

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AMCOR RIGID PACKAGING USA, LLC,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Case No. 24-790 (MN)
	)	
GRAHAM PACKAGING COMPANY INC.	)	
and GRAHAM PACKAGING COMPANY,	)	
L.P.,	)	
	)	
Defendants.	)	

MEMORANDUM ORDER

At Wilmington, this 9th day of September 2026:

The Court heard argument about the disputed claim terms of U.S. Patent Nos. 8,496,130 (the “’130 Patent”); 9,694,930 (the “’930 Patent”); and 10,538,357 (the “’357 Patent”) (collectively, “the Asserted Patents”) on three separate occasions. (D.I. 186 (1/7/2026), 203 (1/29/2026), 352 (7/16/2026)).

IT IS HEREBY ORDERED that the claim terms of the Asserted Patents with agreed-upon constructions are construed as follows (*see* D.I. 222 at 4):

1. “an outward strap radius defined by the base portion decreases when the container is subject to volume displacement causing increased vacuum” means “Plain and ordinary meaning, *i.e.*, a radius of curvature of a portion of the base portion of the container where a strap transitions to the sidewall portion of the container decreases when the container is subject to volume displacement causing increased vacuum, as exemplified by 202/202’ in Figure 44” (’930 Pat. cl. 1).
2. “an outward strap radius defined by the base portion as-blown decreases when the container is subject to volume displacement post-fill causing increased vacuum” means “Plain and ordinary meaning, *i.e.*, a radius of curvature of a portion of the base portion of the as-blown container where a strap transitions to the sidewall portion of the container decreases when the container is subject to volume displacement post-fill causing increased vacuum, as exemplified by 202/202’ in Figure 44.” (’357 Pat. cl. 1).

As announced at the conclusion of the July 16, 2026 hearing, IT IS HEREBY ORDERED that the disputed claim terms of the Asserted Patents are construed as follows:

1. “upper wall” means “a straight top wall of a horizontal rib” (’130 Pat. cls. 1, 9);
2. “lower wall” means “a straight bottom wall of a horizontal rib” (’130 Pat. cls. 1, 9);
3. “the inner curved wall being curved along an innermost radius” means “a curved wall defined in part by a radius at its innermost point,” which is its plain and ordinary meaning (’130 Pat. cls. 1, 9);
4. “state [or phase] of hydraulic charge-up” means “a condition of the container characterized by a reduction in volume of the container causing the fluid within the container to reach an incompressible state and increase in pressure, causing the container to resist further deformation” (’930 Pat. cl. 1; ’357 Pat. cl. 1).

The Court reserved ruling on the terms below and is now prepared to rule on those terms, and, THEREFORE, IT IS HEREBY ORDERED that:

1. “upper outer radius” means “uniform radius of curvature defining a curved transition from an upper wall of a horizontal rib to an upper land” (’130 Pat. cls. 1, 9);
2. “lower outer radius” means “uniform radius of curvature defining a curved transition from a lower wall of a horizontal rib to a lower land” (’130 Pat. cls. 1, 9);
3. “acute angle” means “the horizontal rib radii, walls, depth, and width, in combination, form an angle (i.e., the angle defined by the point where the curve defined by the upper outer radius meets the upper land, the point where the inner curved wall extends furthest into the container, and the point where the curve defined by the lower outer radius meets the lower land) that is less than 90°” (’130 Pat. cls. 1, 2, 7, 9, 13);
4. “inward foot radius” means “a radius of curvature measured at about the midway point along a curved side surface between the footed contact surface and the central pushup portion of the base portion” (’930 Pat. cl. 1; ’357 Pat. cl. 1);
5. “a standing base radius defined by the base portion decreases when the container is subject to volume displacement causing increased vacuum” and “a standing base radius defined by the base portion as-blown decreases

when the container is subject to volume displacement causing increased vacuum” are indefinite (’930 Pat. cl. 1; ’357 Pat. cl. 1).

The parties briefed the issues and provided voluminous exhibits supporting their respective positions. (D.I. 155, 156, 157, 158). There was also a technology tutorial. (D.I. 154). The Court held three hearings on these issues, including hearing testimony from both sides’ expert witnesses. (D.I. 186, 203, 352). After the third and final hearing on July 16, the parties submitted additional briefing. (D.I. 353, 354). The Court carefully reviewed all submissions in connection with the parties’ contentions regarding the disputed claim terms and considered the parties’ arguments on each term. In reaching its decision, the Court applied the legal standards below.

I. LEGAL STANDARDS

A. Claim Construction

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations and quotation marks omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim must also be considered. *Id.* at 1314. “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted).

The patent specification “is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic*,

Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, . . . consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, courts “will need to look beyond the patent’s intrinsic evidence and [] consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 574 U.S. at 331. Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Expert testimony can be useful “to ensure that the court’s understanding of the technical

aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

B. Indefiniteness

“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe.” *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, “[a] patent holder should know what he owns, and the public should know what he does not.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002).

