IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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

PRATT RETAIL SPECIALTIES, LLC'S INITIAL DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS

Pursuant to paragraph 4.c. of the Delaware Default Standard for Discovery Plaintiff / Counterclaim Defendant Pratt Retail Specialties, LLC ("Pratt" or "Plaintiff") hereby provides its Initial Disclosure of Asserted Claims and Infringement Contentions.

Discovery on this matter is ongoing, as Plaintiff is currently conducting ongoing discovery and testing of various versions of Defendant's accused products, which Defendant ProAmpac Holdings Inc. ("Defendant" or "ProAmpac") produced in response to requests for production of documents. Plaintiff's continues to develop its grounds for infringement. It appears that Defendant was manufacturing, selling and offering for sale, during different time periods, various different versions of accused products that also infringe the patent-in-suit. Accordingly, Plaintiff's disclosure is based upon information that Plaintiff has been able to obtain publicly, along with: (i) a limited set of samples that the Defendant has recently produced in response to Plaintiff's initial discovery requests, and (ii) Plaintiff's good-faith beliefs regarding the accused instrumentalities. Plaintiff provides this disclosure without prejudice to Plaintiff's right to seek and obtain leave to

supplement or amend it as Plaintiff ascertains additional facts, takes discovery, undertakes further analysis, and completes its research and testing, and also after the Court has construed the claims-in-suit.

This disclosure is made solely for the purpose of this action. This disclosure is subject to all objections as to competence, relevance, materiality, propriety, and admissibility, and to any other objections on grounds that would require the exclusion of statements contained herein if such disclosure were asked of, or statement contained herein were made by, a witness present and testifying in court, all of which objections and grounds are expressly reserved and may be interposed at the time of trial.

This disclosure is given without prejudice to Plaintiff's rights, and Plaintiff hereby expressly reserves its rights and ability to further supplement or amend its contentions, including without limitation to add asserted claims or accused methods/products as additional facts are ascertained, analyses are made, research and testing is completed, contentions are made, and claims are construed. The following disclosures are made subject to and without waiving any of the foregoing.

1. ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS

A. Asserted Claims

Pursuant to paragraph 4.c. of the Delaware Default Standard for Discovery, and based on presently available information and belief, Plaintiff asserts that Defendant infringes at least independent claims 7, 9, and 14, and dependent claims 8, 10, 11 and 13 of United States Patent No. 11,072,148 (hereinafter, "the '148 Patent"), entitled "Recyclable Paper-Containing Packaging with Radiant Barrier Insulation" (collectively, the "Asserted Claims") both literally and under the doctrine of equivalents (DOE).

These contentions and disclosures are preliminary, and Plaintiff reserves the right to supplement these contentions and disclosures based on further discovery, in response to Defendant's production and disclosures under paragraph 4. of the Delaware Default Standard for Discovery, after claim terms are construed, and as permitted by the Court's rules and orders. These contentions and disclosures are subject to correction for inadvertent errors or omissions, if any.

B. Accused Products and Instrumentalities

Pursuant to paragraph 4.c. of the Delaware Default Standard for Discovery and based on presently available information, Plaintiff initially identifies the following accused products and instrumentalities that infringe the Asserted Claims as described in the attached claim charts (Exhibits A – C):

- Defendant's "ProActive Recyclable FiberCool" (FSH200225) bag, which was identified in the Complaint.
- Defendant's direct, induced, and/or contributory practice of the method for thermally insulating a good within a recyclable packaging, the packaging being Defendant's "ProActive Recyclable FiberCool" (FSH200225) bag.
- Defendant has produced sample bags in response to Plaintiff's request for production of documents. Plaintiff presently is testing these bags and will supplement these contentions once the testing is complete.

(collectively, the "Accused Instrumentalities")

Pursuant to the Court's Scheduling Order (ECF No. 23), Defendant produced a series of documents that it contends are "core technical documents" for the Accused Products. The entire production was designated "HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY" and further stated that they reserve the right to rely on accused product samples (physical bags) as

"core technical documents." This production was totally inadequate. For instance, no information was produced as to which of the produced documents relates to which physical sample (if any), and Plaintiff is currently in the process of analyzing and testing the physical samples provided. In fact, at least one of the documents purported to be a Defendant "core technical document" is actually Plaintiff's commercial embodiment—not any of Defendant's Accused Products. (*See* Bates # PROAMPAC00000024 – PROAMPAC00000025.) Pratt reserves the right to challenge the adequacy of this production with the Court.

