

**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/COUNTERCLAIM PLAINTIFF PROAMPAC HOLDINGS INC.’S
INITIAL INVALIDITY CONTENTIONS**

Pursuant to Paragraph 4.d. of the Delaware Default Standard for Discovery and the Court’s Scheduling Order and Amended Scheduling Order (D.I. 23; D.I. 42), Defendant/Counterclaim Plaintiff ProAmpac Holdings Inc. (“ProAmpac”) serves its Initial Invalidity Contentions and accompanying document production on Plaintiff/Counterclaim Defendant Pratt Retail Specialties, LLC (“Pratt”).

I. INITIAL INVALIDITY CONTENTIONS

In its Amended Initial Disclosure of Asserted Claims and Infringement Contentions, dated August 1, 2025, Pratt has asserted claims 7-11 and 13-14 of U.S. Patent No. 11,072,148 (“the ’148 Patent”). ProAmpac contends that each of the asserted claims are invalid under at least 35 U.S.C. §§102, 103, and/or 112. ProAmpac provides the following disclosure of its initial invalidity contentions. In preparing these contentions, ProAmpac has relied in part on Pratt’s initial infringement contentions. In those contentions, Pratt appears to assign overly broad claim constructions in an effort to assert infringement where none exists, and to accuse products that do not infringe the asserted claims. ProAmpac’s initial invalidity contentions take into account Pratt’s apparent constructions and may reflect aspects of the prior art that satisfy those constructions.

ProAmpac’s assertion that a particular limitation is disclosed by a prior art reference, however, is not an admission that Pratt’s apparent claim interpretations are supportable or proper or that the claim limitations satisfy 35 U.S.C. §112 or are otherwise amenable to construction. ProAmpac will argue for appropriate constructions of any limitation of the asserted claims of the ’148 Patent on the schedule set by the Court. D.I. 23; D.I. 42. Moreover, ProAmpac may seek to amend and/or supplement its invalidity contentions to account for any new interpretations or applications of the asserted claims, for example, if Pratt changes its infringement theories or the Court issues a claim construction order.

A. Identification of Invalidating Prior Art

ProAmpac contends that the prior art identified below and in Exhibits A-C anticipate and/or render obvious, alone or in combination, one or more of the asserted claims of the ’148 Patent under 35 U.S.C. §§ 102 and/or 103:

TABLE 1: Prior Art Patents and Publications

Prior Art Reference	Date of Publication
U.S. Publication No. US 2014/0044903 to Gundlach (“Gundlach”)	February 13, 2014
S. Yializis, <i>Multi-Layer, Low Emissivity, Metallized Materials for Replacing Aluminum Foils in Heat Reflection and Energy Management Applications</i> , Society of Vacuum Coaters, 52nd Annual Technical Conference Proceedings, 755-759 (“Yializis”)	May 2009
<i>The Voluntary Standard for Repulping and Recycling Corrugated Fiberboard Treated to Improve Its Performance in the Presence of Water and Water Vapor</i> , Fibre Box Association (“Voluntary Standard Reference”)	August 16, 2013
U.S. Publication No. 2015/0053086 to Rebouillat et al. (“Rebouillat”)	February 26, 2015
NL Patent Publication No. 2008251 to Orichel (“Orichel”)	August 8, 2013
U.S. Publication No. 2014/0272163 to Tilton (“Tilton”)	September 18, 2014

U.S. Publication No. 2017/0129216 to Shimizu et al. (“Shimizu”)	May 11, 2017
U.S. Publication No. 2011/0020570 to Wadsworth et al. (“Wadsworth”)	January 27, 2011
U.S. Patent No. 4,952,278 to Gregory (“Gregory”)	August 28, 1990

TABLE 2: Prior Art Systems/Products

Prior Art Items	Entity (Date of First Sale/Use)
The ProAmpac MetOpp Bag	ProAmpac Holdings Inc. (October 17, 2016)

Any citation to a printed publication or other reference describing a prior art system/product in these initial invalidity contentions, including the attached claim charts, should also be construed to include a reference to the prior art system/product itself. Any invalidity contentions related to systems/products disclosed in a catalog or brochure should be interpreted to include contentions of prior public sale, public use, or otherwise public disclosure under §102, the factual bases for which will be further developed during discovery.