A patent claim is indefinite if, “viewed in light of the specification and prosecution history, [it fails to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). A claim may be indefinite if the patent does not convey with reasonable certainty how to measure a claimed feature. *See Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). But “[i]f such

an understanding of how to measure the claimed [feature] was within the scope of knowledge possessed by one of ordinary skill in the art, there is no requirement for the specification to identify a particular measurement technique.” *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1319 (Fed. Cir. 2015).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the ultimate issue of definiteness. *See, e.g., Sonix Tech. Co. v. Publications Int’l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017); *see also Teva*, 574 U.S. at 334-36. “Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

II. THE COURT’S RULING

A. The Court’s Ruling at the July 16, 2026 *Markman* Hearing

The Court’s ruling regarding the disputed claim terms of the Asserted Patents was announced during the *Markman* hearing on July 16, 2026 as follows:

All right. You may be seated.

We’re going to talk about what I want in briefing in a minute, but let me rule on the terms that I’m prepared to rule on.

At issue there are eleven disputed claim terms in three patents.^[1] I am prepared to rule on several. I will issue an order stating my rulings on these terms and in that order give you my rulings on the terms I reserve on. We have followed a full and thorough process before making the decisions I am about to state. I have reviewed the patents, and all the evidence submitted by the parties. There was joint briefing on each of the disputed terms, the parties have submitted joint appendices, there was a technology tutorial, and we

1 U.S. Patent Nos. 8,496,130; 9,694,903; and 10,538,357.

had argument multiple times. All of that has been carefully considered.

As to my rulings, I am not going to read into the record my understanding of claim construction law and indefiniteness. I have a legal standard section that I have included in earlier opinions. I incorporate that law and will adopt it into my ruling today and will also set it out in the order that I issue.

Now to the terms.

The first disputed terms are “upper wall” and “lower wall.” Plaintiff now says these terms should be construed as “a straight or substantially straight top/[bottom] wall of a horizontal rib”^[2] and Defendants propose they be construed as “a straight or substantially straight (i.e., within manufacturing tolerances) top/[bottom] wall extending between the upper/[lower] outer radius of a rib and the inner curved wall of that same rib.”^[3]

The parties seem to agree now that the upper and lower walls must be straight, which resolved one dispute that the parties initially had here. So the dispute remaining is whether the upper and lower walls must extend between the inner curved wall of a rib and the upper or lower outer radius of that same rib as Defendants propose.

Defendants point to the prosecution history to support their proposed language here.^[4] The prosecution history, however, does not require me to adopt Defendants’ proposal. Instead, the prosecution history reflects that the Examiner rejected the patentee’s attempt to add an upper and lower transition element.^[5] That does not amount to any clear or unequivocal disavowal of claim scope with respect to the terms “upper wall” and “lower wall” or require me to add Defendants’ proposed language.

2 (D.I. 222 at 5, 7).

3 (*Id.*).

4 (D.I. 155 at 7-9) (“Because Amcor retreated from that claim scope to avoid a written description rejection, it is estopped from reclaiming that scope through this Court’s claim construction process.”).

5 (D.I. 156, Ex. K (2011-10-21 Final Rejection) at 2; *Id.* Ex. H (2012-01-11 Advisory Action) at 2).

So I will construe upper wall to mean “a straight top wall of a horizontal rib” and lower wall to mean “a straight bottom wall of a horizontal rib.” I also want to make clear here that although I am not adding in “substantially straight” as the parties propose because I think that just adds confusion,^[6] I’m not requiring mathematical precision with respect to “straight.” Whether something is straight enough to meet a claim element seems like a question of fact for the jury to decide.

Next we have “the inner curved wall being curved along an innermost radius.”^[7] Plaintiff proposes plain and ordinary meaning, which is “the inner curved wall of the horizontal rib is a curved wall defined in part by a radius of curvature at its innermost point.”^[8] Defendants say “inner curved wall” means “the curved (i.e., non-straight) wall that extends between the upper and lower walls.”^[9] Defendants also contend that “being curved along an innermost radius” is indefinite or, in the alternative, means “having a uniform radius of curvature.”^[10]

Defendants contend that this term should be limited to having a uniform radius of curvature based on a disclaimer in the prosecution history.^[11] Defendants say the Examiner rejected patentee’s proposed limitation that the inner curved wall be curved “non-linearly” because it did not satisfy the written description requirement and that the patentee overcame the objection by withdrawing the “non-linearly” limitation.^[12] However, the Examiner rejected the “non-linearly” limitation because he did not

6 Additionally, the parties have identified nothing in the patent that supports adding a “substantially straight” or a “within manufacturing tolerances” limitation to this claim.

7 (’130 Pat. (claims 1, 9)).

8 (D.I. 222 at 9).

9 (*Id.*).

10 (*Id.*).

11 (D.I. 155 at 16-17).