Plaintiff expects that this disclosure may be amended or supplemented based on additional products, or product versions[1], identified during discovery, or released, developed, or made available by Defendant after the date on which these contentions are served, or of which Plaintiff was not aware at the time of these contentions.

C. Infringement Claim Charts

Charts identifying where each element or step of the Asserted Claims is found within, or performed by, each Accused Instrumentality are attached in the following exhibits:

- Exhibit A: Independent Claim 7 and dependent claim 8
- Exhibit B: Independent Claim 9 and dependent claims 10, 11, and 13
- Exhibit C: Independent Claim 14

These exhibits are based on the information presently available to Plaintiff. Any citations included in the charts are exemplary only and are not limiting. Plaintiff has subdivided the Asserted Claims in the charts to explain where the Accused Instrumentalities meet each claim element.

[1] Initially, Defendant's "ProActive Recyclable FiberCool" product was acquired in public use at a "Whole Foods" market. Defendant has since asserted in a letter that they had, in fact, produced and sold the Accused Product but then changed the configuration. Plaintiff requested the production of samples of the "new" bags and is now testing them.

These subdivisions are not to be taken as an indication of the boundaries of claim elements with respect to the doctrine of equivalents, or any other issue. In addition, the Accused Instrumentalities and Defendant's other products/services or use thereof may infringe the Asserted Claims in multiple ways. Plaintiff reserves the right to provide an alternative claim mapping or infringement contentions for the Accused Instrumentalities or Defendant's other products/services. Plaintiff further reserves the right to rely upon the opinions of one or more experts in support of its infringement contentions and/or modifications and revisions thereof. Plaintiff accordingly reserves its right to amend or supplement these charts upon obtaining relevant information during discovery.

D. Initial Infringement Theories

Direct infringement. Defendant infringes the Asserted Claims of the '148 Patent under 35 U.S.C. § 271(a). Defendant's infringement is direct, as set forth below and in the claim charts attached as Exhibits A, B, and C.

Defendant has directly infringed the Asserted Claims of the '148 Patent by making, using, offering to sell, and selling in the United States, without authority, the Accused Instrumentalities on or after the issuance date of the patent.

Induced infringement. Defendant induces infringement under 35 U.S.C. § 271(b) by providing the Accused Instrumentalities, which are sold and specifically configured to infringe the Asserted Claims as explained in Exhibit C, to its customers in the United States. Defendant actively instructs and encourages its customers to use the products for thermally insulating goods (groceries) within the recyclable packaging (a bag).

When used as instructed, Defendant's customers use these products to practice the methods and use the apparatus of the '148 Patent and directly infringe the asserted claims of the patent.

Defendant induces such infringement by providing the Accused Instrumentalities and instructions, knowing of, or being willfully blind to the existence of the '148 Patent.

Contributory infringement. As shown in Exhibit C, Defendant also contributes to infringement under 35 U.S.C. § 271(c) by providing the Accused Instrumentalities that embody a material part of the claimed invention of the '148 Patent, that are known by Defendant to be specially made or adapted for use in an infringing manner and are not staple articles with substantial non-infringing uses. The Accused Instrumentalities are specially designed to infringe the asserted claims of the '148 Patent and their accused components have no substantial non-infringing uses.

E. Literal Infringement and Infringement under the DOE

Based on information that is available to it at this time, Plaintiff contends that each element of each asserted claim is literally present in each Accused Instrumentality as set forth above and identified in the charts attached as Exhibits A-C. Plaintiff contends that any and all elements found not to be literally infringed are infringed under the Doctrine of Equivalents because the differences between the claimed inventions and the accused products and functionalities, if any, are insubstantial. Plaintiff's contention is that each limitation is literally met, and necessarily also would be met under the Doctrine of Equivalents because there are no substantial differences at all between the accused products functionalities and the claims, in function, way, or result. As such, Plaintiff's current description of the function, way, and result for each limitation would be the same as the claim language itself. Based on its current understanding of the claim language and presently available information concerning the Accused Instrumentalities, and without notice of any non-infringement position from Defendant, Plaintiff contends that Defendant literally infringes each element or step of the Asserted Claims.

