infringe the '148 Patent, ProAmpac is not liable to Pratt for the acts alleged to have been performed before it received actual notice that it was allegedly infringing the '148 Patent.

FIFTH AFFIRMATIVE DEFENSE

6. Pratt has accused ProAmpac of indirectly infringing the '148 Patent, either by inducing others to infringe or by contributing to the infringement of others. ProAmpac is not liable to Pratt for the acts alleged to have been performed before ProAmpac knew, if ever, that its actions would cause indirect infringement.

SIXTH AFFIRMATIVE DEFENSE

7. Any claim by Pratt for damages is limited or barred under 35 U.S.C. §286. Pratt is barred by 35 U.S.C. §288 from recovering costs associated with its action.

SEVENTH AFFIRMATIVE DEFENSE

8. Should ProAmpac be found to infringe any valid, enforceable claim of the '148 Patent, Pratt is precluded from recovering increased damages under 35 U.S.C. §284 because such alleged infringement was and is not willful.

EIGHTH AFFIRMATIVE DEFENSE

9. Pratt cannot prove that this is an exceptional case justifying an award of attorneys' fees against ProAmpac under 35 U.S.C. §285 or otherwise. Instead, ProAmpac intends to prove that this action is an exceptional case that allows ProAmpac to recover its attorneys' fees, expenses, and costs.

NINTH AFFIRMATIVE DEFENSE

10. Pratt cannot satisfy the requirements applicable to its request for injunctive relief and has an adequate remedy at law.

TENTH AFFIRMATIVE DEFENSE

11. Upon information and belief, Pratt lacks standing to assert infringement of the '148 Patent because it is not an exclusive licensee of the patent and/or it did not acquire all substantial rights in the '148 Patent under its purported agreement with Sigma.

ELEVENTH AFFIRMATIVE DEFENSE

12. Upon information and belief, at least Yakov Sidorin, Sigma's prosecution attorney, Steven Yializis and Luke Rogers, the purported inventors of the '148 Patent, and/or any other individuals with responsibility for prosecuting the '148 Patent violated their duty of candor and good faith under 37 C.F.R. §1.56 and engaged in acts that constitute inequitable conduct before the USPTO during prosecution of the '148 Patent that render the claims of the '148 Patent unenforceable. Those acts, which were done with an intent to deceive, include (1) misrepresenting and/or submitting false information to the USPTO about the teachings of a prior art reference cited by the Examiner and (2) withholding material prior art from the USPTO, as alleged more specifically in ProAmpac's Count III counterclaim seeking a Declaratory Judgment of Unenforceability of the '148 Patent set forth below and incorporated herein by reference. Each

act on its own renders the '148 Patent unenforceable.

RESERVATION OF RIGHTS

13. ProAmpac has not yet completed its investigation of the facts of this case, has not completed discovery in this action, and has not completed its preparation for trial. The defenses pled in this Answer are based on ProAmpac's current knowledge, information, and belief. ProAmpac reserves any and all rights to amend its Answer, including its currently pled defenses, and/or to add additional defenses, as any basis for doing so becomes apparent.

COUNTERCLAIMS

Defendant and Counterclaim Plaintiff ProAmpac Holdings Inc. ("ProAmpac") asserts the following counterclaims against Plaintiff and Counterclaim Defendant Pratt Retail Specialties, LLC ("Pratt").

1. ProAmpac asserts counterclaims for declaratory judgment of noninfringement, invalidity, and unenforceability arising under 28 U.S.C. §§2201 and 2202 and the Patent Laws of the United States, Title 35 of the United States Code.

2. ProAmpac also asserts counterclaims for Sham Litigation and *Walker Process* Fraud in violation of the Sherman Act §2.

3. ProAmpac realleges and incorporates by reference all of its allegations in its Answer and its Affirmative Defenses as if fully set forth herein in their entireties.

PARTIES

4. ProAmpac is a corporation organized under the laws of the State of Delaware, and its principal place of business is located at 12025 Tricon Road, Cincinnati Ohio 45246.

5. As set forth in Paragraph 1 of Pratt's Complaint (ECF No. 1), Pratt is a limited

liability company organized under the laws of the State of Delaware, and its principal place of business located at 4004 Summit Blvd NE, Suite 1000, Atlanta, Georgia 30319.

JURISDICTION AND VENUE

6. This Court has subject matter jurisdiction over the counterclaims for declaratory judgment of non-infringement, invalidity, and unenforceability because this Court has exclusive jurisdiction over declaratory judgment claims arising under the patent laws of the United States pursuant to 28 U.S.C. §§1331, 1338, 2201, and 2202.

7. As evidenced by Pratt's Complaint (ECF No. 1), there exists a real and actual controversy between Pratt and ProAmpac concerning the validity, enforceability, and alleged infringement of U.S. Patent No. 11,072,148 ("the '148 Patent").

8. This Court has subject matter jurisdiction over ProAmpac's federal counterclaims under the Sherman Act §2. This Court also has subject matter jurisdiction over those counterclaims pursuant to supplemental jurisdiction statute, 28 U.S.C. §1367, and it is proper for this Court to exercise supplemental jurisdiction pursuant to the factors listed in 28 U.S.C. §1367.

9. This Court has personal jurisdiction over Pratt at least because Pratt has submitted itself to the jurisdiction of this Court by filing its Complaint for Patent Infringement and seeking relief from this Court. This Court also has personal jurisdiction over Pratt because, as set forth in Paragraph 1 of Pratt's Complaint (ECF No. 1), it is a limited liability company organized under the laws of the State of Delaware.

10. Venue for ProAmpac's Counterclaims is proper in this Court under 28 U.S.C. §1391 at least because Pratt selected and submitted itself to this venue by filing its Complaint for Patent Infringement and seeking relief from this Court and because Pratt is a limited liability company subject to personal jurisdiction here. Venue is also proper in this Court because, as set

forth in Paragraph 1 of Pratt's Complaint (ECF No. 1), it is a limited liability company organized under the laws of the State of Delaware and therefore resides here.

FACTUAL ALLEGATIONS

A. ProAmpac

11. ProAmpac is a leader in flexible packaging and materials science.

12. One of its innovated products is the ProActive Recyclable® FiberCool bag ("the Accused Product"), shown below. That product offers the convenience of curbside recyclability and a temperature retention solution for the food and grocery delivery market.



B. Pratt's Prosecution of the '148 Patent

13. As set forth in Paragraph 6 of Pratt's Complaint (ECF No. 1), the '148 Patent was issued to Sigma Technologies Int'l, LLC ("Sigma"). Sigma is identified as the applicant and the assignee on the face of the '148 Patent.

14. Steven Yializis and Luke Rogers are identified as the purported inventors on the face of the '148 Patent ("Purported Inventors").

15. Upon information and belief, Sigma hired Quarles & Brady LLP to be its patent prosecution counsel for the '148 Patent. Upon information and belief, Yakov Sidorin of Quarles & Brady LLP prosecuted the '148 Patent for Sigma.

16. Claim 14 of the '148 Patent recites as follows:

14. A method for thermally insulating a good within a recyclable packaging, the method comprising:

placing a reflective insulation material in a pre-defined proximity with the good, the pre-defined proximity being suitably chosen to provide adequate thermal insulation to the good, wherein said reflective insulation material comprises the recyclable packaging that includes:

a paper layer with first and second surfaces;

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;

an aluminum layer deposited on the fourth surface, wherein the aluminum layer has a first thickness of 200 nanometers or less and wherein the aluminum layer causes an emissivity of the recyclable packaging to be equal to or smaller than a first value of 0.10; and

wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment that includes

- a) blending the packaging in a blender to form a first material;
- b) disintegrating the first material into water with a British Disintegrator at a temperature within a range from about 115 degrees F. to about 135 degrees F. at 3000 rpm to form a second material;
- c) separating the second material in a 0.01 inch screen with a 1 inch water head for 20 minutes to form a fourth material; and
- d) drying the fourth material in an oven for 4 hours at 221 degrees F.

ECF No. 1-1 at 19 (claim 14).

COUNT I
DECLARATORY JUDGMENT OF INVALIDITY OF THE '148 PATENT

17. ProAmpac realleges and incorporates by reference the allegations in paragraphs 1-16 of its Counterclaims as if fully set forth herein in their entireties.

18. In this action, Pratt has accused ProAmpac of direct and indirect infringement of

the '148 Patent, citing ProAmpac's using, testing, offering to sell, and selling of the Accused Product.

19. The claims of the '148 Patent are invalid for failure to comply with one or more of the requirements of patentability as specified in 35 U.S.C. §§1 *et seq.*, including, without limitation, 35 U.S.C. §§102, 103, and 112.

20. As an example, U.S. Publication No. 2014/0272163 to Tilton in view of U.S. Publication No. 2017/0129216 to Shimizu, U.S. Publication No. 2011/0020570 to Wadsworth *et al.*, and U.S. Patent No. 4,952,278 to Gregory renders obvious at least claim 14 of '148 Patent.

21. ProAmpac has been injured and damaged by Pratt's allegations that it infringes an invalid patent.

22. Declaratory relief is both appropriate and necessary to establish (1) ProAmpac has not and does not infringe any valid claim of the '148 Patent and (2) the '148 Patent is invalid and thus cannot be asserted against ProAmpac.

23. As set forth above, an actual, concrete, justiciable, and immediate controversy exists between the parties regarding the invalidity of the '148 Patent. ProAmpac therefore seeks and is entitled to a declaratory judgment that the claims of the '148 Patent are invalid.

COUNT II
DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF THE '148 PATENT

24. ProAmpac realleges and incorporates by reference the allegations in paragraphs 1-23 of its Counterclaims as if fully set forth herein in their entirety.

25. In this action, Pratt has accused ProAmpac of direct and indirect infringement of at least claim 14 of the '148 Patent, citing ProAmpac's using, testing, offering to sell, and selling of the Accused Product.

26. ProAmpac does not infringe, and has not infringed, any valid and enforceable claim

of the '148 Patent directly, either literally or under the doctrine of equivalents, indirectly, either by inducing others to infringe or by contributing to the infringement of others, or willfully.

27. As an example, claim 14 of the '148 Patent recites “wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment that includes” claimed steps a) through d). ECF No. 1-1 at 19 (claim 14). The Accused Product has not and does not satisfy at least that claim limitation.

28. As set forth above, an actual, concrete, justiciable, and immediate controversy exists between the parties about the alleged infringement of the '148 Patent. Thus, ProAmpac seeks and is entitled to a declaratory judgment that it has not and does not and the Accused Product has not and does not infringe any claim of the '148 Patent. Such relief is necessary and appropriate at this time to resolve the parties' dispute.

COUNT III
DECLARATORY JUDGMENT OF UNENFORCEABILITY DUE TO
INEQUITABLE CONDUCT

29. ProAmpac realleges and incorporates by reference the allegations in paragraphs 1-28 of its Counterclaims as if fully set forth herein in their entireties.

30. Section 1.56 of Title 37 of the Code of Federal Regulations establishes a duty of candor and good faith in dealing with the Patent Office on the part of the inventor and any other individual with responsibility for prosecuting a patent application. Each inventor and individual associated with the filing and prosecution of a patent application has a duty to disclose all information known to that individual to be material to patentability.

31. Upon information and belief, at least Yakov Sidorin, Sigma's prosecution attorney, the Purported Inventors, and/or any other individuals with responsibility for prosecuting the '148

Patent (“Other Responsible Individuals”) violated their duty of candor and good faith under 37 C.F.R. §1.56 and engaged in acts that constitute inequitable conduct during the prosecution of the ’148 Patent that render the ’148 Patent unenforceable in its entirety. As detailed below, those acts, which were done with an intent to deceive, include (1) misrepresenting and/or submitting false information to the USPTO about the teachings of a prior art reference cited by the Examiner and (2) withholding material prior art from the USPTO. Each act on its own renders the ’148 Patent unenforceable.