12 (*Id.* at 16-17); (D.I. 156, Ex. G (U.S. Patent Application No. 12/464,336, 2011-12-19 Amendment After Final) at 2; *id.* at Ex. H (U.S. Patent Application No. 12/464,336, 2012-01-11 Advisory Action) at 2; *id.*, Ex. J (U.S. Patent Application No. 12/464,336, 2011-08-10 Applicant Amendment After Non-Final Rejection) at 3-5; *id.* Ex. K (U.S. Patent Application No. 12/464,336, 2011-10-21 Final Rejection) at 2).

understand what the patentee meant by “non-linearly,” it’s not clear that he was requiring the inner curved wall to have a uniform radius of curvature.^[13] With that there is no clear and unambiguous disavowal of claim scope in the prosecution history.

Additionally, the specification states that the inner curved wall “is in part defined by a relatively sharp innermost radius r1,”^[14] which indicates that other characteristics, including radii less sharp than the innermost radius fully define the inner curved wall. In addition, the specification teaches that the inner curved wall is labeled 47 in Figure 6, and the innermost radius is labeled r1.^[15] The specification also gives a range for the innermost radius as being between “about 0.01 inches to about 0.03 inches.”^[16] So with that, I believe a person of skill in the art has sufficient guidance to be reasonably certain as to this term, and that it is not required to have a uniform radius of curvature.

Given all that, I will give this term its plain and ordinary meaning which is “a curved wall defined in part by a radius at its innermost point.” The Defendants have not met their burden to show indefiniteness.

The next dispute is “state [or phase] of hydraulic charge-up.”^[17] Plaintiff proposes, “a condition of the container characterized by a reduction in volume of the container causing the fluid within the container to reach an incompressible state and increase in pressure, causing the container to resist further deformation.”^[18] Defendants say it’s indefinite, or in the alternative should be construed as “a state in which the base portion of the container is constrained by the standing surface and can move no further to accommodate additional top loading and at least one rib of the container collapses symmetrically, such that the top and bottom of that rib are touching.

13 (D.I. 156, Ex. K (U.S. Patent Application No. 12/464,336, 2011-10-21 Final Rejection) at 2).

14 (’130 Pat. at 3:65-66).

15 (’130 Pat. at 3:59-63).

16 (*Id.* at 3:67-4:1). Nothing in the intrinsic evidence limits the innermost radius to being a discrete, uniform radius that ranges from 0.01 to 0.03 inches.

17 (’930 Pat. cl. 1; ’357 Pat. cl. 1).

18 (D.I. 222 at 18).

These structural changes result in the pressure of the fluid in the container spiking and the fluid reaching an incompressible state so that the container resists deformation and maintains its basic shape.”^[19]

As with other terms, the claims do not define what a state or phase of “hydraulic charge-up” is.^[20]

The specification, however, provides a lengthy recitation of hydraulic charge up.^[21] According to the specification, “a state of hydraulic charge up” is achieved “when a top load force is applied after the container [] is filled, as illustrated in Figures 52C and 52D.”^[22] In this state of hydraulic charge up, the “internal fluid [] approach[es] an incompressible state” and “the internal fluid resists further compression and the container [] behaves similar to a hydraulic cylinder, while maintaining the basic shape of the container[.]”^[23]

Defendants maintain that a state of hydraulic charge up is indefinite because it is physically impossible to compress liquids to achieve an incompressible state.^[24] Hydraulic charge-up, however, refers to how the internal pressure of these bottles changes in response to top-loaded forces, not whether liquids can be compressed.^[25]

Defendants’ alternative construction imports many limitations unsupported by the claim or the specification. For example, nothing in the claims or specification requires that the ribs collapse “symmetrically” to achieve a state of hydraulic charge-up. Similarly, the claims and specification do not require that at least one rib fully collapse to achieve a state of hydraulic charge-up. Indeed, in Figure 52D, which illustrates hydraulic charge-up, it does not appear that

19 (*Id.*).

20 (’930 Pat. cl. 1; ’357 Pat. cl. 1).

21 (*See* ’930 Pat. at 19:13-20:5).

22 (*Id.* at 19:13-18; *see also id.* at Figs. 52B-52D).

23 (*Id.* at 19:19-25).

24 (D.I. 155 at 40).

25 (’930 Pat. at 19:13-20:5).

any rib has fully collapsed.^[26] And although the specification indicates that “movement of the base portion [] caused by top load force is constrained by the standing surface,”^[27] nothing supports Defendants’ proposed limitation that that constraint makes it so the container “can move no further to accommodate additional top loading.”^[28] Moreover, Defendants’ proposed construction would require the fluids in the bottle to achieve an incompressible state for the bottle to achieve a state of hydraulic charge up, but the specification says that hydraulic charge up is achieved when the fluids in the bottle “approach[] an incompressible state,” not that the fluids must be in an incompressible state.^[29]

With that, I will construe this term to be “a condition of the container characterized by a reduction in volume of the container causing the fluid within the container to reach an incompressible state and increase in pressure, causing the container to resist further deformation.”

So those are the rulings that I am prepared to give today.