If Defendant attempts to argue that there is no infringement literally and also no infringement under doctrine of equivalents and attempts to draw any distinction between the claimed functionality and the accused functionality, then Plaintiff reserves its right to rebut the alleged distinction as a matter of literal infringement and/or as to whether any such distinction is substantial under the Doctrine of Equivalents. As discussed above, Plaintiff's investigation of ProAmpac's infringement is ongoing and Plaintiff reserves the right to seek to supplement to amend the contentions to assert additional grounds and/or bases under the Doctrine of Equivalents should later-produced discovery indicate that such supplementation is necessary.

This disclosure is therefore based upon information that Plaintiff has been able to obtain to date, together with Plaintiff's current good faith beliefs regarding the Accused Instrumentalities. This disclosure is given without prejudice to Plaintiff's right to further supplement or amend as additional facts are ascertained, analyses are made, research is completed, contentions are made, and claims are construed, and Plaintiff hereby expressly reserves its right to seek to amend its contentions regarding infringement under the Doctrine of Equivalents after it obtains, and has been able to analyze, the necessary discovery from ProAmpac as well as from any relevant third parties.

F. Priority Dates

The Asserted Claims are entitled to at least the following priority dates:

- Claim 7 of the '148 Patent is entitled to at least a priority date of January 8, 2018.
- Claim 9 of the '148 Patent is entitled to at least a priority date of January 8, 2018.
- Claim 14 of the '148 Patent is entitled to at least a priority date of January 8, 2018.

G. Commercial Embodiment(s)

Plaintiff's "EcoTemp" line of products practice the Asserted claims.

H. Damages Period

Plaintiff continues its investigation of the date of the first sale of the infringing product(s). Plaintiff reserves the right to start the damages period as of the date of the issuance of the '148 Patent (July 27, 2021).

I. Willful Infringement

Defendant has willfully infringed the '148 Patent. While Plaintiff expects that discovery will reveal additional evidence of the willfulness, the current evidence shows that, before this lawsuit was filed, Defendant was aware that its products infringed the Asserted Patents. Despite this knowledge, Defendant has continued to infringe the '148 Patent and continued to operate in an objectively reckless manner. For instance, Defendant has had knowledge of the '148 Patent since at least August 31, 2023 when it acquired and analyzed Plaintiff's commercial embodiment. On information and belief, Defendant began to produce the Accused Product with an infringing configuration at least as early as June 3, 2024. Further, Defendant has willfully infringed the '148 Patent since at least July 2024 when Plaintiff notified a customer of the Defendant that Defendant was infringing the '148 Patent and, on information and belief, the Defendant's customer then advised Defendant. (*See Complaint*, DKT. 1 at p. 3-4.) On information and belief, Defendant then changed their product configuration[2] and allegedly ceased selling the accused configuration on or after September 2024. On information and belief, Defendant did not recall or otherwise stop its customers from using the originally accused configuration that it had already manufactured, sold, and shipped.

[2] As discussed, above, this new configuration(s) is currently being tested, at the time of filing these initial infringement contentions, it is unknown if other versions exist.

2. DOCUMENT PRODUCTION

A. File History

Documents responsive to this category were produced with production numbers PRATT-24CV1073-0000001 to PRATT-24CV1073-0000232.

B. Ownership

Documents responsive to this category will be produced.

C. Commercial Embodiment

Documents responsive to this category will be produced.