A. Misrepresentation and/or False Submission of Information to the USPTO

32. During prosecution of the ’148 Patent, in an office action dated June 25, 2020, the Examiner rejected all of the claims, including claim 1 and claim 14 (original claim 15), as being unpatentable over U.S. Publication No. 2014/0272163 to Tilton (“Tilton”) in view of U.S. Publication No. 2017/0129216 to Shimizu (“Shimizu”), U.S. Publication No. 2011/0020570 to Wadsworth *et al.* (“Wadsworth”), and U.S. Patent No. 4,952,278 to Gregory (“Gregory”). The Examiner rejected the claims over those references because, *inter alia*, Wadsworth teaches an aluminum layer with emissivity equal to or lower than 0.10. The Examiner cited, *inter alia*, paragraph 15 of Wadsworth in support of its rejection.

33. In an office action response dated December 22, 2020, Mr. Sidorin traversed the rejection by arguing Wadsworth only teaches an aluminum layer with emissivity equal to or below 0.10, while the claims recite the entire stack has an emissivity level equal to or below 0.10. Specifically, claim 1 recited “wherein said **stack** has emissivity that is equal to or smaller than a first value of 0.10 as perceived through an outer surface thereof,” and claim 14 (original claim 15) recited “wherein the aluminum layer causes ***an emissivity of the recyclable packaging*** to be equal to or smaller than a first value of 0.10.”

34. In an office action dated March 29, 2021, the Examiner found Mr. Sidorin’s

arguments persuasive. The Examiner stated claim 14 (original claim 15), *inter alia*, was allowable because “[t]he cited prior art fails to disclose or make obvious the packaging having an emissivity that is equal to or smaller than a first value of 0.10.” The Examiner made the same statement in the notice of allowance dated April 28, 2021. In other words, the emissivity of the stack is the limitation of the alleged invention that overcame the prior art of record and resulted in allowance.

35. Mr. Sidorin’s traversal argument was misleading and/or false because the stack cannot have an emissivity distinct from the aluminum layer under the C1371 emissivity test disclosed in the patent. Upon information and belief, when a stack with aluminum is subjected to the C1371 emissivity test, the infrared laser is aimed at the aluminum side of the stack. What is behind the aluminum layer (e.g., paper/polymer) has no impact on emissivity because the light cannot penetrate past the aluminum into the other layers of the stack. Thus, the emissivity is solely determined by the aluminum layer. In other words, whether the C1371 test is performed on an aluminum layer standing alone, or the same aluminum layer attached to paper and polymer (i.e., a stack), the emissivity result will be the same.

36. Upon information and belief, the Examiner did not appreciate that Mr. Sidorin’s argument that the claim recites an emissivity of the whole stack rather than the emissivity of the aluminum layer was a distinction without a difference. Had the Examiner known that, he would not have allowed the claims, including claim 14 (original claim 15), over Tilton in view of Wadsworth, Shimizu, and Gregory.

37. That shows the emissivity of the stack and the aluminum layer being the same was not cumulative of the information before the Examiner and it was material information.

38. Upon information and belief, the misrepresentation and/or submission of false information to the U.S. Patent & Trademark Office (“USPTO”) happened because (1) the

Purported Inventors and/or the Other Responsible Individuals knowingly and intentionally made the decision to deceive the Examiner by having Mr. Sidorin misrepresent and/or falsely state that the emissivity of the stack was different than the emissivity of the aluminum layer and thus Wadsworth did not teach the claimed emissivity limitation, (2) Mr. Sidorin knowingly and intentionally made the decision to deceive the Examiner by misrepresenting and/or falsely stating that the emissivity of the stack was different than the emissivity of the aluminum layer and thus Wadsworth did not teach the claimed emissivity limitation, or (3) Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals together knowingly and intentionally made the decision to deceive the Examiner by misrepresenting and/or falsely stating that the emissivity of the stack was different than the emissivity of the aluminum layer and thus Wadsworth did not teach the claimed emissivity limitation. That misrepresentation and/or submission of false information misled the Examiner into allowing claims that are not patentable.

39. Upon information and belief, Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals knew the emissivity of the stack and the aluminum layer being the same was material. The Examiner had prior art that taught the emissivity of the aluminum layer, i.e., Wadsworth. The only thing that was missing, according to the Examiner, was prior art that taught the emissivity of the stack. In other words, the Examiner identified the stack's emissivity as the element purportedly missing from the prior art of record because, based on Mr. Sidorin's arguments, the Examiner did not know that Wadsworth teaching an aluminum layer with emissivity equal to or below 0.10 meant Wadsworth taught a stack with emissivity equal to or below 0.10.

40. Every independent claim of the '148 Patent, including claim 14, recites the emissivity limitation. Mr. Sidorin's, the Purported Inventors', and/or the Other Responsible

Individuals' misrepresentation and/or submission of false information that the emissivity of the stack is different than the emissivity of the aluminum layer is relevant to at least that limitation in at least those claims of the '148 Patent.

41. But for Mr. Sidorin's, the Purported Inventors', and/or Other Responsible Individuals' misrepresentation and/or false submission of that material information, the USPTO would not have issued the '148 Patent.

42. The most reasonable inference from the above evidence is that Mr. Sidorin's, the Purported Inventors', and/or the Other Responsible Individuals' misrepresentation and/or false submission that the emissivity of the stack is different than the emissivity of the aluminum layer to the USPTO was done with an intent to deceive the USPTO to obtain the '148 Patent for Sigma and constitutes a violation of the duty of candor and good faith under 35 U.S.C. §1.56, thereby rendering the '148 Patent unenforceable in its entirety due to inequitable conduct. Had Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals not mislead the Examiner into thinking the emissivity of the stack and the emissivity of the aluminum layer were different, the '148 Patent would not have issued because the Examiner had prior art, Wadsworth, that disclosed an emissivity of an aluminum layer and therefore the stack that is equal to or smaller than a first value of 0.10, the limitation the Examiner thought was missing from the prior art.

B. Intentional Withholding of Material Prior Art from the USPTO

43. The '148 Patent is also unenforceable due to inequitable conduct because, upon information and belief, Mr. Sidorin, Sigma's prosecution attorney, the Purported Inventors, and/or the Other Responsible Individuals violated their duty of candor and good faith by knowingly and intentionally withholding material prior art from the USPTO during the prosecution of the '148 Patent with the deliberate intent to deceive the USPTO.

44. A prior art reference that Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals withheld from the Examiner is an article entitled “Multi-Layer, Low Emissivity, Metallized Materials for Replacing Aluminum Foils in Heat Reflection and Energy Management Applications” (“Yializis Article”). A copy of the Yializis Article is attached as Exhibit 2.

45. Mr. Yializis is an alleged inventor of the ’148 Patent. He is also the author of the Yializis Article. Ex. 2 at 755. Sigma’s name also appears on the cover page of that article. *Id.*

46. The Yializis Article describes multilayered, low emissivity, metallized materials for replacing aluminum foil in heat reflection and insulation applications, including “food, agricultural, biomedical and electronic packaging.” Ex. 2 at 755, 757, 758 (describing “packaging-grade” films). The Yializis Article teaches that “[v]acuum metallized materials, generally composed of a polymer substrate and a vapor deposited low-e layer” of aluminum ranging in thickness “from 0.02 μm to 0.50 μm ,” suffer from oxidation and corrosion when exposed to high heat and moisture. *Id.* at 755. Due to “the amount of sacrificial aluminum available,” the thin metallized aluminum is “completely consumed by the oxidation and corrosion reactions” caused by high heat and moisture (e.g., steam for five minutes), resulting in the aluminum layer becoming “entirely transparent” and “the emissivity of the material being entirely compromised.” *Id.* at 755-56. The Yializis Article further teaches a thin protective coating deposited on the aluminum layer to maintain the material’s emissivity (e.g., at “ $\epsilon = 0.03$ ”) and prevent oxidation during normal applications. *Id.* at 756-59.

47. In other words, the Yializis disclose the same subject matter as the ’148 Patent—metalized polymers with low emissivity that fully oxide and having a protective coating.

48. The Yializis Article was published by the Society of Vacuum Coaters in or around

May 2009 as part of its 52nd Annual Technical Conference Proceedings, held in Santa Clara, California, on May 9-14, 2009. *Id.* at 755.

49. The earliest claimed priority date on the face of the '148 Patent is January 8, 2018. '148 Patent at (60).² The Yializis Article was publicly available at least eight years before that date and is therefore prior art under 35 U.S.C. § 102(a)(1).

50. Even though the Yializis Article was published years before the alleged priority date of the '148 Patent, Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals withheld the article from the Examiner during prosecution of the '148 Patent.

51. As discussed above, the Examiner believed the prior art of record did not teach the emissivity limitation. *Supra* at ¶34.

52. The Yializis Article teaches the emissivity limitation. Specifically, the Yializis Article teaches “multi-layer, low emissivity materials....” Ex. 2 at 755. The material comprises a polymer substrate and a vacuum deposited aluminum layer for use in heat reflection applications, including food packaging. *Id.* 755, 759. The Yializis Article teaches using the vacuum metallized aluminum as a replacement for aluminum foil because it is much thinner and can have a similarly low emissivity. *Id.* at 755-56. The aluminum layer has a thickness as low as 0.02 μm (20 nanometers) and an emissivity of 0.03, like aluminum foil. *Id.* at 755, 756, 759. In other words, the Yializis Article teaches a metallized aluminum layer combined with a protective layer thick enough to provide sufficient oxidation protection in normal use of the stack, yet thin enough to maintain the emissivity under 0.10 and “match the emissivity performance of bulk aluminum foil.”

53. As discussed above, every independent claim of the '148 Patent, including claim

² ProAmpac does not admit or deny that the '148 Patent has a priority date of January 18, 2018, and reserves the right to contest that priority date.

14, recites the emissivity limitation. '148 Patent at claim 1 (19:12-14), claim 7 (19:64-67), claim 9 (20:33-36), claim 14 (21:21-24), claim 15 (22:16-20). Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals withholding the Yializis Article is relevant to at least that limitation in at least those claims of the '148 Patent.

54. The Yializis Article also teaches a metal layer that is capable of fully oxidizing. Ex. 2 at 755-56. That is a limitation the Applicant told the Examiner the Examiner failed to prove was in the prior art of record. Ex. 3 (Applicant's Office Action Response) at 9-10.

55. Every independent claim of the '148 Patent, including claim 14, includes a limitation about a metal layer that is capable of fully oxidizing. '148 Patent at claim 1 (19:15-27), claim 7 (20:1-12), claim 9 (20:37-52), claim 14 (21:26-22:2), claim 15 (22:21-36). Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals withholding the Yializis Article is relevant to at least that limitation in at least those claims of the '148 Patent.

56. Because the Yializis Article taught the limitations missing from the prior art of record, it was not cumulative of the information before the Examiner. That demonstrates the Yializis Article was material.

57. Upon information and belief, Mr. Sidorin, the Purported Inventors (including Steven Yializis), and/or Other Responsible Individuals knew the Yializis Article was material because they knew that article taught the emissivity limitation and a metal layer that is capable of fully oxidizing, the limitations purportedly missing from the prior art of record.

58. Thus, had the Examiner known of the Yializis Article, the Examiner would not have allowed the claims of the '148 Patent, including claim 14 (original claim 15).

59. Upon information and belief, Mr. Sidorin, the Purported Inventors, and/or Other Responsible Individuals were well-acquainted with the USPTO's patent prosecution process and

the duty of candor and good faith required in dealing with the USPTO. For example, Steven Yializis had been listed as an alleged inventor on multiple U.S. patent properties (e.g., U.S. Pub. Nos. 2011/0262699 and 2013/0052419) prior to the filing of the application that matured into the '148 Patent, and he was therefore familiar with the duty of candor and good faith requirement when dealing with the USPTO. Mr. Sidorin (Reg. No. 63,507) is admitted to practice before the USPTO and is therefore familiar with the duty of candor and good faith requirement when dealing with the USPTO. The inventors, including Mr. Yializis, signed and filed declarations declaring they understood their duty of candor to the PTO.