Additional prior art references can be found in the file history and cited references for the ’148 Patent. Those prior art references are incorporated by reference herein. Further, ProAmpac incorporates by reference herein its petition for *inter partes* review of the ’148 Patent and accompanying exhibits, including the cited prior art references, filed in *ProAmpac Holdings Inc. v. Sigma Technologies Int’l, LLC*, IPR2025-01143 (P.T.A.B. 2025) (“the IPR”). Those documents are bates-stamped PROAMPAC00000282–PROAMPAC00000921.

ProAmpac’s response herein is subject to the Reservation of Rights set out below. Without limiting such reservations, ProAmpac states that discovery, including third-party discovery, is ongoing, and ProAmpac’s prior art investigation is therefore not yet complete. ProAmpac reserves

the right to present additional items of prior art under 35 U.S.C. §102 and/or §103 discovered or otherwise identified or appreciated during the course of discovery or further investigation.

B. Charts Identifying Where In Each Prior Art Reference Each Element is Taught

Attached hereto as Exhibits A-C are claim charts setting forth the following:

- the prior art that anticipates one or more asserted claims under 35 U.S.C. §102;
- the prior art that renders one or more asserted claims obvious under 35 U.S.C. §103, including identification of combinations of prior art and explanations of why the prior art renders the claims obvious; and
- where in each identified prior art reference each limitation of the asserted claims is found.

ProAmpac has identified exemplary portions of the prior art references that disclose the claim limitations of the asserted claims of the '148 Patent. Such portions are not meant or intended to be exhaustive. The references may contain additional support for particular claim limitations. A person of ordinary skill in the art ("POSITA") would have understood and interpreted the cited passages in the context of the prior art references as a whole, as well as in the context of the state of the art. ProAmpac reserves the right to rely on the entirety of the prior art references identified, including any uncited portions, other documents or references that may be identified, and expert testimony to provide further context or to aid in the understanding the prior art references and ProAmpac's invalidity positions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the '148 Patent, ProAmpac reserves the right to argue that any difference between that prior art and the corresponding patent claim would have

been either inherent in the art or obvious to a POSITA, even if ProAmpac has not specifically denoted that the art is to be combined with the knowledge of a POSITA. Further, ProAmpac reserves the right to identify other prior art that, when combined with anticipatory prior art, would render one or more of the asserted claims of the '148 Patent obvious. The suggested obviousness combinations are in addition to ProAmpac's anticipation contentions and are not to be construed to suggest that any art included in the combinations is not anticipatory on its own.

To the extent that applicable law requires evidence of motivation to combine, motivation exists to combine one or more of the references and/or systems/products included in these invalidity contentions with each other. Generally, motivation to combine any of the prior art exists within the references or systems/products themselves, as well as within the knowledge of a POSITA at the relevant time. A POSITA would have been motivated to combine the above prior art based on their knowledge, the nature of the problem to be solved, and/or the teachings of the prior art.

As discussed below, combining the prior art identified herein and in the claim charts (Exhibits A-C) with each other and/or the knowledge of a POSITA would have been obvious. There are a number of rationales that support a conclusion of obviousness, including: (1) a teaching, suggestion, or motivation in the prior art to modify or combine; (2) the combination of familiar elements according to known methods to yield predictable results; (3) simple substitution of one known element for another; (4) use of known technique to improve similar devices (methods, or products) in the same way; and (5) when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, the combination may be "obvious to try." *See, e.g., KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-22 (2007). By way of example, and without limitation, ProAmpac provides the following exemplary

motivations for combining prior art that disclose each of the asserted claims of the '148 Patent.

Many of the identified references herein address similar technical issues and suggest similar solutions to problems in connection with using low emissivity materials, such as aluminum foil, which impair a packaging's recyclability. Indeed, the need for a packaging material with performance characteristics suitable for temperature sensitive foods, characteristics suitable for recycling, and a radiant barrier equal to aluminum foil, all of which had already been recognized in the prior art and the field of the invention, would have provided a POSITA a motivation to combine the prior art identified above. Exemplary motivations to combine can be found in the IPR, incorporated herein by reference.