Dated: July 18, 2025

/s/ Cortlan S. Hitch

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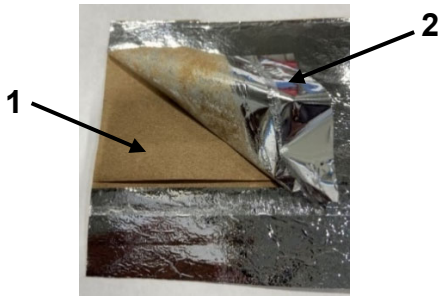
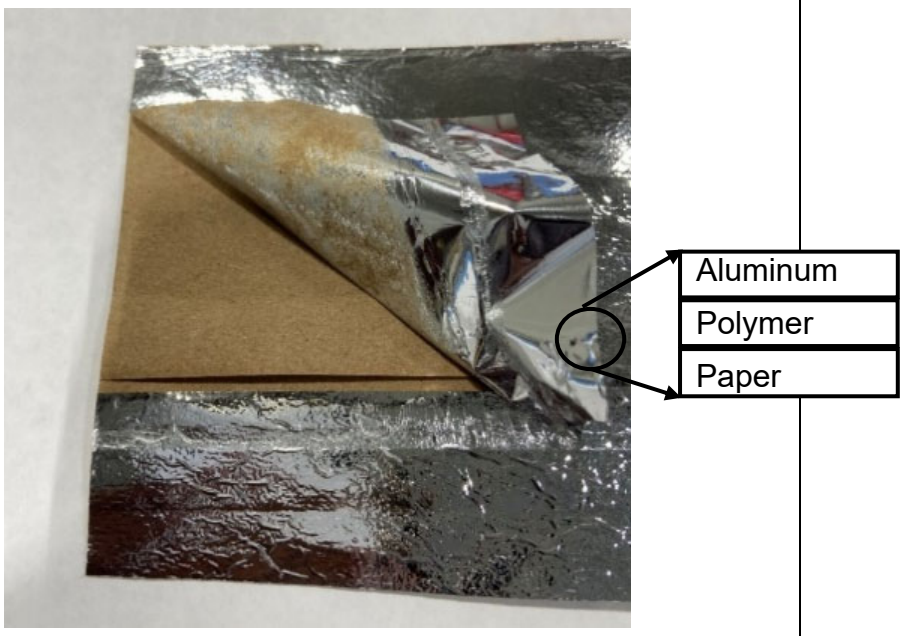
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EXHIBIT A – INITIAL INFRINGEMENT CLAIM CHART FOR INDEPENDENT CLAIM 7 AND DEPENDENT CLAIM 8 OF U.S. PATENT NO. 11,072,148

Claim Text	**ProActive Recyclable FiberCool (FSH200225) (the Accused Instrumentality)**
Claim 7. A method for manufacturing a recyclable packaging, the method comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, which Plaintiff does not concede, the Accused Instrumentality is a "recyclable packaging" because Defendant's online press release of June 4, 2024 ("the Online Press Release")[1] describes the Accused Instrumentality as a "'curbside recyclable insulated bag" that purportedly "'has been pre-qualified for curbside recyclability.'"  

[1] *Keeping it Cool: ProAmpac Unveils Revolutionary FiberCool Curbside Recyclable Insulated Bag*, ProAmpac.com (Jun. 4, 2024), https://www.proampac.com/en-us/media-center/693/keeping-it-cool-proampac-unveils-revolutionary-fibercool-curbside-recyclable-insulated-bag/. *See also* Complaint [D.I. 01] at ¶ 14 (quoting Online Press Release as to purported recyclability of the Accused Instrumentality).

Claim Text	ProActive Recyclable FiberCool (FSH200225) (the Accused Instrumentality)
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;	The Accused Instrumentality has paper layer (1) and a polymer layer (2) attached to it, where the inner surface of the polymer layer is shown affixed to a first surface of the paper layer. The image, below, shows the Accused Instrumentality where a portion of the polymer layer (2) has been peeled apart from the paper layer (1). 
depositing an aluminum layer on the polymer layer,	Deconstruction of the Accused Instrumentality shows that the aluminum layer is on the polymer layer.  Thus, in the layer stack, the aluminum is on the polymer which is on the paper.