60. The Yializis Article is one of the alleged inventor's own publications and teaches the same subject matter as the '148 Patent—metalized polymers with low emissivity that fully oxide and having a protective coating. Yet, Mr. Sidorin, the Purported Inventors, and/or Other Responsible Individuals withheld the Yializis Article from the Examiner.

61. In fact, neither Mr. Sidorin, the Purported Inventors, nor Other Responsible Individuals disclosed a single prior art reference to the Examiner during prosecution of the '148 Patent.

62. Other references they withheld include U.S. Patent Application Publication No. 2011/0262699 ("the '699 Publication"). Mr. Yializis is the purported inventor and Sigma is listed as the assignee of that publication. It also teaches the same subject matter as the '148 Patent and discloses the emissivity limitation.

63. Upon information and belief, Mr. Sidorin, the Purported Inventors, and/or Other Responsible Individuals intentionally withheld the Yializis Article, despite knowing the reference was material, and told the Examiner the prior art did not teach a packaging with a metal layer with low emissivity that was capable of fully oxidizing to avoid a rejection and obtain issuance of the

claims based on the application that matured into the '148 Patent.

64. Upon information and belief, the withholding of the material prior art Yializis Article from the USPTO during the prosecution of the '148 Patent happened because (1) the Purported Inventors and/or the Other Responsible Individuals knowingly and intentionally made the decision to deceive the Examiner by preventing or stopping Mr. Sidorin from submitting the Yializis Article, (2) Mr. Sidorin knowingly and intentionally made the decision to deceive the Examiner by not submitting the Yializis Article, or (3) Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals together knowingly and intentionally made the decision to deceive the Examiner by not submitting the Yializis Article. Their withholding of that material prior art to the USPTO misled the Examiner into allowing claims that are not patentable.

65. But for Mr. Sidorin's, the Purported Inventors', and/or Other Responsible Individuals' intentional withholding of the Yializis Article during prosecution, the '148 Patent would not have issued.

66. The most reasonable inference from the above evidence is Mr. Sidorin, the Purported Inventors, and/or Other Responsible Individuals withheld Mr. Yializis's own publication, the Yializis Article (among other prior art references), from the Examiner during the prosecution of the '148 Patent and that was done with an intent to deceive the USPTO to obtain the '148 Patent for Sigma and constitutes a violation of the duty of candor and disclosure under 37 C.F.R. § 1.56, thereby rendering the '148 patent unenforceable in its entirety due to inequitable conduct. Had Mr. Sidorin, the Purported Inventors, and/or the Other Responsible Individuals not withheld (i.e., disclosed) that article, the '148 Patent would not have issued because the Examiner would have had prior art that taught the limitations the Examiner thought was missing from the prior art of record.

* * *

67. As a result of Mr. Sidorin's, the Purported Inventors', and/or the Other Responsible Individuals' inequitable conduct, ProAmpac has been forced to mount defenses against the unenforceable '148 Patent.

68. Pratt's allegations of patent infringement pose a threat to ProAmpac's business and have harmed and will continue to cause competitive injury to ProAmpac until such claims are resolved.

69. As set forth above, an actual, concrete, justiciable, and immediate controversy exists between the parties regarding the enforceability of the '148 Patent due to inequitable conduct of Mr. Sidorin, the Purported Inventors, and/or Other Responsible Individuals. ProAmpac therefore seeks and is entitled to a declaratory judgment that the claims of the '148 Patent are unenforceable.

COUNT IV
SHAM LITIGATION IN VIOLATION OF THE SHERMAN ACT §2

70. ProAmpac realleges and incorporates by reference the allegations in paragraphs 1-69 of its Counterclaims as if fully set forth herein in their entirety.

71. The Accused Product is marketed, sold, and distributed in interstate commerce.

72. The market for the Accused Product is thermally-insulated recyclable paper bags used for the delivery of food or grocery products, which are sold throughout the entirety of the United States. Upon information and belief, Pratt and ProAmpac are the only competitors in this market and each have about 50% of the market.

73. Pratt sought and continues to seek to monopolize the thermally-insulated recyclable paper bags market, including by pursuing objectively baseless litigation against ProAmpac, with the knowledge that such claims are objectively baseless and motivated by a desire to interfere with

ProAmpac's business relationships.

74. As described above in Count III, incorporated by reference herein in its entirety, Pratt fraudulently procured the '148 Patent and is attempting to enforce it, which Pratt knows or should know is invalid and unenforceable, in order to illegally acquire monopoly power in the U.S. market of thermally-insulated recyclable paper bags used for delivery of food and grocery products throughout the United States.

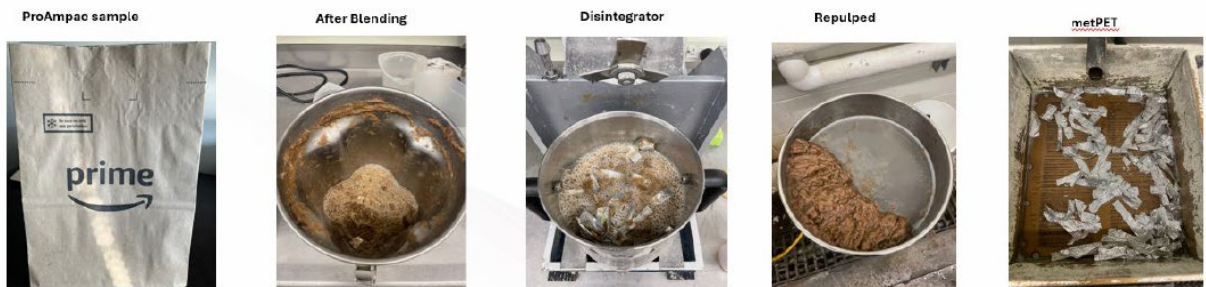
75. Additionally, Pratt asserts the '148 Patent against the Accused Product with knowledge the product cannot infringe the '148 Patent claims as a matter of law. By way of example, Pratt has asserted claim 14 of the '148 Patent. Claim 14 recites

“wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment that includes

- a) blending the packaging in a blender to form a first material;
- b) disintegrating the first material into water with a British Disintegrator at a temperature within a range from about 115 degrees F. to about 135 degrees F. at 3000 rpm to form a second material;
- c) separating the second material in a 0.01 inch screen with a 1 inch water head for 20 minutes to form a fourth material; and
- d) drying the fourth material in an oven for 4 hours at 221 degrees F.”

ECF No. 1-1 at 19 (claim 14). Claimed steps (a)-(d) reflect an industry standard test that was developed by Western Michigan University (hereafter “the WMU Test”). According to the patent specification, a key feature of the purported invention is that, when subject to the WMU Test, the *aluminum layer fully oxidizes* and corrodes away, becoming completely transparent. *See e.g.*, ECF No. 1-1 ('148 Patent) at 2 (Abstract), 9-10 (1:33-37, 2:5-13, 4:39-49, 4:53-63). Acting as its own lexicographer, the patentee defined full oxidization as “when the aluminum is substantially transparent instead of silver-colored.” *Id.* at 13 (10:56-58). Thus, any aluminum that ends up in the recyclable material (i.e., the accept) is invisible. *Id.* (10:47-58). As the patent clearly explains, when the disclosed bag stack configuration is subjected to the WMU Test, the aluminum layer on

the bag fully oxidizes, meaning all of it becomes transparent and corrodes off the bag layers. *See, e.g., id.* at 9 (1:33-45), 13 (10:47-58). According to the patent, the benefit of this full oxidization is that it does not matter if the aluminum lands in the accept material in the WMU Test, because it is invisible to the naked eye. *See, e.g., id.* at 13-14 (10:47-58, 11:23-39). The Accused Product does not meet this claim limitation either literally or under the doctrine of equivalents. The below illustrates photographs from the WMU Test run on the Accused Product:



As seen in the photo above and to the right, following the WMU Test, the aluminum layer in the Accused Product is clearly visible as a silver layer stacked on the polymer layer in the reject bin (labeled “metPET”). In other words, in the Accused Product, the “aluminum layer [is *not*] fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to [WMU Test],” because the aluminum layer does not fully oxidize, corrode off the bag layers, and turn invisible in the WMU Test. As such, the Accused Product cannot infringe claim 14 of the ’148 Patent as a matter of law.

76. Pratt’s Complaint alleges it conducted testing of the Accused Product prior to filing its Complaint. If true, Pratt knew before it filed its Complaint that the Accused Product could not meet the “fully oxidized” limitation of asserted claim 14. Additionally, ProAmpac notified Pratt on December 4, 2024, that the WMU testing showed the Accused Product did not have an aluminum layer that “fully oxidized,” and the patent was invalid over a misleading traversal argument. *See* Exhibit 1.

77. All of the above shows that Pratt's Complaint is objectively baseless, and that Pratt knows its Complaint is objectively baseless because it cannot reasonably expect to prevail on the merits of its infringement allegation.

78. The timing of the filing of Pratt's Complaint was suspiciously timed with ProAmpac's and Pratt's bid to Amazon Inc. in fall 2024. Before the Amazon bid, Pratt had lost market share of its recyclable bag to ProAmpac. Upon information and belief, in the Amazon bid, Pratt knew it was at serious risk of losing more market share to ProAmpac. Thus, Pratt decided to file this sham litigation to unlawfully deter ProAmpac from fairly competing for the Amazon business and influence Amazon's decision making in the bid process, and to continue to influence Amazon's decision-making in future annual bids for thermally-insulated recyclable paper bags.

79. Pratt had and continues to have a subjective motivation to deceptively leverage this sham litigation as a weapon to interfere with ProAmpac's business relationships with customers like Amazon Inc., as opposed to competing fairly in the market place without an abuse of government process.

80. As a result of the illegal and exclusionary practices described herein, Pratt has either enhanced its monopoly power, obtained monopoly power, or created a dangerous probability that it will obtain such power in the U.S. thermally-insulated recyclable paper bags market, by excluding the only other competitor, ProAmpac, and thereby harming and/or eliminating competition and damaging consumers.

81. Pratt is intentionally using the '148 Patent procured by inequitable conduct and this sham litigation to dissuade lawful competition, including competition against ProAmpac. Pratt has acted with specific intent to exclude competition and obtain monopoly power. Pratt's unlawful exclusionary conduct has caused and will continue to cause substantial anticompetitive effects to

ProAmpac and to competition generally in the United States market for the thermally-insulated recyclable paper bags market.

82. Pratt's exclusionary conduct has caused specific antitrust injury to ProAmpac, including but not limited to unfairly causing the diversion of ProAmpac's resources to the present litigation against Pratt, when such resources could otherwise have been applied to further development of ProAmpac's products.

83. Upon information and belief, ProAmpac and Pratt are the only two competitors in the market, and thus Pratt's unlawful conduct has a dangerous probability of creating an unlawful monopoly in the relevant market by unfairly causing the loss of customer goodwill towards ProAmpac as a result of Pratt's objectively baseless claims of patent infringement, unfairly causing the loss of profits for ProAmpac as a result of Pratt's objectively baseless claims of patent infringement, and ultimately pushing ProAmpac out of a two-competitor market and giving Pratt a monopoly of the U.S. market of thermally-insulated recyclable paper bags used for delivery of food and grocery products.

84. There are no legitimate business justifications or pro-competitive benefits from Pratt's conduct. Further, any purported pro-competitive benefits would be outweighed by the substantial harm to competition Pratt has caused.

85. Thus, ProAmpac seeks an injunction to permanently enjoin and restrain Pratt, its agents, servants, employees, attorneys, and all other persons in active concert or participation with Pratt, from its anticompetitive behavior against ProAmpac's products and business. ProAmpac also seeks compensatory damages and special damages plus exemplary and punitive damages, together with ProAmpac's attorneys' fees, expenses, costs and all other and further relief as this Court deems just and proper.