B. The Court’s Ruling on the Remaining Terms

1. Acute Angle³⁰

Here, the parties proposed two different terms for construction: “one of the horizontal ribs defining an acute angle” and “said acute angle.” (D.I. 118 at 10, 14; D.I. 222 at 15, 17). In briefing and at argument, however, it became clear that the actual dispute centers on the phrase “acute

26 (‘930 Pat. at Fig. 52D, 19:13-18).

27 (*Id.* at 19:19-20).

28 (D.I. 155 at 37).

29 (‘930 Pat. at 19:19-25).

30 (‘130 Pat. cls. 1, 2, 7, 9, 13). During the third Markman hearing, the parties informed the Court that they had stipulated that “[f]or the purposes of claim construction in this litigation, the operative specification for the ‘130 Patent is the specification that was filed with the Patent Office on May 12, 2009 and produced in this litigation as AMCOR-0001854-1879.” (D.I. 263, Ex. AA ¶ 3; D.I. 352 at 28:7-29:3). That specification can be found at D.I. 283-1, Ex. A PageID#21227-52). The Court will refer to this specification as “Controlling ‘130 Specification.”

angle.” (See D.I. 155 at 25-37). Specifically, the parties dispute how the claimed “acute angle” is measured. (D.I. 222 at 15). Amcor says that the “acute angle” is “an angle less than 90 degrees measured between the upper wall and the lower wall of one of the horizontal ribs.”³¹ (*Id.*). Graham says that “acute angle” is indefinite or, in the alternative, “the horizontal rib radii, walls, depth, and width, in combination, form an angle (i.e., the angle defined by the points where the upper outer radius meets the upper land, the inner curved wall extends furthest into the container, and the lower outer radius meets the lower land) that is less than 90°.” (*Id.*).

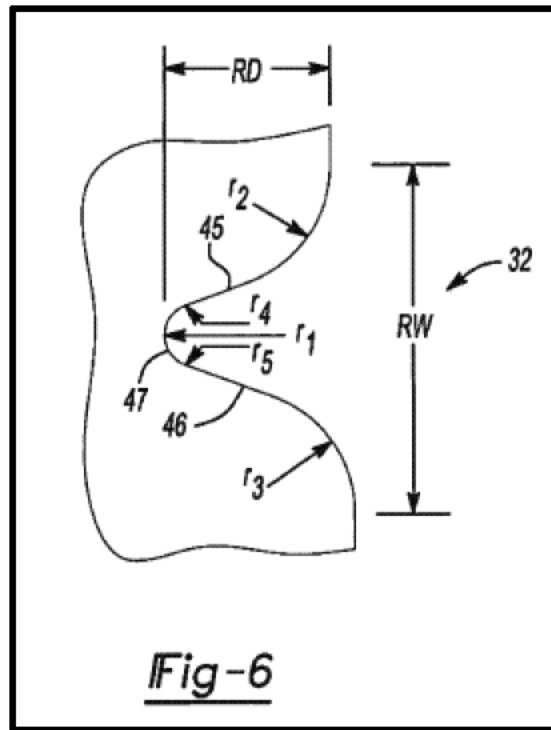
Both proposals find some support in the specification.³² As for Graham’s proposal, the specification states that “the [] horizontal rib 32 radii, walls, depth and width in combination form a rib angle A.” (Controlling ’130 Specification ¶ 28).³³ After hearing testimony, the Court credits

³¹ Initially, Amcor proposed that the “acute angle” should be given its “[p]lain and ordinary meaning, i.e., an angle less than 90 degrees defined by a horizontal rib, as exemplified by Angle A in Figure 7.” (D.I. 155 at 25). Amcor has since modified that initial position. (D.I. 222 at 15).

³² The claims provide little guidance on how to measure the acute angle. For example, claim 1 of the ’130 patent says “. . . at least one of the horizontal ribs defining an acute angle that is variable according to vacuum forces generated within the container to thereby accommodate the vacuum forces,” but does not say anything on how to measure the acute angle. Independent claim 9 and dependent claims 2, 7, and 13 are similar. (See ’130 Pat. cls. 2 (“. . . said acute angle is also variable according to a load on the container . . .”), 7 (“. . . said acute angle varies between a first angle when the container is molded and empty, and a second angle when the container is filled, capped and cooled . . .”), 9 (“. . . the at least one of the horizontal ribs defining an acute angle that is variable according to vacuum forces . . .”); 13 (“said acute angle is variable between a first angle when the container is molded and empty, and a second angle when the container is filled, capped and cooled, wherein a measure of said first angle is greater than a measure of said second angle”)).

³³ The controlling specification is “the specification that was filed with the Patent Office on May 12, 2009 and produced in this litigation as AMCOR-0001854-1879.” (D.I. 263, Ex. AA ¶ 3; D.I. 352 at 28:7-29:3); *see also supra*, n. 30.