<table>
<tr><th>Claim Text</th><th>ProActive Recyclable FiberCool (FSH200225)
(the Accused Instrumentality)</th></tr>
<tr><td>wherein the aluminum layer has a first thickness of 200 nanometers or less,</td><td>The thickness of the aluminum layer was determined by a measurement of optical density, which was determined to be 2.1 which, via linear interpolation, corresponds to a thickness of approximately 29.8 nm.

Table 1: Thickness results for the aluminum metal layer in five samples with nominal ODs of 0.5 – 2.5. The column titled "Number" gives the number of measurements for each sample; SD is the standard deviation of the measurement expressed as a thickness and as a percent of the average thickness.

<table><tr><th>Nominal sample OD</th><th>Thickness (nm)</th><th>Number</th><th>SD (nm)</th><th>SD (%)</th></tr><tr><td>0.5</td><td>5.9</td><td>59</td><td>0.54</td><td>9.1</td></tr><tr><td>1.0</td><td>12.4</td><td>41</td><td>0.81</td><td>6.5</td></tr><tr><td>1.5</td><td>18.9</td><td>44</td><td>1.3</td><td>7.0</td></tr><tr><td>2.0</td><td>28.0</td><td>37</td><td>1.8</td><td>6.3</td></tr><tr><td>2.5</td><td>37.2</td><td>35</td><td>2.0</td><td>5.5</td></tr></table>
From "Evaporated Aluminum on Polyester: Optical and Electrical Properties as a Function of Thickness", D.J. McClure et al., © 2011 Society of Vacuum Coaters 505/856-7188

54th Annual Technical Conference Proceedings, Chicago, IL April 16–21, 2011 ISSN 0737-5921</td></tr>
<tr><td>and wherein the aluminum layer causes said packaging layer stack to have emissivity that is equal to or smaller than a first value of 0.10; and</td><td>Emissivity of the Accused Instrumentality was measured using a Device & Services Co. AE1 Emissometer and the RD1 Scaling Digital Voltmeter. The measured emissivity is 0.03.</td></tr>
</table>

Claim Text	ProActive Recyclable FiberCool (FSH200225) (the Accused Instrumentality)
wherein said aluminum layer is configured to acquire optical density (OD) of less than 0.09 when the packaging layer stack is exposed to a treatment that includes: a) blending the packaging stack in a blender; b) disintegrating 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, 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.	This limitation is literally met by the aluminum layer of the Accused Instrumentality having acquired an optical density (OD) of less than 0.09 with no visible aluminum present in the recyclable material that resulted from the recyclable packaging being subjected to: 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 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. 