COUNT V

WALKER PROCESS FRAUD IN VIOLATION OF SHERMAN ACT § 2

86. ProAmpac realleges and incorporates by reference the allegations in paragraphs 1-85 of its Counterclaims as if fully set forth herein in their entirety.

87. As explained above in Count III, incorporated herein by reference in its entirety, the '148 Patent is unenforceable as the result of Mr. Sidorin's, the Purported Inventors', and/or the Other Responsible Individuals' acts of inequitable conduct before the USPTO. Pratt has maintained and enforced the '148 Patent against Pratt with knowledge of the fraudulent procurement.

88. As explained above in Count IV, Pratt has knowingly asserted the unenforceable '148 Patent with an attempt to monopolize the United States market for thermally-insulated recyclable paper bags used for delivery of food and grocery products, in violation of §2 of the Sherman Act.

89. Thus, Pratt has committed *Walker Process* Fraud under §2 of the Sherman Act.

90. ProAmpac seeks an injunction to permanently enjoin and restrain Pratt, its agents, servants, employees, attorneys, and all other persons in active concert or participation with Pratt, from its anticompetitive behavior against ProAmpac's products and business. ProAmpac also seeks compensatory damages, special damages and treble damages plus exemplary and punitive damages, together with ProAmpac's attorneys' fees, expenses, costs and all other and further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

ProAmpac hereby requests a trial by jury for all issues so triable.

PRAYER FOR RELIEF

ProAmpac respectfully requests this Court enter the following relief:

- a. Dismissal of Pratt's Complaint (ECF No. 1) with prejudice.
- b. A declaration that the '148 Patent is invalid.
- c. A declaration that ProAmpac does not infringe and has not infringed, directly or indirectly, any valid and enforceable claim of the '148 Patent.
- d. That the Court adjudge and decree that the '148 Patent is unenforceable due to inequitable conduct.
- e. That the Court adjudge and decree that Pratt has filed a sham limitation and/or committed *Walker Process* Fraud to monopolize or attempt to monopolize the thermally-insulated recyclable paper bag market in violation of §2 of the Sherman Act.
- f. That the Court enter a preliminary and permanent injunction against Pratt to permanently enjoin and restrain Pratt, its agents, servants, employees, attorneys, and all other persons in active concert or participation with Pratt, from their anticompetitive practices in the market, including against ProAmpac's products and business.
- g. That the Court award ProAmpac monetary damages in an amount to be determined at trial, for damages resulting from Pratt's unlawful and anticompetitive actions described herein.
- h. The Court award ProAmpac treble damages under §4 of the Clayton Act.
- i. An award of all damages, attorneys' fees, expenses and costs that this Court deems just and proper related to Pratt's unlawful and anticompetitive actions described herein.
- j. An award of prejudgment and post-judgment interest on ProAmpac's damages award.

k. A declaration that this case is exceptional under 35 U.S.C. §285 and an award of ProAmpac's attorneys' fees, expenses, and costs.

l. An award of all other and further relief as this Court deems just and proper.

Dated: July 15, 2025

BLANK ROME LLP

/s/ James G. Gorman III

James G. Gorman III (No. 6284)

Gregory P. Ranzini (No. 6624)

1201 N. Market Street, Suite 800

Wilmington, DE 19801

Telephone: (302) 425-6400

Facsimile: (302) 425-6464

james.gorman@blankrome.com

gregory.ranzini@blankrome.com

Domingo M. Llagostera (admitted *pro hac vice*)

Texas Bar No. 24070157

717 Texas Ave, Suite 1400

Houston, Texas 77002

Telephone: (713) 632-8682

Facsimile: (713) 228-6605

domingo.llagostera@blankrome.com

Megan R. Wood (admitted *pro hac vice*)

DC Bar No. 1024203

1825 Eye Street NW

Washington, DC 20006

Telephone: (202) 420-2753

Facsimile: (202) 420-2201

megan.wood@blankrome.com

Attorneys for ProAmpac Holdings Inc.

Exhibit 1

BLANKROME

717 Texas Avenue | Suite 1400 | Houston, TX 77002, UNITED STATES OF AMERICA
blankrome.com

Phone: (713) 632-8682
Fax: (713) 228-6605
Email: Domingo.llagostera@blankrome.com

December 4, 2024

FRE 408 COMMUNICATION

Via Email: pmjones@taylorenghish.com

Peter M. Jones
Taylor English Duma LLP
1600 Parkwood Circle
Suite 200
Atlanta, Georgia 30339

Re: Allegations as to U.S. Patent No. 11,072,148

Dear Mr. Jones,

We write this letter to respond to Pratt Retail Specialties, LLC's ("Pratt") letter dated October 7, 2024.

In our view, this case is amenable to early resolution and should not be litigated for at least the following three reasons:

First, ProAmpac no longer sells a bag with a paper-polymer-aluminum stack configuration, where the aluminum layer is on an outer surface of the stack ("the Accused Product"). ProAmpac produced the Accused Product only for less than four months, between June 3, 2024 and September 26, 2024. ProAmpac agrees that it will not sell the Accused Product for the duration of the '148 patent term, if at all.

Second, the Accused Product cannot infringe asserted claim 14 of the '148 Patent. Claim 14 recites "wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment that includes

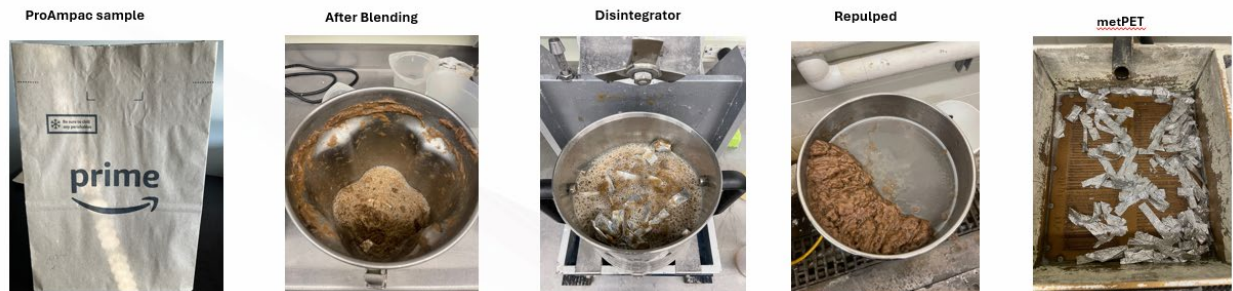
- a) blending the packaging in a blender to form a first material;
- b) disintegrating the first material into water with a British Disintegrator at a temperature within a range from about 115 degrees F. to about 135 degrees F. at 3000 rpm to form a second material;

BLANKROME

Mr. Jones
December 4, 2024
Page 2

- c) separating the second material in a 0.01 inch screen with a 1 inch water head for 20 minutes to form a fourth material; and
- d) drying the fourth material in an oven for 4 hours at 221 degrees F.”

ProAmpac is familiar with the above claimed treatment test (i.e., steps (a)-(d)), which is an industry standard test that was developed by Western Michigan University (hereafter “the WMU Test”). According to the patent specification, a key feature of the purported invention is that when subject to the WMU Test, the *aluminum layer fully oxidizes* and corrodes away, becoming completely transparent. *See e.g.*, ’148 Patent at Abstract, 1:33-37, 2:5-13, 4:39-49, 4:53-63. Acting as their own lexicographer, the patent application defined full oxidization as “when the aluminum is substantially transparent instead of silver-colored.” *Id.* at 10:56-58. Thus, any aluminum that ends up in the recyclable material (i.e., the accept) is invisible. *Id.* at 10:47-58. The Accused Product does not meet this claim requirement either literally or under the doctrine of equivalents. WMU ran the WMU Test on the Accused Product in October 2023, before any claim was made by Pratt. Below are photographs from that test:



As you can see in the photo above and to the right, following the WMU Test, the aluminum layer in the Accused Product is clearly visible as a silver layer stacked on the polymer layer in the reject bin (labeled “metPET”). In other words, in the Accused Product, the “aluminum layer [is *not*] fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to [WMU Test].” As such, the Accused Product cannot infringe claim 14 of the ’148 Patent.

Third, claim 14 of the ’148 Patent is invalid because the patent applicant did not properly overcome the prior art relied on by the Examiner, specifically references Tilton + Wadsworth. During examination of the ’148 application, the Examiner rejected claims 1 and 14 over Wadsworth, *inter alia*, because Wadsworth teaches an aluminum layer with emissivity lower than 0.10. The patent applicant traversed the rejection by arguing Wadsworth only teaches an aluminum layer with emissivity below 0.10, while the claims recite the entire stack has an

BLANKROME

Mr. Jones
December 4, 2024
Page 3

emissivity level below 0.10. Specifically, claim 1 recited “wherein said **stack** has emissivity that is equal to or smaller than a first value of 0.10 as perceived through an outer surface thereof,” and claim 14 (original claim 15) recited “wherein the aluminum layer causes ***an emissivity of the recyclable packaging*** to be equal to or smaller than a first value of 0.10.” The Examiner subsequently allowed the claims.

In short, the patent applicant’s traversal argument, whether intentional or unintentional, was misleading, because the stack cannot have an emissivity distinct from the aluminum layer under the C1371 emissivity test disclosed in the patent. When a stack with aluminum is subjected to the C1371 emissivity test, the infrared laser is aimed at the aluminum side of the stack. What is behind the aluminum layer (e.g., paper/polymer) has no impact on emissivity because the light cannot penetrate past the aluminum into the other layers of the stack. Thus, the emissivity is solely determined by the aluminum layer. In other words, whether the C1371 test is performed on an aluminum layer standing alone, or the same aluminum layer attached to paper and polymer (i.e. a stack), the emissivity result will be the same. It is clear the Examiner did not appreciate that Applicant’s argument that the claim recites an emissivity of the whole stack rather than the emissivity of the aluminum layer, was a distinction without a difference. Had the Examiner known that, they would not have allowed the claims over Tilton and Wadsworth. Thus, the claims are clearly invalid.

In view of the above, Pratt cannot hope to prevail and recover anything in this litigation. We hope that based on the above, including that ProAmpac does not and will not sell the Accused Product, Pratt agrees it does not make business sense for the parties to litigate this case.

We look forward to your response.

Very truly yours,

A handwritten signature in black ink, appearing to read "D. M. Llagostera", with a stylized flourish at the end.

Domingo M. Llagostera

Exhibit 2

Multi-Layer, Low Emissivity, Metallized Materials for Replacing Aluminum Foils in Heat Reflection and Energy Management Applications

S. Yializis, Sigma Technologies International, LLC, Tucson, AZ

ABSTRACT

Aluminum foil has long been the dominant material used for applications requiring low emissivity surfaces for heat reflection and energy management. Metallized aluminum films, though initially exhibiting emissivity values equal to their bulk foil counterparts, are far more susceptible to performance degradation as a result of oxidation and corrosion of the reflective aluminum layer in the presence of heat and moisture. This is due in part, but primarily, to the amount of sacrificial aluminum available to be consumed by the oxidation reaction. Investigated are novel, multi-layer, low emissivity materials incorporating one or more vacuum deposited layers designed to protect vacuum deposited aluminum layers from oxidation and corrosion, as well as to enhance the emissive properties of the multi-layer structure by providing a planarized surface on which to deposit the reflective aluminum layer.

INTRODUCTION

Low emissivity, or “low-e,” materials have been used for decades as a means of managing the heating effects of radiant energy. NASA, as early as the 1960s, began using low-e materials to protect spacecraft, equipment, and astronauts from thermal radiation. Building and construction applications have seen the use of such materials in the form of low-e glass, where low-e materials are sputtered onto glass for reflecting, and controlling the emission of, radiant heat energy.