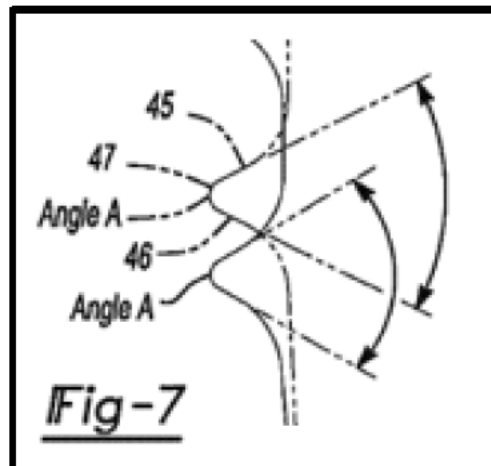
Graham's expert that a POSA would understand that that indicates that the rib radii, walls, depth, and width must all influence the acute angle, and Figure 6 (shown below) depicts the radii (r_1 , r_2 ,



r_3 , r_4 , r_5), walls (45, 46, and 47), depth (RD), and width (RW). (D.I. 352 at 26:4-21). The Court agrees that the only way to take into account all of those factors, including rib width and rib depth is by defining the three points of the rib angle to be (1) the point where the curve defined by the upper outer radius meets the upper land³⁴; (2) the point where the inner curved wall extends furthest into the container, and (3) the point where the curve defined by lower outer radius meets the lower land.

³⁴ The land is the vertical sidewall portion of the bottle. (Controlling '130 Specification ¶¶ 9, 21, Fig. 1).

Amcor relies on Figure 7 to support its proposal. According to Amcor, the language saying “radii, walls, depth and width in combination form a rib angle A” does not require Graham’s proposal because that sentence begins with “[a]s shown in FIG. 7” and simply refers to what is shown in Figure 7. Put differently, Amcor says that dotted lines in Figure 7 (shown below)³⁵



provide a POSA with reasonable certainty of how to measure the acute angle, and that merely requires measuring the angle created by imaginary lines extended from the upper and lower walls.

There are, however, a couple problems with Amcor’s proposal. *To start*, the language saying that the “radii, walls, depth and width in combination form a rib angle A” is inconsistent with what is shown in Figure 7. Crediting Graham’s expert, a POSA would understand that if the “radii, walls, depth, and width in combination form a rib angle A,” then changing one of those variables should affect the rib angle. (D.I. 352 at 26:4-21). But as Amcor’s expert agreed during the July 16 hearing if “the upper and lower outer radii” were “double[d] [] in height,” the rib width would increase, but the angle A would not change under Amcor’s construction. (D.I. 352 at 89:9-18). *In addition*, as Amcor’s expert agreed, Amcor’s construction “requires angle A to be defined by the angle between the upper and lower wall of the rib.” (D.I. 352 at 90:11-14). But neither

³⁵ Note, this is a snippet of Figure 7, and the Court has snipped the language “Fig-7,” so it is included in the whitespace of this snippet.

party (nor the Court after review) has identified any words in the specification that describe the acute angle as being formed only by the upper and lower wall. Proving the point, when asked, Amcor's expert could not identify where the specification describes the acute angle as being formed by the upper and lower wall. (D.I. 352 at 94:16-95:7). *Finally*, in prosecution the examiner rejected the patentee's attempt to bake Amcor's current claim construction proposal into the claims and the specification as "clear evidence of new matter." (D.I. 156, Ex. H at 2). The patentee sought to amend paragraph 28 in the operative specification and the claims to define the acute angle as being measured between "imaginary lines" that projected from the upper and lower walls (essentially measuring the acute angle between the imaginary lines in Figure 7), as shown in the snippets below. (D.I. 156, Ex. G at 3; *id.*, Ex. J at 3, 5).

[0028] As shown in FIG. 7, the upper wall 45 and the lower wall 46 define
above-described horizontal rib 32 radii, walls, depth and width in combination form a rib
angle A. Specifically, in FIG. 7, imaginary lines project from the upper and lower walls
45, 46, respectively, in FIG. 7, and the angle A is defined therebetween. As shown in
FIG. 7, the imaginary lines do not intersect the transitions 46, 47 and are, instead,
tangential to the transitions 37, 39. The rib angle A of an unfilled plastic container 10

1. (currently amended) A one-piece plastic container comprising:
 an upper portion, a sidewall portion and a base portion, said sidewall portion ~~being is~~ integrally formed with and ~~extending extends~~ from said upper portion to said base portion, said base portion closing off an end of the container; said sidewall portion defined in part by a plurality of horizontal ribs arranged substantially perpendicular to a longitudinal axis of the container, a cross section of at least one of the horizontal ribs taken parallel to the longitudinal axis being defined by an upper wall, an upper outer transition that extends from the upper wall to an adjacent upper land, a lower wall, a lower outer transition that extends from the lower wall to an adjacent lower land, and an inner curved wall that extends between and connects to both the upper and lower walls, the inner curved wall being curved non-linearly from the upper wall to the lower wall in the cross section, the upper and lower walls spaced apart at an acute angle, a pair of imaginary lines defining the acute angle being tangential to outer surfaces of the upper and lower outer transitions, respectively, said acute angle being variable according to horizontal ribs being movable to accommodate vacuum forces generated within the container to thereby accommodate the vacuum forces.