For example, Gundlach discloses a recyclable, paper-based packaging material for bags, containers, and similar packaging used for food and other goods. Gundlach, Abstract, [0003], [0032]. Gundlach recognized common formulations of packaging material include aluminum foil, which renders the material "unsuitable for composting or paper recycling," requires "more expensive" and "economically unfeasible" recycling methods, and relegates the packaging to a landfill. Gundlach, [0005]-[0006]. Gundlach therefore discloses a packaging material with a "film structure" that instead includes vacuum metallized aluminum, making the packaging recyclable while maintaining "the superior radiant barrier property of aluminum foil." Gundlach, [0007]-[0009], [0025]-[0027], [0032]-[0036]. For example, the film is a multilayered structure including a base material, base coat structure, metallized layer, and top coat structure. Gundlach, [0008], [0036]. The metallized layer is a thin layer of vacuum metallized aluminum, which Gundlach describes as a "good radiant barrier with an emissivity" as low as "0.05 units." Gundlach, [0007], [0043].

Yializis is an article authored by an alleged inventor of the '148 Patent. However, neither the alleged inventors, prosecuting attorneys, nor anyone else responsible for prosecuting the '148 Patent disclosed Yializis as prior art during prosecution. Yializis describes multilayered, low emissivity, metallized materials for replacing aluminum foil in heat reflection and insulation applications, including “food, agricultural, biomedical and electronic packaging.” Yializis, 755, 757, 758 (describing “packaging-grade” films). Yializis 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. Yializis, 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.” Yializis, 755-756. Yializis 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. Yializis, 756-759.

Rebouillat discloses a multilayered, low emissivity reflective sheet and cover for thermally insulating foods and pharmaceuticals. Rebouillat, Abstract, [0002], [0021], [0043], [0068], Fig. 1b. The sheet/cover includes a “metal layer” vapor deposited onto a polymer substrate. Rebouillat, [0032], [0046]-[0050]. The metal layer is aluminum, has a thickness “less than 0.2 microns,” and provides the inner surface of the sheet/cover with an emissivity of “less than 0.1.” Rebouillat, [0050]. A “protective lacquer coating” having a thickness “between 0.2 and 1.0 micron” is applied on top of the metal layer to prevent corrosion during use. Rebouillat, [0032], [0051]. “The thickness and composition of this protective lacquer is selected such that it substantially changes

neither the moisture vapor permeability of the reflective sheet, nor the emissivity of the low emissivity metal layer to which it is applied.” *Id.*

The Voluntary Standard Reference is a standard developed and published by the Fibre Box Association and dated “August 16, 2013.” Voluntary Standard Reference, 1, 3. The ’148 Patent admits the Voluntary Standard Reference is prior art. Specifically, the ’148 Patent states:

Features of the method employed for testing the repulpability of a paper-based containers are summarized in Part I of the document titled “The Voluntary Standard For Repulping and Recycling Corrugated Fiberboard Treated to Improve Its Performance in the Presence of Water and Water Vapor”, *published by the Fibre Box Association (available at fibrebox.org)* *This test method is recognized in related industry—and, in particular, by the Fibre Box Association and Corrugated Packaging Alliance—and represents the commonly-used test*, the exposure of a given container or packaging to which is required to be able to determine whether such given corrugated container or packaging can be classified as repulpable or recyclable.

’148 Patent, 4:64-5:11. The Voluntary Standard Reference describes the Voluntary Standard, which is a “method to determine the repulpability and recyclability” of paper products using “common mill technology.” Voluntary Standard Reference, 3-4. It is a multi-part test method that simulates “a commonly used subset of repulping and recycling processes” and applies “process technology either in effect or readily achievable in mills currently involved in recycling.” Voluntary Standard Reference, 4, 9, 11-12. Under “PART 1: Repulpability,” the standard describes a process that includes blending a packaging in a Waring blender, disintegrating the blended material in a British disintegrator set to “125° F ± 10° F” and “3000 rpm,” separating the disintegrated material in 0.01 inch “slotted open flat screen, maintaining 1” water head – for 20

minutes,” and drying the separated material “in a laboratory oven for 12 hours ($\pm$ 4 hours) at 221°F.” Voluntary Standard Reference, 5, 9. If the packaging is “capable of being processed into new paper or paperboard using the process defined in” the standard, it is considered “recyclable.” Voluntary Standard Reference, 5-8, 23.