Unlike the applications mentioned above, where low-e surfaces are generally not exposed to oxidizing and/or corrosive elements, most applications require that such surfaces are capable of withstanding hot and humid conditions for sustained periods of time. Rather than develop solutions that limit, or prevent, corrosion from occurring to low-e layers, the convention has been to use thick materials that generally exceed the growth capacity of such oxidation/corrosion reactions are used. Historically, bulk aluminum foil, ranging in thickness from 6 μm to 12 μm , has been the material of choice due to its bulk thickness and low cost relative to other low-e materials such as gold, silver, and copper foils.

Vacuum metallized materials, generally composed of a polymer substrate and a vapor deposited low-e layer, have suffered commercially due to the thickness of the deposited low-e layer, which can range from 0.02 μm to 0.50 μm – up to 300

times thinner than bulk aluminum foil. Extreme environments consisting of high heat and moisture can result in propagation of oxidation and corrosion sites to the degree that a vapor deposited, low-e surface, is consumed entirely.

The purpose of this work is to identify multi-layer, thin film, structures capable of withstanding extreme environments. Investigated are various combinations of metals, metal alloys, and vapor deposited polymer coatings designed to protect thin films from the effects of corrosion and oxidation. Also investigated are planarizing layers designed to enhance low-e properties of finished composites.

OXIDATION AND CORROSION OF VACUUM METALLIZED ALUMINUM SURFACES

A metallized aluminum surface, when first exposed to a relatively dry oxygen-containing environment, at room temperature, will form a clear oxide layer that is tightly bound to that surface. This oxide layer, also identified as Al_2O_3 , will increase in thickness over a period of a few hours. Growth will cease as a result of the barrier properties of the oxide layer. Nominal thickness of this Al_2O_3 layer is 2-4 nm [1]. This phenomenon, and the impact it can have on the properties of an aluminum surface, changes dramatically in the presence of moisture, which triggers the formation of a spectrum of compounds, mostly hydrated aluminum oxide, aluminum hydroxides, and various sub-oxides that are not entirely stoichiometric [2]. Unlike oxide layers grown in air, in dry conditions, aluminum hydroxides formed from a water reactions lack the ability to protect the aluminum from further corrosion - a more “porous”, friable complex oxide/hydroxide layer replaces the self-limiting pure oxide layer, permitting the ingress of gases and moisture. Further, even in instances where a protective aluminum oxide layer has been formed prior to exposure to moisture, the layer sometimes fails to protect the aluminum surface, as water molecules have the ability to penetrate both the oxide layer, and the underlying aluminum layer, via grain boundaries in the structure. This reaction is accelerated in the presence of heat.

The phenomenon described above applies to almost all aluminum surfaces, and is indeed consistent for thin vacuum deposited aluminum layers, as well as and bulk aluminum foil. The difference, however, is in the amount of sacrificial

aluminum available to be consumed by the reaction. In the case of an aluminum foil, for example, thicknesses for heat reflective applications generally range from 6 μm to 12 μm ; even in the most aggressive of environments, heavy oxidation of the foil surface will have little, if any, impact on the emissive and reflective properties of the surface. This is generally due to the fact that the oxide layer will rarely grow to a thickness that either absorbs large amounts of thermal radiation, or consumes the aluminum entirely, resulting in an optically clear film composed of aluminum oxide and aluminum hydroxides. Metallized aluminum, however, is made up of a very thin layer of aluminum deposited onto a polymer film. Compared to aluminum foil, the vacuum deposited aluminum layer can be more than 300 times thinner. This means that very little oxidation of the aluminum layer needs to occur to consume the aluminum in its entirety, rendering it useless for most application where a low emissivity surface is desired.

OTHER SOURCES OF OXIDATION AND CORROSION (“FADING”)

Though it may not be obvious, oxidation and corrosion of vapor deposited aluminum films can occur as a result of adsorbed, and absorbed, moisture in the base substrate. Some substrate materials, such as polyester, have high moisture content when compared to other olefin-based substrates; this adsorbed moisture can trigger, or accelerate, the oxidation process in the wound roll. Even if the aluminum/polymer structure is unwound in a dry, low moisture containing environment, aluminum hydroxides will have already formed immediately after metallization inside the film roll. This phenomenon is well known in the metallizing industry and is often referred to as “fading.”

OXIDATION AND EMISSIVITY

Emissivity (“ ϵ ” or “ e ”) is a measure of a material’s ability to radiate absorbed energy at a given temperature and wavelength. It is defined as the ratio of energy radiated from a material, to the energy radiated by a theoretical black body [3]. A true black body, where all incident radiation is absorbed and radiated, has an emissivity expressed as “ $\epsilon = 1$.” The material is said to reflect 0% of incident radiation. Conversely, a perfect reflector, where all incident radiation is reflected zero radiant emission, has an emissivity expressed as “ $\epsilon = 0$ ” (100% of incident radiation is reflected).

Aluminum, in both foil and vapor deposited form, has an emissivity of $\epsilon = 0.03$. Figure 1 illustrates the effect that moisture, and heat, can have on the emissivity of aluminum surfaces deposited as a thin film. Though thicker aluminum foil is not immune to oxidation and corrosion, as evidenced by increase in emissivity after 15 minutes exposure to steam, it is still adequate for most low-e applications. On the contrary, the thin metallized aluminum, when exposed to steam for only 5 minutes, is completely consumed by the oxidation

and corrosion reactions caused by the water vapor. In addition to having the emissivity of the material being entirely compromised, the thin metallized film is corrupted visually. Whereas the visual impact of the corrosion reaction is not visibly obvious on the thicker foil, the thin metallized film has been rendered entirely transparent.

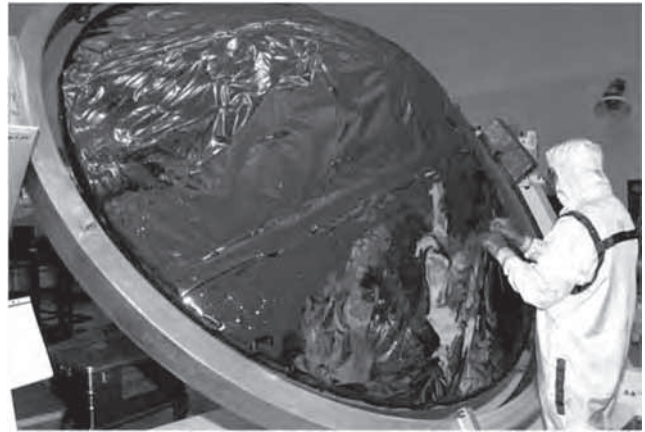


Figure 1: Space satellite component utilizing low-e materials for insulation from radiant heat energy.

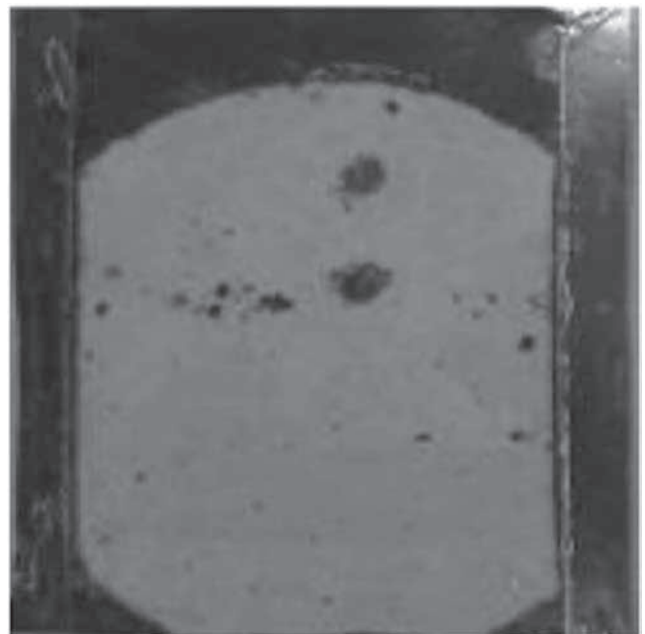


Figure 2: Metallized PET exposed to steam for five minutes.

PROTECTION AND ENHANCEMENT OF METALLIZED FILMS FOR LOW-E APPLICATIONS

Metallized aluminum films, for reasons stated above, require additional processing, both before, and after metallization, to prevent corrosion and oxidation. Though various methods might be considered, it is generally preferred that any treatment and coating steps occur in a controlled, vacuum, environment (otherwise referred to as an “all-vacuum” process). This is

critical for a number of reasons. First, all-vacuum processing allows for a single-pass, which presents cost advantages compared to offline, atmospheric, coating and treatment processes. Second, all-vacuum processing allows for the controlled formation of a more stable, protective, oxide layer absent of aluminum hydroxides that can be formed in the presence of moisture. Third, the ability to “seal” the metal layer in vacuum, with a protective polymer coating, further ensures maximum protection of the metal and eliminates the risk of having moisture attack the aluminum surface that is otherwise exposed in a two-step processes.

The following sections describe a multi-step, single-pass, all vacuum process that includes the steps of plasma pre-treatment of the target substrate, inline plasma passivation of the vapor deposited aluminum layer, and vacuum flash evaporation and radiation curing of a nano-thick polymer layer.

PLASMA PRE-TREATMENT

Metallized films produced in high volume for applications such as decorative, food, agricultural, biomedical and electronic packaging are usually evaluated for their appearance, conductivity, adhesion to the polymer substrate, and for their gas and vapor barrier properties. It is well known that all of these properties, as well as resistance to corrosion, are enhanced by plasma treating the substrate prior to metal deposition to produce better aluminum metal nucleation and adhesion to the base substrate.

IN-LINE PLASMA PASSIVATION

The term “passivation” and related terminology are used to refer to the process of treating a metallic material to alter its susceptibility to deterioration from exposure to environmental factors. It is understood that, in order to produce a corrosion-stable, vapor deposited, aluminum coating, it is necessary to create an Al_2O_3 protective layer directly on the aluminum surface. The terms “passivating agent” or “passivating component” are intended to describe any molecule that, in a plasma field, is capable of producing Al_2O_3 onto the aluminum layer when it is exposed to it. Similarly, the term “oxidizing,” in relation to metallic aluminum, is intended to refer to the formation of Al_2O_3 .

Plasma passivation of the aluminum surface is performed immediately after deposition of the aluminum layer. Oxygen, or preferably a plasma gas containing an oxygen-bearing component (such as molecular oxygen or a molecule containing oxygen, e.g., CO_2 , N_2O , dry air, etc.) in addition to conventional plasma gases (such as nitrogen, argon and helium), is introduced into the vacuum chamber under conditions designed to promote the formation of activated oxygen, which favors rapid oxidation. The result is the formation of an aluminum oxide layer that is guaranteed not to contain damaging hydroxides.

FLASH EVAPORATION AND RADIATION CURING FOR DEPOSITION OF PROTECTIVE POLYMERS

All chemicals used for coating the aluminum layer are contained inside a de-gas vessel, which continuously mixes the formulation to eliminate any unwanted residual gasses. Formulations consist of radiation curable, acrylate-based, liquid monomers composed of 100% solids. The liquid monomer formulation is pumped from the degas vessel and is injected into a temperature controlled monomer evaporation chamber. The walls of the chamber are heated so that when the monomer makes contact with the chamber walls, it instantly evaporates and undergoes a phase change from liquid to vapor. This creates a higher-pressure zone, which causes the monomer vapor to be driven from the evaporation chamber to a monomer deposition nozzle, which is located in the main vacuum chamber and is situated in close proximity to the substrate surface. Monomer vapor passes through the nozzle to create a vapor curtain across the entire width of the substrate. When the vapor makes contact with the substrate, it condenses back to liquid form, forming a uniform, pinhole-free, conformal, layer on the substrate surface. The deposited monomer layer remains in liquid form for a very short time before it is radiation cured using an electron beam gun, which converts the condensed monomer liquid to a fully cross-linked, solid, polymer layer ranging in thickness from 0.02 μm to up to 0.50 μm . The result is a protective layer capable of preventing ingress of moisture in quantities sufficient to facilitate formation of aluminum hydroxides.