The examiner, after reviewing the proposed amendments, rejected them, stating that “deleting the original definition of the rib angle A ‘above described horizontal rib radii, walls, depth and width in combination form a’ rib angle (paragraph28) and substitution of the upper wall 45 and lower wall 46 define angle a is clear evidence of new matter. If the angle is inclusive of the rib width and depth th[e]n imaginary lines cannot define the angle” (D.I. 156, Ex. H at 2). In response, the patentee removed the imaginary line language from the claims, and the parties agreed that the controlling specification does not have the “imaginary line” language in it. (D.I. 283, Ex. A at PageID#21010-11). So a POSA reading the controlling specification and prosecution history would recognize that there are two ways of potentially measuring the claimed acute angle: the first is Graham’s proposal, and the second is Amcor’s proposal. But because the patentee’s attempt to bake Amcor’s proposal into the specification and claims was rejected as

“clear evidence of new matter,” a POSA would understand that Amcor’s proposal is inconsistent with the prosecution history and would instead be reasonably certain that Graham’s proposal is the correct one.

With that, the Court will construe “acute angle” to mean “the horizontal rib radii, walls, depth, and width, in combination, form an angle (i.e., the angle defined by the point where the curve defined by the upper outer radius meets the upper land, the point where the inner curved wall extends furthest into the container, and the point where the curve defined by the lower outer radius meets the lower land) that is less than 90°.”

2. Upper/Lower Outer Radius³⁶

Initially, Amcor said “upper/[lower] outer radius” should be construed as “a radius of curvature defining a curved transition from an upper wall of a horizontal rib to an upper land,” (D.I. 155 at 20), arguing that uniformity “is not required by claims 1 and 9 or the specification.” (D.I. 155 at 21; *see also* D.I. 186 at 44:19-45:10 (Amcor’s lawyer stating “[t]he patent doesn’t require uniformity across the entirety of the transition, that’s not claimed”)). After seeing Graham’s arguments and consulting its expert, Amcor abandoned that position. Now, Amcor concedes uniformity, saying this term should be construed as “uniform or substantially uniform radius of curvature defining a curved transition from an upper/[lower] wall of a horizontal rib to an upper/[lower] land.” (D.I. 222 at 11). Graham says this term should be construed as “portion of the horizontal rib that has a uniform radius of curvature (within manufacturing tolerances) and extends from the upper/[lower] wall to the upper/[lower] land.” (*Id.*).

The first remaining dispute here is whether the upper/lower outer radius is an actual structure on the claimed bottle or a measurable dimension. (D.I. 222 at 11 (Graham saying “[a]s

36 (’130 Pat. cls. 1, 9).

set forth in Graham’s briefing (D.I. 155), its proposed construction requires the ‘upper outer radius’ to be interpreted as an actual structure and not simply a measurement’’)). Starting with the claim language, the claims state that the “horizontal ribs transition[] to the upper land along an upper outer radius.” (’130 Pat. cl. 1). That indicates that the “radius” is a dimension that defines the curve of the structure between the upper land and the horizontal ribs, not that the radius itself is a physical structure. In addition, claim 9 of the ’130 patent requires “a sum of the upper and lower radii,” which likewise indicates that the upper and lower outer radii are measurable dimensions, not a physical portion of the rib. The controlling specification³⁷ also indicates that the upper and lower outer radii are measurable dimensions. To start, it states that the upper and lower outer radii “[p]referably . . . lie within the range of about 0.07 inches to about 0.14 inches,” which means that the upper and lower outer radii must be measurable. (Controlling ’130 Specification ¶ 24). Looking at Figure 6, which depicts the upper and lower outer radii, it depicts r2 and r3 as extending radially outward from the center of a circle, again indicating that the upper and lower outer radii are measured dimensions, not a physical portion of the bottle. (*Id.* at Fig. 6).

The second remaining dispute is whether the upper and lower outer radii must be “substantially uniform” or “within manufacturing tolerances.” Nothing in the claims or specification supports importing a “substantially uniform” or “within manufacturing tolerances” requirement into the claims. (D.I. 352 at 45:12-14 (Graham’s expert agreeing that “the patent doesn’t refer to manufacturing tolerances’’)). Moreover, neither party pointed to any intrinsic evidence supporting importing those limitations into the claims. As the Court stated at the July 16 *Markman* when discussing a different term, adding the phrase “substantially straight” “just adds confusion.” (D.I. 352 at 99:11-19). The same is true for the “within manufacturing tolerances”

37 This can be found at D.I. 283-1, Ex. A PageID#21227-52.

limitation. Whether something is uniform enough to meet a claim element “seems like a question of fact for the jury to decide.” (*Id.*).

With that, the Court will construe “upper outer radius” to mean “uniform radius of curvature defining a curved transition from an upper wall of a horizontal rib to an upper land” and “lower outer radius” to mean “uniform radius of curvature defining a curved transition from a lower wall of a horizontal rib to a lower land.”