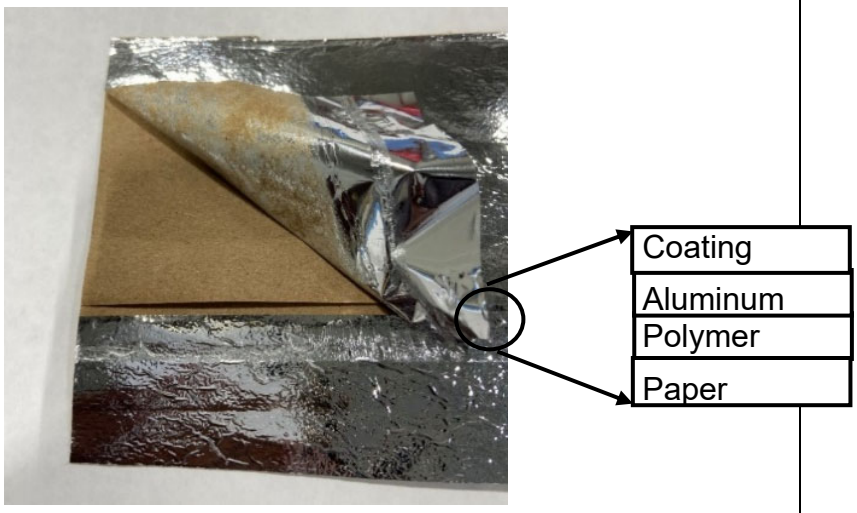
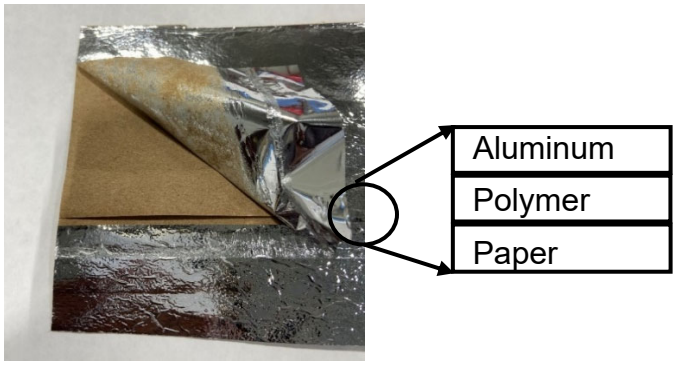
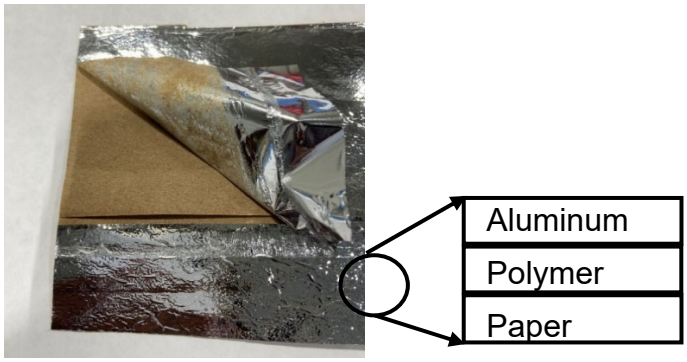
Claim Text	ProActive Recyclable FiberCool (FSH200225) (the Accused Instrumentality)
Claim 8. The method of manufacturing a recyclable packaging of claim 7, further comprising: applying a protective coating over the aluminum layer to form a coated packaging layer stack, wherein the protective coating has a second thickness of 1 micron or less, and wherein the second thickness is defined a) to maintain the emissivity of the 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 recyclable packaging, while the protective coating does not impede oxidation of the aluminum layer during the treatment.	Deconstruction of the Accused Instrumentality shows that the aluminum layer has a protective coating.  The protective coating was determined to have a thickness of 1 micron or less, maintained the emissivity of the layer stack a value equal to or less than 0.10, and prevented the oxidation of the aluminum layer during normal use (the picture shows that the aluminum has not oxidized), but did not impede oxidation of the aluminum layer during the repulping treatment.

EXHIBIT B – INFRINGEMENT CLAIM CHART FOR INDEPENDENT CLAIM 9 AND DEPENDENT CLAIMS 10, 11, AND 13 OF U.S. PATENT NO. 11,072,148

Claim Text	**ProActive Recyclable FiberCool (FSH200225)**
Claim 9. A recyclable packaging comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, which Plaintiff does not concede, the Accused Instrumentality is a "recyclable packaging" because Defendant's Online Press Release describes the Accused Instrumentality as a "'curbside recyclable insulated bag" that purportedly "'has been pre-qualified for curbside recyclability.'"(*see* Footnote 1, *supra*).  
a stack including	This limitation is met by the Accused Instrumentality being composed of a layer stack of different materials.
a paper layer with first and second surfaces;	This limitation is met by a layer of paper, which necessarily has a first (1) and second (2) surface.  

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;	Deconstruction of the Accused Instrumentality shows that a polymer layer (that necessarily has a third and fourth surface) is affixed to the paper layer (the second surface). 