Orichel discloses a multilayered cover material for food packaging that comprises a non-woven base material layer, a metal layer with a thickness under 200 nanometers, a gas and/or steam barrier coating layer, and a heat sealant layer located on the inner surface of the cover material. *See, e.g.*, Orichel at Abstract, 1:6-10, 2:4-17, 6:16-34, 7:24-29, Fig. 1. In particular, it describes “a non-woven cellulose-based material that offers high barrier properties versus oxygen, water vapour, as well as UV and IR radiation while at the same time offering very high, if not complete recyclability and high biodegradability.” *Id.* at 2:4-7.

Tilton discloses a composite structure that includes fiber-containing layers and mineral-containing layers. Tilton at Abstract, [0072]. The composite structure provides “reusable pulp, thus offering reusability and reprocess ability into valuable recycled paper-containing packaging products.” *Id.* at [0072]. The composite structure is used to form “multilayer packaging structures, e.g. folding cartons and the like, including single-wall or multi-wall corrugated structures using the composite packaging material as one or more inner or outer liner(s) and/or corrugated medium(s).” *Id.*

Wadsworth discloses “a sheet material and construction method suitable for manufacturing boxes and other types of containment devices, and containers formed with such materials and methods.” Wadsworth at [0004], Figs. 1-3. The sheet material includes a reflective film comprising a low-emissivity metallization, preferably aluminum, on a polymer film. *Id.* at [0017]. Wadsworth teaches that the surface of the sheet material is “defined by a reflective film material

that exhibits low emissivity (preferably 0.05 or less).” *Id.* at [0015].

Shimizu discloses a “multilayer structure, a method for producing the multilayer structure, a packaging material and a product that include the multilayer structure.” Shimizu at [0001]. The structure includes a deposited layer of “aluminum with a thickness of 0.03 μm .” *Id.* at [0390]. The aluminum layer may be coated with a protective “coating liquid” that comprises a polymer. *Id.* at [0157].

Gregory discloses a paper structure with high opacity. Gregory at Abstract, 1:6-8. Gregory describes a handsheeting procedure that includes disintegrating material in a British disintegrator and drying the material “at about 112° C. on a steam heated drum.” *Id.* at 11:62-12:11.

It would have been obvious to a POSITA to combine the teachings of the prior art with each other. For example, if Gundlach, Tilton, the MetOPP Bag, or any of the other prior art identified above are not deemed to anticipate the asserted claims of the ’148 Patent, it would have been obvious to a POSITA to modify them to incorporate the teachings of the other references, such as Yializis, Rebouillat, Wadsworth, Shimizu, Gregory, and/or Orichel. A POSITA would have been motivated to combine the references because they are directed to the same field of endeavor, e.g., low emissivity materials including a vacuum deposited aluminum layer on a polymer layer, and where the aluminum layer is a replacement for aluminum foil and used in thermal insulation or heat reflection applications. The motivation is enhanced by other similarities and common features shared between the references, e.g., the desire for an emissivity ≤ 0.10 , usage for food packaging, the use of vapor/vacuum deposition techniques, and the inclusion of protective coatings over the aluminum layer.

The prior art also provides the precise type of teaching, suggestion, or motivation that would have prompted a POSITA to combine the references. *KSR*, 550 U.S. at 418; MPEP

§2141.III. For example, in discussing how to improve upon prior-art material, Gundlach emphasized the need for a design that includes metallized aluminum instead of aluminum foil, because the foil is not suitable for recycling, or requires more expensive recycling methods, and usually results in the packaging being sent to a landfill. Gundlach, [0006]-[0007]. Gundlach taught that it would be advantageous for packaging materials to have “performance characteristics” suitable for use with food, including hot food items, “characteristics that are well suited for paper recycling and commercial or industrial composting,” and “the superior radiant barrier property of aluminum foil.” *Id.* Gundlach further taught that aluminum foil and vacuum metalized aluminum products exhibit good radiant barriers with an emissivity range of 0.05 to 0.15, and that Gundlach’s stack achieved radiant barrier properties “substantially equal to the foil.” *Id.*

Tilton taught a similar need for a recyclable composite packaging material that could be reprocessed into “valuable recycled paper-containing packaging products.” Tilton at [0072], Abstract. Tilton explained that “[f]or environmental and economic reasons, pulping and recycling characteristics are critical considerations in the development of such packages and materials. Other important considerations include barrier performance, heat seal during fabrication, surface energy, and efficiency in manufacturing.” *Id.* at [0003].