3. **Inward Foot Radius**³⁸

Here, the parties proposed four phrases for construction: (1) “an inward foot radius defined by the base portion increases when the container is subject to volume displacement causing increased vacuum” (’930 Pat. cl. 1); (2) “an inward foot radius defined by the base portion as-blown increases when the container is subject to volume displacement post-fill causing increased vacuum” (’357 Pat. cl. 1); (3) “the inward foot radius is inward relative to the footed contact surface of the container and is along a curved side surface between the footed contact surface and the central pushup portion” (’930 Pat. cl. 1); and (4) “the inward foot radius is inward relative to the plurality of footed contact surfaces of the container and is along a curved side surface between the plurality of footed contact surfaces and the central pushup portion” (’357 Pat. cl. 1).

The dispute on each of these terms focuses on the phrase “inward foot radius.” (D.I. 222, Ex. A at 5-6). Specifically, the dispute is what the inward foot radius is and how to measure it. (*Id.*). Amcor says inward foot radius should be given its plain and ordinary meaning, *i.e.*, “a radius of curvature measured along a curved side surface between the footed contact surface and the central pushup portion of the base portion.”³⁹ (D.I. 222 at 22). Graham says that inward foot

38 (’930 Pat. cl. 1; ’357 Pat. cl. 1).

39 Amcor’s construction for the ’357 Patent is functionally the same. There, Amcor says “inward foot radius” should be construed as its plain and ordinary meaning, *i.e.*, “a radius

radius is indefinite, or, in the alternative, that inward foot radius means “a radius of curvature of a curved side surface of the central pushup portion of the base of the container, measured at a midway point along the side surface.”⁴⁰ (D.I. 222 at 22).

The claims teach that the inward foot radius is “defined by the base portion,” “inward relative to the footed contact surface of the container,” and “along a curved side surface between the footed contact surface and the central pushup portion.” (’930 Patent at cl. 1; ’357 Patent at cl. 1). The claims do not define those structures, but the specification and figures provide guidance. Figure 45 depicts the central pushup portion 140 and the curved side surface 148 as being between the central pushup portion and the bottom surface 134 of the bottle. (’930 Pat. 17:4-7, 17:34-37, 17:50-18:2). The remaining question is where to take the radial measurement along the curved side surface. The only guidance the specification provides is that the inward foot radius is measured “*at about a midway point along the curved side surface 148.*” (’930 Pat. at 17:65-18:2).

Graham’s indefiniteness argument is that the side surface 148 is part of the central pushup 140, making it impossible for the side surface to be between the central pushup and the footed contact surface. But the figures depict the two separately (*see* ’930 Pat. Fig. 45), and even if Graham is right that the side surface is part of the central pushup, Figure 45 and the specification’s discussion thereof would still tell a POSA with reasonable certainty where the curved side surface is. Graham’s proposed alternative fails for a similar reason; it requires that the curved side surface

of curvature measured along a curved side surface between the plurality of footed contact surfaces and the central pushup portion of the base portion.” (D.I. 222 at 22-23).

40 Initially, Graham also proposed a construction for the phrase “central pushup portion,” however, during the July 16 hearing, Graham stated that it provided briefing on “central pushup portion” in its summary judgment papers, so the Court will defer construing the phrase “central pushup portion” until summary judgment. (D.I. 352 at 104:4-13).

be part of the central pushup despite the patent disclosing an embodiment in Figure 45 where the curved side surface appears separate from the central pushup 140. Graham's alternative fails for the additional reason that it conflicts with the claims, which require the curved side surface to be between the central pushup and the footed contact surface. ('930 Pat. cl. 1; '357 Pat. cl. 1).

With that, the Court will construe "inward foot radius" to be "a radius of curvature measured at about the midway point along a curved side surface between the footed contact surface and the central pushup portion of the base portion."

4. Standing Base Radius⁴¹

Here, the parties propose two terms for construction: "a standing base radius defined by the base portion decreases when the container is subject to volume displacement causing increased vacuum" ('930 Pat. cl. 1); and "a standing base radius defined by the base portion as-blown decreases when the container is subject to volume displacement causing increased vacuum" ('357 Pat. cl. 1). The actual dispute focuses on (1) how to measure the standing base radius, and (2) what it means for the standing base radius to "decrease[]" when the container is subject to volume displacement causing increased vacuum."

Amcor's proposal is "there is a decrease from (1) a distance measured from the longitudinal axis of the container to an outermost point where the footed contact surface makes contact with a support surface when the container is empty, to (2) a distance measured from the longitudinal axis of the container to a new innermost point where the footed contact surface makes contact with the support surface when the container is subject to volume displacement causing increased vacuum." (D.I. 222 at 28). Graham proposes indefiniteness, or, in the alternative, that "standing base radius" means "the lateral distance from the central longitudinal axis of the base of the container to the

41 ('930 Pat. cl. 1; '357 Pat. cl. 1).

point where the footed contact surface contacts the support surface nearest the central longitudinal axis” and “decreases when the container is subject to volume displacement causing increased vacuum” means “decreases when the container is subject to any vacuum pressure due to volume displacement.” (D.I. 222 at 28).