an aluminum layer deposited on the fourth surface,	This limitation is met by an aluminum layer that is deposited on the polymer layer (on the fourth surface). 
wherein the aluminum layer has a first thickness of 200 nanometers or less	The thickness of the aluminum layer is determined by a measurement of optical density, which was determined to be 2.1 which, via linear interpolation, corresponds to a thickness of approximately 29.8 nm. *Table 1: Thickness results for the aluminum metal layer in five samples with nominal ODs of 0.5 – 2.5. The column titled "Number" gives the number of measurements for each sample; SD is the standard deviation of the measurement expressed as a thickness and as a percent of the average thickness.* Nominal sample OD / Thickness (nm) / Number / SD (nm) / SD (%) 0.5 / 5.9 / 59 / 0.54 / 9.1 1.0 / 12.4 / 41 / 0.81 / 6.5 1.5 / 18.9 / 44 / 1.3 / 7.0 2.0 / 28.0 / 37 / 1.8 / 6.3 2.5 / 37.2 / 35 / 2.0 / 5.5 From *"Evaporated Aluminum on Polyester: Optical and Electrical Properties as a Function of Thickness"*, D.J. McClure et al., © 2011 Society of Vacuum Coaters 505/856-7188 54th Annual Technical Conference Proceedings, Chicago, IL April 16–21, 2011 ISSN 0737-5921
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	Emissivity of the Accused Instrumentality was measured using a Device & Services Co. AE1 Emissometer and the RD1 Scaling Digital Voltmeter. The measured emissivity is 0.03.

wherein said aluminum layer acquires an optical density (OD) of less than 0.09 with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment, the treatment including 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 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.	This limitation is literally met by the aluminum layer of the Accused Instrumentality having acquired an optical density (OD) of less than 0.09 with no visible aluminum present in the recyclable material that resulted from the recyclable packaging being subjected to: 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 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. 

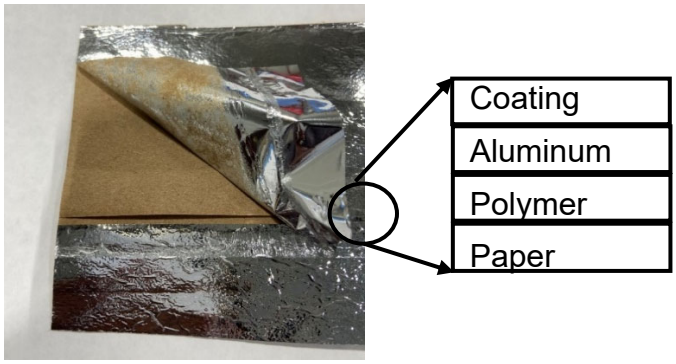
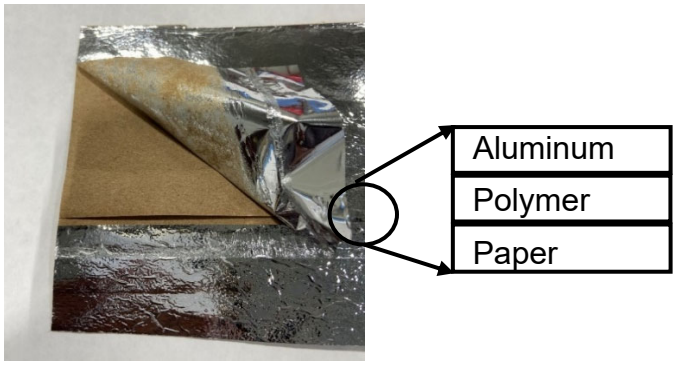
Claim 10. The recyclable packaging of claim 9, further comprising: a protective coating over the aluminum layer, wherein the protective coating has a second thickness of 1 micron or less, wherein the second thickness is defined to maintain the first value of the emissivity of the recyclable packaging 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, wherein the protective coating does not impede oxidation of the aluminum layer during the treatment.	Deconstruction of the Accused Instrumentality shows that the aluminum layer has a protective coating.  The protective coating was determined to have a thickness of 1 micron or less, maintained the emissivity of the layer stack a value equal to or less than 0.10, and prevented the oxidation of the aluminum layer during normal use (the picture shows that the aluminum has not oxidized), but did not impede oxidation of the aluminum layer during the repulping treatment.
Claim 11. The recyclable packaging of claim 10, wherein the protective coating includes a material selected from: wax, polymer, and lacquer.	The protective coating of the Accused Instrumentality is a polymer.
Claim 13. The recyclable packaging of claim 9, wherein the polymer layer includes a material selected from: film and fabric.	The polymer layer of the Accused Instrumentality is a film.