Yializis, for example, teaches a food packaging stack that accomplished such goals. As explained above, Yializis 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.” Yializis, 755-756, 759. A POSITA would have been motivated to incorporate Yializis’s stack configuration into packaging material like Gundlach or Tilton to optimize the packaging material’s performance and radiant barrier, protect the aluminum layer from oxidizing during

normal uses, e.g., packaging for hot food, and ensure the packaging remains recyclable. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (“motivation to combine exists” when the combination “results in a product” that is “more desirable, for example because it is stronger” or “more efficient”). A POSITA would have been particularly motivated to ensure the packaging material matches the emissivity of aluminum foil (emissivity < 0.03), as expressly suggested and taught by the references.

Similarly, Rebouillat’s stack includes thin layers of aluminum and protective lacquer and achieves an emissivity of “less than 0.1,” “improved thermal insulation,” and a “barrier to convective heat transfer.” Rebouillat, [0050]-[0051], [0021], [0043]-[0044]. A POSITA would have been motivated to incorporate Rebouillat’s layers into a stack like Gundlach or Tilton to optimize the stack’s performance and radiant barrier, as well as the protection, strength, and durability of the metallized layer during normal use, e.g., from moisture caused by hot food, and maintain its radiant barrier’s emissivity. A POSITA would have known that emissivity ≤ 0.10 was necessary to achieve a “radiant barrier” per industry standards and would have been motivated to ensure that emissivity to achieve, for example, Gundlach’s express desire for the “superior radiant barrier property of aluminum foil.” *See DyStar*, 464 F.3d at 1368.

Orichel also teaches a multi-layered food packaging that accomplished the above goals, disclosing a paper-based material that has “complete recyclability and high biodegradability.” *Id.* at 2:4-7, 3:15-21. As explained above, Orichel teaches a similar stack that includes thin layers of paper, polymer, and vacuum deposited aluminum with a thickness under 200 nanometers. *See Orichel* at 1:6-10, 2:4-17, 4:7-17, 6:16-34, 7:24-29. A POSITA would have been motivated to incorporate Orichel’s stack teachings into, for example, the MetOPP Bag’s stack to ensure full recyclability of the packaging.

A POSITA would have also been motivated to include the protective layer teachings of, for example, Yializis or Rebouillat to accomplish the known advantages that such a configuration would provide, including to: (1) maintain the radiant barrier property of packaging; (2) preserve the low emissivity provided by vacuum deposited aluminum; (3) minimize the amount of polymers in the packaging, increasing its likelihood of being repulpable/recyclable; and (4) allow a manufacturer to produce a packaging with a sufficient protection against oxidation during normal uses, yet still meet recycling standards. Well before January 8, 2018 (the earliest claimed priority date on the face of the '148 Patent)¹, the packaging industry had been exploring ways to accomplish these advantages, including by reducing the size of the materials. A POSITA would have been familiar with the techniques taught by the references and found them well-suited to improve Gundlach's or Tilton's packaging material, and therefore achieve their expressly stated goals.

Moreover, a POSITA would have been motivated to use the aluminum layer and protective coating taught in Shimizu to ensure that the material was protected against oxygen and moisture transmission. It also would have been obvious to a POSITA to incorporate the metallized polymer teachings of Wadsworth to provide low emissivity and protect the contents within a packaging.

Furthermore, every limitation of the asserted claims appears in the identified prior art. Those limitations consist of standard, predictable stacks using well-known materials and characteristics that would be familiar to any POSITA. There is nothing unpredictable about the claimed use of those materials in a recyclable packaging. *See KSR*, 550 U.S. at 417 (“[A] court

¹ 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.

must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.”). A POSITA would be familiar with the laminated paper materials claimed in the ’148 Patent, and taught by the prior art, because they had existed in the packaging industry well before 2018.