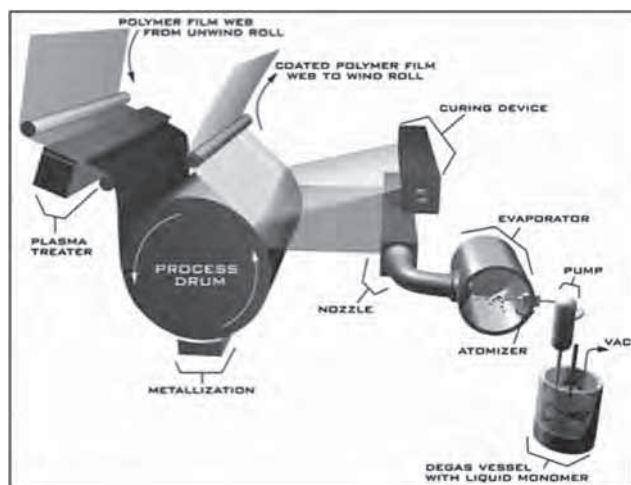


Figure 3: Schematic of flash evaporation coating process with vacuum plasma treatment and radiation curing.

PLANARIZATION OF MICRO-ROUGH SURFACES FOR ENHANCED EMISSIVITY

In addition to providing corrosion and oxidation protection of metallized aluminum layers, flash evaporated and radiation-cured polymer layers were used to enhance the emissivity properties of substrates with micro-rough surfaces. Certain

materials, such as polyethylene, possess surface roughness that, when metalized directly, result in a hazy appearance caused by diffraction and scattering. Using flash evaporation, coatings are deposited, prior to metallization, to smooth or “planarize,” the substrate surface to reduce scattering and improve surface emissivity.

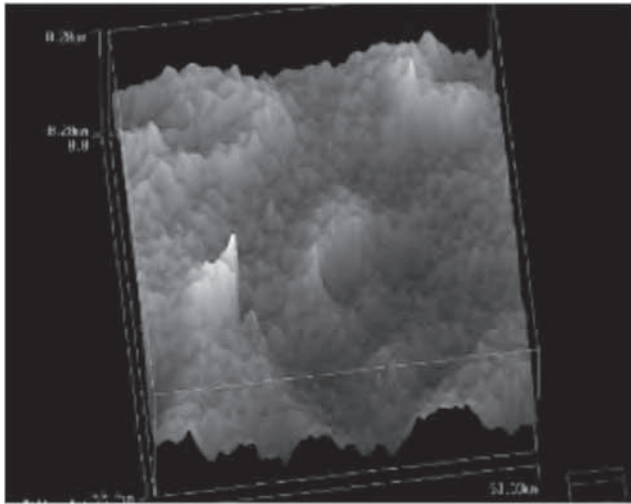


Figure 4: Micro-rough polycarbonate surface.

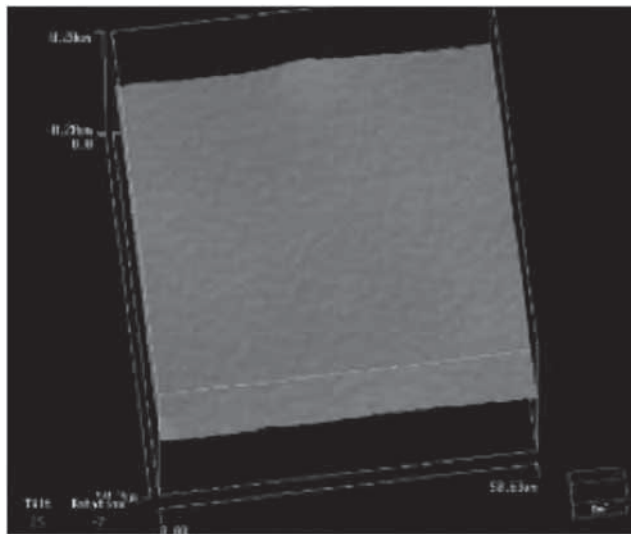


Figure 5: Polycarbonate surface with flash evaporated, planarized, layer.

EXPERIMENTAL CONDITIONS AND TEST PROCEDURES

Multi-layer, low-e, composites were produced using an industrial vacuum metallizer outfitted with pre-plasma treatment, resistive evaporation source for depositing aluminum layers, plasma passivation module for controlled growth of Al_2O_3 ,

flash evaporation system for depositing monomer layers, and a linear electron beam source for crosslinking deposited monomer layers. Planarizing layers were deposited using a second flash evaporation and electron beam source prior to metallization.

Substrates used for experimentation included a $12\text{ }\mu\text{m}$, packaging-grade, polyester (PET) film and a $76.2\text{ }\mu\text{m}$ high-density polyethylene (HDPE), the latter was used to test the effects of a planarizing layer on surface emissivity.

Metalized aluminum layers were deposited to an optical density of 3.0. Various coating thicknesses were investigated to determine optimum thickness of protective coatings so as to minimize absorption of radiant heat energy. Finally, planarizing layers were deposited to thickness of approximately $0.20\text{ }\mu\text{m}$.

EMISSION MEASUREMENTS – ASTM C 1371

Emissivity data are taken per ASTM test method C 1371. The device used for gathering emissivity data is a D&S Emissometer, model AE1, with digital voltmeter. Devices and Services Company is the manufacturer of the device, which is certified accurate to within ± 0.01 .

ACCELERATED STEAM TESTING

Because oxidation and corrosion testing per ASTM 1313 requires longer cycle times (up to seven days), an alternative, accelerated, test was devised. Specimens were exposed to a controlled, steam-filled, environment to induce oxidation reactions and growth of aluminum hydroxides on the film surface. The test setup consisted of a one-liter glass beaker filled to capacity with de-ionized water. The water-filled glass beaker was electrically heated to a temperature of 90°C to create a consistent flow of hot water vapor (steam) from the water surface. Test specimens were adhesively attached to a 4 in x 4 in glass slide with the test surface exposed. Once mounted to the glass slide, specimens were mounted adjacent to the beaker opening with a 1 in headspace between the water surface and the surface of the test specimen. Samples were exposed to steam for a total of 90 minutes, with emissivity readings taken before steam exposure, as well as at 5 min intervals during steam exposure.

OTHER TEST PROCEDURES AND APPARATUSES

Optical density measurements were taken using a Cosar 70 CompuPlus transmission densitometer. Resistivity measurements were taken using a Veeco instruments four-point probe model FPP-100. Thickness measurements of protective polymer coatings were taken using a Filmetrics F20 thin film measurement system.

RESULTS AND DISCUSSION

Protection of vapor deposited aluminum layers

Test results showed that, by varying coating thickness, emissivity of the finished composite could be manipulated. Thicker coatings, as expected, resulted in finished multi-layer films with higher emissivity; thinner coatings, on the contrary, resulted in coated materials with lower emissivity values, which are more desirable for low-e applications.

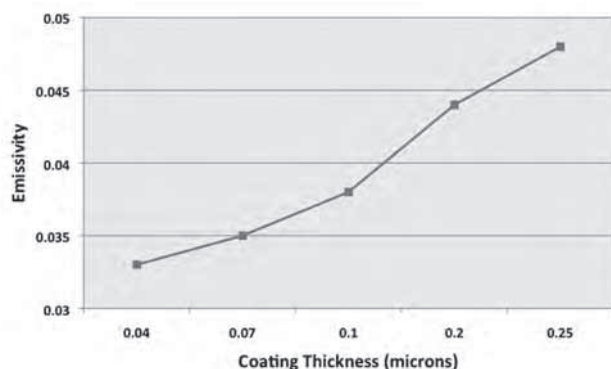


Figure 6: Emissivity as a function of protective coating thickness.

Though all coated samples were able to pass steam testing with up to 90 minutes exposure with little, to no, effect on surface emissivity, it should be noted that other factors, such as coating formulation, can have a significant impact on the ability of a coated layer to be an effective barrier to liquid moisture. Such analysis is beyond the scope of this work.

Many low-e applications do not require emissivity values equal to aluminum foil (0.03); however, for those that do have such requirements, results show that, when combined with plasma passivation of the reflective aluminum surface, coatings should be on the order of 0.07 μm .

Planarization of Micro-Rough Surfaces

A planarizing layer with a nominal thickness of 0.20 μm was deposited onto a HDPE substrate. Results showed that smoothing, or planarizing, of the film surface resulted in a 50% reduction in emissivity. Additionally, the visual appearance of the metallized, planarized, substrate was much improved and exhibited a mirror-like finish similar to metallized polyester. Non-planarized materials appeared to be more hazy, exhibiting a grey-like appearance.

Table 1: Emissivity of planarized and non-planarized metallized HDPE.

	Non-Leveled	Leveled
Emissivity	0.08	0.04

CONCLUSIONS

It has been demonstrated that, by combining plasma pre-treatment, resistive evaporation, plasma passivation, and flash evaporation and radiation curing, in an all-vacuum process, it is possible to produce metalized films that match the emissivity performance of bulk aluminum foil; further, it can be concluded that deposition of planarizing layers onto surfaces that might be considered less than ideal for low-e applications, can result in significant improvement of reflective layers deposited on such substrates.

REFERENCES

1. K. Wefers; C. Misra, "Oxides and Hydroxides of Aluminum," Alcoa Technical Paper No. 19 Revised, 64 (1987).
2. K. Wefers; C. Misra, "Oxides and Hydroxides of Aluminum," Alcoa Technical Paper No. 19 Revised, 67 (1987).
3. R. Geiger; R. Aron; P. Todhunter, The Climate Near The Ground, 7th Edition, Rowman & Littlefield Pub Inc, 4 (2009).

Exhibit 3

Electronic Acknowledgement Receipt

EFS ID:	41463575
Application Number:	16238998
International Application Number:	
Confirmation Number:	5903
Title of Invention:	RECYCLABLE PAPER-CONTAINING PACKAGING WITH RADIANT BARRIER INSULATION
First Named Inventor/Applicant Name:	Steven Yializis
Customer Number:	34282
Filer:	Yakov S. Sidorin/tracey baxter
Filer Authorized By:	Yakov S. Sidorin
Attorney Docket Number:	861133.00068
Receipt Date:	22-DEC-2020
Filing Date:	03-JAN-2019
Time Stamp:	13:53:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 740
RAM confirmation Number	E2020BLD54338553
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	000068rnfoa.pdf	325077	no	19
			e569bde1977070060376890dc58b018f0ee9ad42		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	31155	no	2
			9d730839ef0a59f733b4e7f7fe4177a309494f1b		

Warnings:**Information:**

Total Files Size (in bytes):			356232
-------------------------------------	--	--	--------

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Sigma Technologies Int'l., LLC	Docket No.:	861133.00068
Appl. No:	16/238,998	Art Unit:	3731
Filed :	January 03, 2019	Conf. No.	5903
Examiner:	Jallow, Eyamindae Chossan		
Invention:	RECYCLABLE PAPER-CONTAINING PACKAGING WITH RADIANT BARRIER INSULATION		
Date:	December 22, 2020		

VIA USPTO ELECTRONIC FILING SYSTEM

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE A

To Non-final Office Action dated June 25, 2020

Dear Sir:

In response to the Office Action of June 25, 2020, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

Appl. No. 16/238,998
Reply to Office Action of June 25, 2020

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) **A recyclable packaging** comprising:
a stack including
a paper layer with first and second surfaces;
a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface; and

an intermediate coating layer applied to the fourth surface;

an aluminum layer carried by the intermediate coating layer, wherein the aluminum layer has a first thickness of 200 nanometers or less;

wherein said stack has emissivity that is equal to or smaller than a first value of 0.10 as perceived through an outer surface thereof

~~and wherein the aluminum layer causes an outer surface of the packaging to have emissivity that is equal to or smaller than a first value of 0.10; and~~

~~wherein, when said packaging is subjected treatment that includes said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material resulting from the packaging being subjected to a treatment that includes~~

- a) blending the packaging in a blender ~~Waring Blender~~;
- b) disintegrating into water with a British Disintegrator ~~at about 125 (± 10) at a~~ temperature within a range from about 115 degrees F to about 135 degrees F at 3000 rpm;
- c) separating in a 0.01 inch aperture screen with a 1 inch water head for 20 minutes; and

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

d) drying in an oven for 4 hours at 221 degrees F
to form a recyclable material, said aluminum layer becomes fully oxidized with no visible aluminum present in said recyclable material.