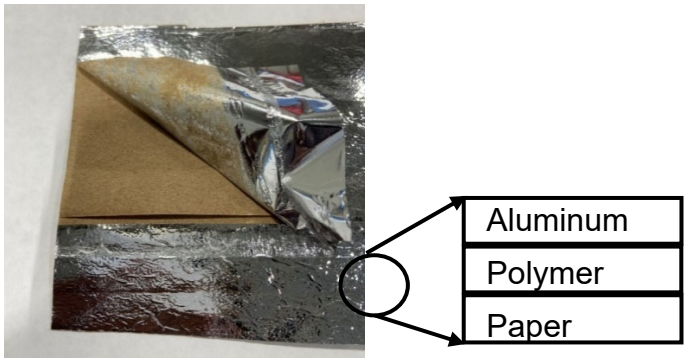
EXHIBIT C – INFRINGEMENT CLAIM CHART FOR INDEPENDENT CLAIM 14 OF U.S. PATENT NO. 11,072,148

Claim Text	ProActive Recyclable FiberCool (FSH200225)
Claim 14. A method for thermally insulating a good within a recyclable packaging, the method comprising:	To the extent that the claim's preamble is determined to be a limitation or otherwise limiting, which Plaintiff does not concede, the Accused Instrumentality is a "recyclable packaging" because Defendant's Online Press Release describes the Accused Instrumentality as a "'curbside recyclable insulated bag" that purportedly "'has been pre-qualified for curbside recyclability.'" *See* Footnote 1, *supra*. Furthermore, upon information and belief, Defendant has practiced, induces and/or contributes others to practice, the method for thermally insulating a good within the recyclable packaging.[2]    

[2] *See* Complaint [D.I. 01] at ¶ 13 (quoting the Online Press Release as to purported thermal properties of the Accused Instrumentality).

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:	This limitation is literally met by the Defendant, at least in its internal evaluation and testing, by inducing and/or contributing to the use, evaluation or testing of the Accused Instrumentality, which is a recyclable packaging with reflective insulation material into which a good is inserted. 
a paper layer with first and second surfaces;	This limitation is literally met by the recyclable packaging including a layer of paper, which necessarily has a first (1) and second (2) surface. 

a polymer layer with third and fourth surfaces, wherein the third surface is affixed to the second surface;	Deconstruction of the Accused Instrumentality shows that a polymer layer (that necessarily has a third and fourth surface) is affixed to the paper layer (the second surface). 

an aluminum layer deposited on the fourth surface,	This limitation is met by an aluminum layer that is deposited on the polymer layer (on the fourth surface).  The thickness of the aluminum layer is determined by a measurement of optical density, which was determined to be 2.1 which, via linear interpolation, corresponds to a thickness of approximately 29.8 nm.
wherein the aluminum layer has a first thickness of 200 nanometers or less	*Table 1: Thickness results for the aluminum metal layer in five samples with nominal ODs of 0.5 – 2.5. The column titled "Number" gives the number of measurements for each sample; SD is the standard deviation of the measurement expressed as a thickness and as a percent of the average thickness.* Nominal sample OD / Thickness (nm) / Number / SD (nm) / SD (%) 0.5 / 5.9 / 59 / 0.54 / 9.1 1.0 / 12.4 / 41 / 0.81 / 6.5 1.5 / 18.9 / 44 / 1.3 / 7.0 2.0 / 28.0 / 37 / 1.8 / 6.3 2.5 / 37.2 / 35 / 2.0 / 5.5 From *"Evaporated Aluminum on Polyester: Optical and Electrical Properties as a Function of Thickness"*, D.J. McClure et al., © 2011 Society of Vacuum Coaters 505/856-7188 54th Annual Technical Conference Proceedings, Chicago, IL April 16–21, 2011 ISSN 0737-5921
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	Emissivity of the Accused Instrumentality was measured using a Device & Services Co. AE1 Emissometer and the RD1 Scaling Digital Voltmeter. The measured emissivity is 0.03.

wherein said aluminum layer fully oxidized with no visible aluminum present in a recyclable material that results from the recyclable packaging being subjected to a treatment, the treatment including 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 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.	This limitation is literally met by the aluminum layer of the Accused Instrumentality having become fully oxidized with no visible aluminum present in the recyclable material that resulted from the recyclable packaging being subjected to: 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 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. 