A POSITA would have a reasonable expectation of success in implementing the teachings of the prior art into each other because, for example, such metallized aluminum and protective coating configurations were well-known, commonly used, and encouraged in the field of thermal insulations and radiant barriers before 2018. They were commercially available before 2018 and in fact required by certain trade associations to “be used on metalized aluminum films that are intended for reflective insulation and radiant barrier applications.” *See, e.g.*, Reflective Insulation Manufacturers Association International (RIMA-I), *The Oxidation of Metallized Aluminum Films Used in Reflective Insulation and Radiant Barrier Applications*, Technical Bulletin #106 (May 2009) (“RIMA-I”); A. Brody et al., *Innovative Food Packaging Solutions*, 73(8) *Journal of Food Science* 107, 110-111 (2008) (“Brody”). Aluminum and polymer films were also common materials, as such configurations were routinely used in commercial packaging by then, and conventional methods and technology, such as vacuum deposition or roll coating, would have made implementing them technically feasible and simple. RIMA-I, 1; Brody, 110-111; C. Bishop, *Vacuum Deposition onto Webs, Films, and Foils* 13-31 (2d ed. 2011); M. Linder et al., *Thickness Measurement Methods for Physical Vapor Deposited Aluminum Coatings in Packaging Applications: A Review*, *Coating* 7(1):9, 1-2 (Jan. 14, 2017). Such technology was already in effect or readily available in most manufacturing facilities.

As another example, to the extent a reference that teaches the Voluntary Standard is required, the asserted claims of the ’148 Patent would have been obvious based on the combined

teachings of the Voluntary Standard Reference and the references identified in Exhibits A-C. For example, it would have been obvious to a POSITA to implement the recycling treatment taught by the Voluntary Standard Reference on the recyclable packaging taught by Gundlach or Tilton. A POSITA would have understood that for Gundlach's or Tilton's packaging material to be considered "recyclable," it must be subjected to the testing steps recited in asserted claims of the '148 Patent, which are taught by the Voluntary Standard Reference. At the time of the alleged invention, the Voluntary Standard was widely viewed by packaging companies and POSITAs to be the "gold standard" for recyclability. The '148 Patent admits the test method was "recognized" in the industry, was "the commonly-used test" for paper packaging, and was "required to be able to determine whether such given corrugated container or packaging can be classified as repulpable or recyclable." '148 Patent, 4:64-5:30.

The Voluntary Standard Reference addressed similar considerations as the above references, including that "[d]isposing of treated corrugated that cannot be recycled can be a financial and logistical burden" and "certain treatments to improve performance in the presence of water or water vapor have made recycling difficult." Voluntary Standard Reference, 3-4. A problem the Voluntary Standard Reference solved was to provide a process to "determine the repulpability and recyclability" of paper products applying a "commonly used subset of repulping and recycling processes," and establishing "minimum levels of performance" for the products to be considered "recyclable." Voluntary Standard Reference, 4-6, 9, 11-12, 23. Before 2018, a POSITA would have been familiar with these issues and processes and would have embraced the idea of a packaging material with both superior performance and recyclability characteristics.

Indeed, a POSITA would have readily turned to the Voluntary Standard Reference as a go-to recycling process for packaging material because, at the time of the '148 Patent's filing, the

Voluntary Standard was widely considered to be the gold standard for recyclability testing and a necessity in order to classify commercial packaging as “recyclable.” Moreover, like the other references above, it is directed to a similar field of endeavor: paper packaging materials that are recyclable.

A POSITA would have had a reasonable expectation of success implementing the Voluntary Standard Reference’s treatment because it was an established and routine recycling process in the packaging field by 2018. As the reference explains, it used “common mill” and “process technology either in effect or readily achievable in mills currently involved in recycling.” Voluntary Standard Reference, 3-4. By 2018, it was predictable to implement the Voluntary Standard on packaging to form a recyclable material. Furthermore, the ’148 Patent supports a reasonable expectation of success because, as explained above, it admits the Voluntary Standard was “commonly-used” within the industry, and the ’148 Patent itself uses and refers to its processes throughout.

* * *

Additional anticipatory references and obviousness combinations are possible, and ProAmpac reserves the right to identify any such additional references or use any such additional combinations. In particular, ProAmpac is unaware of the extent, if any, to which Pratt will contend that the claim limitations are not met by the prior art identified by ProAmpac, or to which Pratt will contend that certain prior art references cannot or would not be combined. To the extent that an issue arises with any such limitation, elements, or combinations, ProAmpac reserves the right to identify other prior art references, disclosures, or combinations that would have made obvious the addition of the allegedly missing claim limitation. ProAmpac further reserves the right to rely upon and incorporate herein combinations disclosed within the prosecution history of the ’148

Patent. ProAmpac further reserves the right to amend or supplement these invalidity contentions to identify additional reasons that combining the references with each other and/or the common knowledge of a POSITA would have been obvious to a POSITA, including with expert testimony to be disclosed in accordance with the Court's Scheduling Order and Amended Scheduling Order (D.I. 23; D.I. 42) and the Court's Local Rules. ProAmpac further reserves the right to rely upon and incorporates herein combinations disclosed within the file history of the '148 Patent.