2. (currently amended) The recyclable packaging of claim 1, wherein the aluminum layer is disposed directly on the intermediate coating.
3. (currently amended) The recyclable packaging of claim 1, wherein the intermediate coating has [[a]] the intermediate coating thickness between 10 nm and 2000 nm and includes a material selected from polymer and oligomer.
4. (currently amended) The recyclable packaging of claim 1, further comprising:
a protective coating layer disposed over the aluminum layer, wherein the protective coating layer has a second thickness of 1 micron or less, and wherein the second thickness is configured i) to maintain the emissivity of the outer surface of the packaging at the first value after the aluminum layer has been coated with the protective coating and ii) to prevent oxidation of the aluminum layer during normal use of the packaging, while the protective coating does not impede oxidization of the aluminum layer as a result of the treatment.
5. (original) The recyclable packaging of claim 4, wherein the protective coating includes a material selected from: wax, polymer, and lacquer.
6. (original) The recyclable packaging of claim 1, wherein the polymer layer includes a material selected from: low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polyvinyl chloride, polyurethane, and polystyrene.
7. (original) The recyclable packaging of claim 1, wherein the polymer layer is a material selected from: film and fabric.

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

8. (currently amended) **A method for manufacturing a recyclable packaging,**
the method comprising:

forming a packaging layer stack by:

attaching a polymer layer to a paper layer, wherein an inner surface of the
polymer layer is affixed to a first surface of the paper layer;

depositing an aluminum layer on the polymer layer, wherein the aluminum layer
has a first thickness of 200 nanometers or less, and wherein the aluminum layer causes ~~an~~
~~outer surface of the polymer layer~~ said packaging layer stack to have emissivity that is
equal to or smaller than a first value of 0.10; and

wherein said aluminum layer is configured to acquire optical density (OD) of less
than 0.09 becomes fully oxidized with no visible aluminum when the packaging layer
stack is exposed to a treatment that includes:

- a) blending the packaging stack in a blender ~~Waring Blender~~;
- b) disintegrating into water with a British Disintegrator at ~~at about 125 (± 10)~~ at a
temperature within a range from about 115 degrees F to about 135 degrees F at 3000 rpm,
- c) separating an output from step b) in a 0.01 aperture inch screen with a 1 inch
water head for 20 minutes, and
- d) drying in an oven for 4 hours at 221 degrees F.

9. (currently amended) The method of manufacturing a recyclable packaging of
claim 8, further comprising:

applying a protective coating over the aluminum layer to form a coated packaging
layer stack, wherein the protective coating has a second thickness of 1 micron or less, and
wherein the second thickness is defined

a) to maintain the emissivity of the ~~outer surface~~ packaging layer stack at the first
value after the aluminum layer has been coated with the protective coating and

b) to prevent oxidation of the aluminum layer during normal use of the packaging,
while the protective coating does not impede oxidization of the aluminum layer as a
result of the treatment.

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

10. (currently amended) **A recyclable packaging** comprising:

a stack including

a paper layer with first and second surfaces;

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;

an aluminum layer deposited on the fourth surface, wherein the aluminum layer has a first thickness of 200 nanometers or less and wherein the aluminum layer causes an emissivity of an outer surface of the packaging to be equal to or smaller than a first value of 0.10; and

wherein said aluminum layer acquires an optical density (OD) of less than 0.09 ~~becomes fully oxidized~~ with no visible aluminum present in a recyclable material that results from the packaging being subjected to a treatment that includes

a) blending the packaging in a blender ~~Waring Blender~~ to form a first material;

b) disintegrating the first material into water with a British Disintegrator ~~at about 125 (± 10)~~ at a temperature within a range from about 115 degrees F to about 135 degrees F at 3000 rpm to form a second material;

c) separating the second material in a 0.01 inch aperture screen with a 1 inch water head for 20 minutes to form a fourth material; and

d) drying the fourth material in an oven for 4 hours at 221 degrees F.

11. (currently amended) The recyclable packaging of claim 10, further comprising:

a protective coating, over the aluminum layer,

wherein the protective coating has a second thickness of 1 micron or less,

wherein the second thickness is defined to maintain the first value of the emissivity of the ~~outer surface~~ recyclable packaging after the aluminum layer has been coated with the protective coating and to prevent oxidation of the aluminum layer during normal use of the packaging,

while the protective coating does not impede oxidization of the aluminum layer caused by the treatment.

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

12. (original) The recyclable packaging of claim 11, wherein the protective coating includes a material selected from: wax, polymer, and lacquer.

13. (original) The recyclable packaging of claim 10, wherein the polymer layer includes a material selected from: low density polyethylene, high density polyethylene, polyethylene terephthalate, polypropylene, polyvinyl chloride, polyurethane, and polystyrene.

14. (original) The recyclable packaging of claim 10, wherein the polymer layer includes a material selected from: film and fabric.

15. (currently amended) **A method for thermally insulating a good within a recyclable packaging**, the method comprising:
placing a reflective insulation material in a pre-defined proximity with a good, the pre-defined proximity being suitably chosen to provide adequate thermal insulation to the good, wherein said reflective insulation material comprises the recyclable packaging that includes:

a paper layer with first and second surfaces;

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;

an aluminum layer deposited on the fourth surface, wherein the aluminum layer has a first thickness of 200 nanometers or less and wherein the aluminum layer causes an emissivity of ~~an outer surface of the~~ recyclable packaging to be equal to or smaller than a first value of 0.10; and

wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material that results from the packaging being subjected to a treatment that includes

a) blending the packaging in a blender ~~Waring Blender~~ to form a first material;

b) disintegrating the first material into water with a British Disintegrator ~~at about 125 ($\pm$ 10) at a temperature within a range from about 115 degrees F to about 135 degrees F~~ at 3000 rpm to form a second material;

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

c) separating the second material in a 0.01 inch screen with a 1 inch water head for 20 minutes to form a fourth material; and

d) drying the fourth material in an oven for 4 hours at 221 degrees F.

16. (currently amended) **A method for thermally insulating a good within a recyclable packaging**, the method comprising:

placing a reflective insulation material at a pre-defined proximity distance from the good, said pre-defined proximity distance chosen to provide adequate thermal insulation to the good, wherein said reflective insulation material comprises the recyclable packaging that includes:

a paper layer with first and second surfaces;

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;

an intermediate coating layer applied to the fourth surface;

an aluminum layer carried by the intermediate coating, wherein the aluminum layer has a first thickness of no more than 200 nanometers to cause ~~an outer surface of~~ the packaging to have emissivity that is equal to or smaller than a first value of 0.10; and

wherein said aluminum layer becomes fully oxidized with no visible aluminum present in a recyclable material as a result of subjecting the recyclable packaging to a treatment that includes

a) blending the packaging in a blender ~~Waring-Blender~~ to form a first material;

b) disintegrating the first material into water with a British Disintegrator ~~at about 125 (±10)~~ at a temperature within a range from about 115 degrees F to about 135 degrees F at 3000 rpm to form a second material;

c) separating the second material in a 0.01 inch aperture screen with a 1 inch water head for 20 minutes to form a fourth material; and

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

d) drying the fourth material in an oven for 4 hours at 221 degrees F.

Appl. No. 16/238,998
Reply to Office Action of June 25, 2020

REMARKS

1. Claims 1-16 are pending, of which
- claims 1, 8, 10, 15, 16 stand rejected under 35 USC 112(2) pre-AIA based on assertion of indefiniteness;
- claims 1-16 stand rejected under 35 USC 103 based on assertion of being obvious in light of the combination of Tilton (UUS 2014/0272163) with Shimizu (US 2017/0129216) and Wadsworth (US 2011/0020570) and Gregory (US 2,952,278);

2. With entry of this response, claims 1-16 will be pending. The Applicant respectfully requests reconsideration of the claims in view of the above amendments and the following remarks.

The Applicant respectfully asks the Examiner to please telephone the undersigned, Yakov Sidorin, to discuss any questions that may remain open to advance the application towards allowance - and sincerely appreciates the willingness of the Examiner to do so.

3. Claims 1-4, 8-11, 15, 16 have been amended to correct typographical errors, antecedent bases, and to more precisely claim the invention. No claims have been canceled, and no new claims have been added. No new matter has been introduced. The Applicant believes that with these amendments the rejections based on **section 112** have been obviated.

4. The Applicant respectfully argues that **rejection of claim 1 has been made in error at least because the combination of cited references does not teach, disclose, or suggest the invention as claimed.**

(4A) Firstly, the Office action is incomplete as to all actions and does not even mention the feature of claim 1 as reciting *"said aluminum layer becomes fully oxidized with no*

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

visible aluminum present in said recyclable material" - let alone analyze and prove the corresponding teaching by the combination of cited art.

Since law requires that the Office Action provide evidence of teaching of each and every element of the claim, the rejection of claim 1 was made in error and must be withdrawn.

Alternatively or in addition:

(4B) Secondly, the Applicant respectfully asserts that **the Office erred in interpreting the teachings of Tilton, and that the teachings of the Tilton reference simply do not amount (do not sum up to) the combination of the features of claim 1.**

Indeed:

(4B.1) While paragraph [0120] of Tilton discusses the "paper layer" in general terms, the only layer of the Tilton structure that can even distantly be interpreted as the "*paper layer*" is the layer 32, which - according to Tilton - is a "*fiber-containing layer*":

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

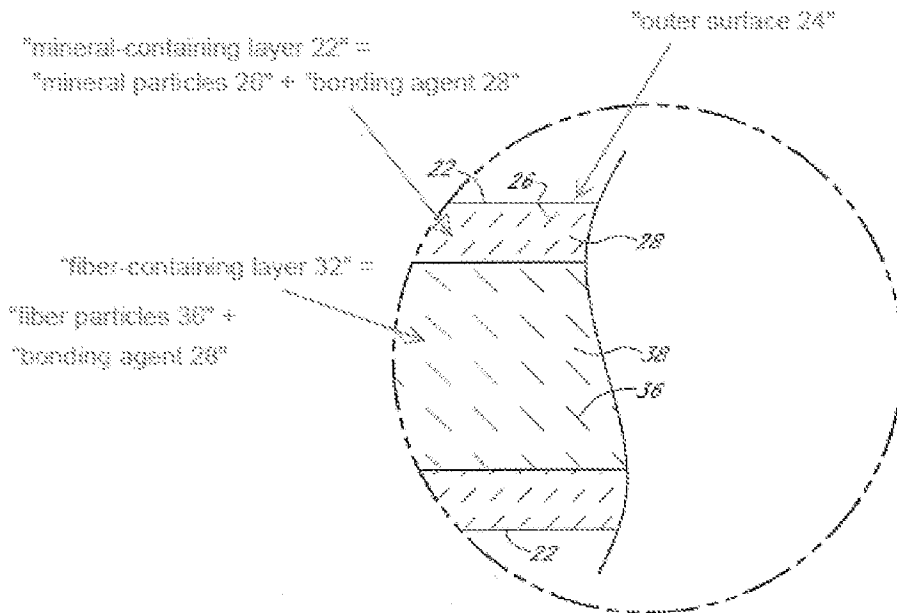


FIG. 1A

Therefore - based on this description of Tilton and in light of the well-recognized concept of claim differentiation - the layer 32 simply cannot be interpreted as a "*polymer layer*" of claim 1 - contrary to the interpretation provided by the USPTY on page 3 of the Office Action.