C. Identification of Claim Terms Lacking Written Description and/or Enablement

ProAmpac contends that the asserted claims of the '148 Patent are invalid because the specification fails to satisfy the written description requirement and/or enablement requirement under 35 U.S.C. §112(a). ProAmpac identifies the following claim terms that are unsupported by the written description and/or not enabled:

- “a recyclable packaging” (all asserted claims)
- “a paper layer” (all asserted claims)
- “a polymer layer” (all asserted claims)
- “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” (claims 7-8)
- “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” (claim 8)

- “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” (claim 10)
- “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” (claims 9-11 and 13)
- “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” (claim 14)
- “placing a reflective insulation material in a pre-defined proximity with the good” (claim 14)
- “the pre-defined proximity being suitably chosen to provide adequate thermal insulation to the good” (claim 14)
- “drying in an oven for 4 hours at 221 degrees F” (claims 7-8)
- “drying the fourth material in an oven for 4 hours at 221 degrees F” (claims 9-11 and 13-14)

For at least the claim terms above, the specification of the '148 Patent does not adequately convey to a POSITA that the inventors had possession of the claimed subject matter as of the filing date of the patent, nor does it sufficiently describe the alleged inventions in the asserted claims or the manner and process of making and using the alleged inventions in the asserted claims so as to

enable one of ordinary skill in the art to make and use the full scope of the alleged inventions without undue experimentation.

ProAmpac expressly reserves the right to amend or supplement the above identification of claim terms based on further developments in this case, including in view of any amendments to Pratt's infringement contentions, the Court's claim construction opinion, and discovery in the case.

D. Identification of Indefinite Claim Terms

ProAmpac contends that the asserted claims of the '148 Patent are invalid because they fail to satisfy the definiteness requirement under 35 U.S.C. §112(b). In particular, the claim terms identified below fail to inform, with reasonable certainty, a POSITA about the scope of the alleged inventions. ProAmpac identifies the following claim terms that are indefinite:

- “attaching” (claims 7-8)
- “applying” (claim 8)
- “affixed” (claims 7-11 and 13-14)
- “over” (claims 8 and 10-11)
- “the packaging stack” (claims 7-8)
- “the packaging” (claims 9-11 and 13-14)
- “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” (claims 7-8)
- “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” (claims 7-8)

- “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” (claims 9-11 and 13)
- “the pre-defined proximity being suitably chosen to provide adequate thermal insulation to the good” (claim 14)
- “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” (claim 14)
- “drying in an oven for 4 hours at 221 degrees F” (claims 7-8)

ProAmpac expressly reserves the right to amend or supplement the above identification of claim terms based on further developments in this case, including in view of any amendments to Pratt’s infringement contentions, the Court’s claim construction opinion, and discovery in the case.

II. PRODUCTION OF PRIOR ART REFERENCES

Concurrently with this disclosure, ProAmpac is serving a document production that includes all of the prior art referenced in the initial invalidity contentions. Those documents are bates-stamped PROAMPAC00000054–PROAMPAC00000281 and PROAMPAC00000986–PROAMPAC00001075. *See also* PROAMPAC00000282–PROAMPAC00000921.

III. RESERVATION OF RIGHTS

These contentions are preliminary and may require subsequent amendment and/or supplementation, including as required and permitted by the Court’s Local Rules and the Federal Rules, because, among other things, fact discovery is currently ongoing and ProAmpac has not yet deposed any of the alleged inventors of the ’148 Patent, any Pratt current or former employees, or

any Sigma Technologies Int'l, LLC current or former employees. ProAmpac's initial invalidity contentions are based on information known to it at this time. ProAmpac expects discovery will reveal additional prior art. ProAmpac reserves its right to amend and/or supplement these initial contentions, including the attached claim charts, and its document production based on, for example, information that becomes available during discovery, ProAmpac's continued investigation, amendments and/or supplementations to Pratt's infringement contentions, Pratt's infringement, validity, and other positions in this case, and/or the Court's *Markman* order.

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