(4B.2) The only layer of the Tilton structure (see marked-up Fig 1A above) that can possibly be interpreted as a "*polymer layer*" is the layer 22 (which, according to Tilton, contains "*mineral particles 36*" defining this polymer-nature of this layer).

Therefore - based on this description of Tilton and in light of the well-recognized concept of claim differentiation - the layer 22 simply cannot be interpreted as an "*aluminum layer*" of claim 1 - contrary to the interpretation provided by the USPTY on page 3 of the Office Action.

(4B.3) In the next logical step, the Applicant respectfully refers to the recitation of claim 1, according to which the "stack" is formed by - in that order(!) - paper layer,

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

polymer layer affixed to the paper layer, the intermediate coating layer *on top of* the polymer layer, and only then an aluminum layer carried by the intermediate coating layer.

In other words, the "aluminum layer" as claimed is separated from the "paper layer" by *at least* the "polymer layer (and, in fact, by both the polymer layer and the intermediate coating layer).

And this is where the interpretation of Tilton by the Office take another wrong turn: if the presence of the claimed "aluminum layer" is derived from paragraph [0095] of Tilton (according to the assertion made by the Office on page 3 of the Office Action), then the person of skill in the art simply has to conclude - from the express recitation in paragraph [0095] - that such "aluminum layer" is disposed immediately onto the polymer layer ("mineral containing layer 22"):

[0095] Regarding the mineral-containing composite layer, upon substantially and continuously bonding to the fiber-containing using extrusion coating or extrusion lamination techniques, the layer of which can then be used to form a laminated structure of which the mineral-containing layer can be used as a peel coat onto a desired backing material. The best peel seal, for example, to the mineral-containing layer of the composite, may be selected from poly-4-methyl pentene, nylon, high-density polyethylene (HDPE), aluminium foil, polycarbonate polystyrene, polyurethane, polyvinyl chloride, polyester, polyacrylonitrile, polypropylene (PP), and paper.

In reference to the marked-up version of FIG. 1A of Tilton (as well as Fig. 2 of Tilton, not reproduced here), it means that the "aluminum layer" is disposed directly onto the "outer surface 24" of the "polymer layer 22".

Therefore, Tilton does not teach anything between the aluminum layer and the polymer layer - therefore, Tilton simply *cannot* teach the "intermediate coating layer" as recited in

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

claim 1. (And, in fact, there is no express recitation of any "intermediate coating layer" in the structure of Tilton that would satisfy the requirements of claim 1)

(4B.4) At the same time, the Office has not made an assertion that Tilton *teaching by inherency*. Should the Office decide to make the prima facie of teaching by inherency, the Applicant respectfully asks that the Office provides evidence that the required feature of *'intermediate coating layer'* as recited in claim 1 necessarily follows from the disclosure(s) of the cited references, as is required by well-settled law:

a subject matter is only inherent when the prior art makes it clear that the subject matter "necessarily flows from the teachings of the prior art." See MPEP §2112(IV) (emphasis in original), citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) ("In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art").

The mere fact that "a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic. *Id.* (emphasis original), citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

Given the absence of evidence of either explicit or inherent teachings of the above-identified feature of claim 1, and the fact that the remaining cited references do not cure this deficiency of Tilton, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established: the rejection of claim 1 was made in error and must be withdrawn at least for this reason.

Appl. No. 16/238,998
 Reply to Office Action of June 25, 2020

Alternatively or in addition:

(4C) Claim 1 remains patentable over the art of record at least because the combination of (Tilton + Wadsworth) does not teach the identified feature of claim 1.

Contrary to the assertion made by the Office on page 4 of the Office Action, Wadsworth does not teach "the aluminum layer that causes an outer surface of the packaging to have emissivity that is equal to or smaller than a first value of 0.10." Instead, all Wadsworth is teaching is that the aluminum layer *itself* has that value of emissivity: a skilled artisan will immediately recognize the difference from carefully reading the referred-to by the Office paragraph [0015] of Wadsworth:

[0015] FIG. 2 shows a surface 22 of the sheet material 20 that, when converted to form the box 10 of FIG. 1, defines the interior-facing surfaces surrounding the interior volume 12 of the box 10. As evident from FIG. 2, the sheet material 20 has been cut, such as with a die, to define the panels of the box 10 in FIG. 1. In particular, the sheet material 20 comprises the four side panels 14A-D, four bottom flaps 16A-D that form the bottom 16 of the box 10, and the four top flaps 18A-D that define the closing flaps of the box 10. An additional flap, referred to as a stitch tab 24, extends from the side panel 14D which, as evident from FIG. 1, enables the panel 14D to be glued or otherwise attached to the side panel 14A for closing the sides of the box 10. The surface 22 of the sheet material 20 seen in FIG. 2 is preferably reflective, such that thermal

radiation emitted by the contents of the box 10 is reflected back into the interior volume 12 and its contents. For this purpose, the surface 22 of the sheet material 20 is defined by a reflective film material that exhibits low emissivity (preferably 0.05 or less). The film material is also preferably protected with a coating capable of inhibiting corrosion to maintain the high reflectance of the film material.

[0016] The sheet material 20 is manufactured and config-

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

The emissivity of a "reflective material" and the emissivity of a "stack" of materials including such "reflective material" are not the same things at all: according to a well-known technical definition of the term "emissivity", the first one is the measure of the ability of the "reflective material" to emit infrared energy, while the second is the measure of the ability of the whole "stack" to emit infrared energy (see, for example www.flukeprocessinstruments.com/en-us/service-and-support/knowledge-center/infrared-technology/what-is-emissivity or en.wikipedia.org/wiki/Emissivity), and the skilled person cannot possibly confuse one with another.

(

In fact, the Office seems to recognize this as well - based on the statement at the beginning of page 5 amounting to acknowledgement that it is the aluminum layer that possesses the stated emissivity - not the packaging stack:

Application/Control Number: 16/238,998
Art Unit: 3731

Page 5

It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was filed, to have modified the packaging of Tilton in view of Wadsworth by having provided the aluminum layer's emissivity, as taught by Wadsworth, in order to provide low emissivity and protect the contents within the package (**para. [0026]**).

)

The remaining references do not cure this deficiency of the combination of (Tilton + Wadsworth). Claim 1 and all claims dependent therefrom directly or indirectly were rejected in error.

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

Alternatively or in addition,

5. Claim 2 was rejected in error.

Indeed, since Tilton does not teach the "intermediate coating" (between the "polymer layer" and the "aluminum layer"), the Tilton simply cannot teach *"wherein the aluminum layer is disposed directly on the intermediate coating."*

Alternatively or in addition,

6. The Applicant respectfully asserts that Claim 4 remains patentable over the art of record any of the following reasons:

(6A) Contrary to the assertion made by the Office on page 7 of the Office Action, nothing in the referred to paragraphs [012], [0390] of Shimizu allows the skilled artisan to conclude that the "protective coating" of Shimizu is that recited in claim 4, and that

However, Shimizu teaches a protective coating (**S**) over the aluminum layer (**Z1**; **para. [0157]**), wherein the protective coating has a second thickness, and wherein the second thickness is configured i) to maintain the emissivity of the outer surface of the packaging at the first value (**para. [0012]**, **[0390]**) after the aluminum layer (**Z1**) has been coated with the protective coating (**S**) and ii) to

The Applicant is at a loss attempting to find the required *express teaching* in Shimizu - and reproduced these paragraphs of Shimizu for the convenience of the Office below, asking the Office to identify - with particularity, as required by 37 CFR 1.104 - the source of teaching of the above recitation of claim 4 in Shimizu:

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

[0012] An object of the present invention is to provide: a novel multilayer structure capable of maintaining high performance even after being exposed to physical stresses or after undergoing retorting; a packaging material including the multilayer structure; and a method for producing the multilayer structure. Another object of the present invention is to provide: a packaging material that is capable of maintaining the gas barrier properties at a high level even when exposed to physical stresses and that is resistant to appearance defects even at high temperature and high humidity; and a product including the packaging material. Still another object of the present invention is to provide an electronic device that is capable of maintaining the gas barrier properties at a high level even when exposed to physical stresses and that undergoes less decrease in inter-layer adhesion and is thus resistant to appearance defects even at high temperature and high humidity.

[0390] A multilayer structure (14-1) of Example 1-14 and a multilayer structure (15-1) of Example 1-15 were fabricated in the same manner as in the fabrication of the multilayer structure (1-1) of Example 1-1, except for using a deposited layer formed by vacuum deposition instead of the layer (Z1). In Example 1-14, the deposited layer used was the layer (Z2) of aluminum with a thickness of 0.03 μm . In Example 1-15, the deposited layer used was the layer (Z3) of aluminum oxide with a thickness of 0.03 μm . In addition, multilayer structures (14-2) and (15-2) were obtained in the same manner as in the fabrication of the multilayer structure (1-2) of Example 1-1, except for substituting the multilayer structures (14-1) and (15-1) for the multilayer structure (1-1).

As of record, the argument of "teaching by inherency" has not been made by the USPTO.

At least for this reason, claim 4 remains patentable over the art of record.

(6B) Now, since the absence of the teaching (by Zhimizu) of protective coating as recited in claim 1 with respect to the feature of "maintaining the emissivity ... at the first value..." has been established, the logic of the Office asserting that this coating (S) of

Appl. No. 16/238,998

Reply to Office Action of June 25, 2020

Shimizu *"is configured ... [to] not impede oxidization of the aluminum layer cause by the treatment..."* simply does not hold:

However, Shimizu teaches a protective coating (**S**) over the aluminum layer (**Z1**; **[para. [0157]]**), wherein the protective coating has a second thickness, and wherein the second thickness is configured i) to maintain the emissivity of the outer surface of the packaging at the first value (**[para. [0012], [0390]]**) after the aluminum layer (**Z1**) has been coated with the protective coating (**S**) and ii) to prevent oxidation of the aluminum layer (**Z1**) during normal use of the packaging (**[para. [0012]]**), while the protective coating (**S**) does not impede oxidization of the aluminum layer caused by the treatment (**based on the values and processes combination of references , the resulting impedance would be that of the instant application**).

How can it possibly be that the "resulting impedance" of the coating (S) of Shimizu "would be that of the instant application" if the coating (S) of Shimizu is not the same as that of the instant application? - This argument is simply no available now.

Accordingly, the feature "... does not impede oxidization of the aluminum layer caused by the treatment..." is not taught by the combination of (Tilton + Wadsworth + Shimizu) either.

7. The Applicant respectfully submits that the same arguments made above in support of patentability of claim 1 equally apply to **claims 15, 16**. At least for the same reasons claims 15, 16 remains patentable over the art of record.

8. The Applicant also respectfully submits that the same arguments made above in support of patentability of claim 1 are now also made in reference to **claims 8, 10**. At least for the same reasons claims 8, 10 remains patentable over the art of record.

Appl. No. 16/238,998
Reply to Office Action of June 25, 2020

Moreover, however: the art of record is silent with respect to the feature of optical density of less than 0.09" recited in claims 8, 10 as amended. At least for this reason claims 8, 10 and claims dependent therefrom directly or indirectly remain patentable over the art of record.

9. All pending claims are believed to be in a form suitable for allowance, which is respectfully solicited.

10. Applicant petitions for a three-month extension of time. In the event that a further extension is needed, this conditional petition of extension is hereby submitted. Applicant requests that deposit account number 17-0055 be charged for any fees that may be required for the timely consideration of this application.

Date: December 22, 2020

Respectfully submitted,

/Yakov Sidorin, 63507/

Yakov Sidorin,
Registration No. 63,507
Attorney for Applicant

Quarles & Brady LLP
One South Church Avenue
Tucson, Arizona 85701
Tel: (520) 770-8753
Fax: (520) 770-2253