The difficulty with this term is determining how to measure the claimed standing base radius. The specification states that “[t]he standing base radius is generally measured from the central longitudinal axis 150 to a point where the contact/foot surface 134 makes contact with surface 192.” (’930 Pat. at 17:53-56). But the contact/foot surface 134 contacts the surface 192 along a line, and nothing in the written specification teaches which point to use along that line. So the question is whether anything else resolves that ambiguity and provides a POSA with reasonable certainty on how to measure the standing base radius.

The claims provide little assistance. They say that the standing base radius is “defined by the base portion” and that the standing base radius must decrease “when the container is subject to volume displacement causing increased vacuum,” but they say nothing about how to take the measurement. (*See e.g.*, ’930 Pat. cl. 1).

Amcor says Figure 45 resolves the ambiguity. According to Amcor, Figure 45 depicts two distinct points (Rsb and Rsb’) that mark the starting and ending measurements for the standing base radius – Rsb is the outermost point of contact between the contact/foot 134 and the surface 192 when the container is empty, and Rsb’ is the innermost point of contact under vacuum. (D.I. 354 at 2; ’930 Pat. at Fig. 45). The claimed “decrease” is the difference between the distance from the central longitudinal axis to Rsb and Rsb’.⁴² (*Id.*).

⁴² Although it is not clear to the Court that Figure 45 is measuring two different points (as opposed to the same point before and after volume displacement), Graham’s expert

Amcor's proposal fails for two reasons. **First**, it conflicts with Figure 48, which plots the standing base radius vs. volume displacement. ('930 Pat. at 5:7-9, 17:56-59, Fig. 48). Figure 48 shows a gradual (albeit minor) decrease in standing base radius as volume displacement increases. But as Graham's expert pointed out, if Amcor is right that the standing base radius measurement point starts at the outermost point and goes to the innermost point as soon as vacuum is applied, there should be a step function decrease in standing base radius at the beginning of Figure 48. (D.I. 352 at 15:21-16:14). There is not. ('930 Pat. Fig. 48). **Second**, Amcor's proposal lacks any support in the written specification. Indeed, despite claiming that the written specification refers "to a new point," Amcor's expert could not identify anywhere in the written specification that supports Amcor's outermost-then-innermost measurement theory. (D.I. 352 at 67:8-69:7).⁴³ Because Amcor's proposal is inconsistent with Figure 48 and lacks any support in the written specification, it does not resolve the ambiguity about which point along the footed contact surface to use to measure the standing base radius.

A different way to resolve the ambiguity may be to construe the terms so that Rsb and Rsb' are measured to the same point on the bottle, with Rsb' representing the distance from the central longitudinal axis to where the measurement point moved after volume displacement. After asking both experts about this possibility during the July 16 hearing, the Court credits Graham's expert's testimony that, with this method for measuring the standing base radius, it would increase, not decrease, as the claims require. (D.I. 352 at 7:13-8:25, 9:20-10:2). *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 n. 4 (Fed. Cir. 2020) ("We note that when a construction such as this is

generally agreed with Amcor's reading of Figure 45, so the Court accepts that a POSA would read Figure 45 as measuring two different points. (D.I. 352 at 60:13-61:13).

43 The Court also has not found any portion of the written specification that supports Amcor's outermost-then-innermost theory.

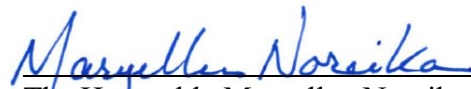
inconsistent with the plain language of the claims and the written description, it is incorrect.”⁴⁴
So that too cannot be the correct resolution.

A different approach would be Graham’s alternative construction, which is “the lateral distance from the central longitudinal axis of the base of the container to the point where the footed contact surface contacts the support surface nearest the central longitudinal axis.” (D.I. 222 at 28). A POSA would understand that this proposal cannot be correct because it reads out the embodiment in Figure 45, which depicts Rsb in the empty state as being measured from the central longitudinal axis to the outermost point of where the footed contact surface contacts the support surface. (’930 Pat. at Fig. 45). Moreover, Graham all but conceded that this approach would be inconsistent with the claims because it “would yield an *increase* in the standing base radius under vacuum.” (D.I. 353 at 5 (emphasis in original)).

Ultimately, what is left is a specification that says “[t]he standing base radius is generally measured from the central longitudinal axis 150 to a point where the contact/foot surface 134 makes contact with surface 192,” but nothing that teaches which point to use for that measurement in a way that is consistent with the claims and the figures. (’930 Pat. at 17:53-56); *see Dow Chem. Co. v. Nova Chemicals Corp.*, 803 F.3d 620, 630 (Fed. Cir. 2015) (“[T]he patent and prosecution history must disclose a single known approach or establish that, where multiple known approaches exist, a person having ordinary skill in the art would know which approach to select.”). Given that, the Court agrees with Graham’s expert that “it is impossible for the skilled artisan to know how to actually measure th[e] standing base radius,” and finds that a POSA would not know with reasonable certainty how to measure the standing base radius. (D.I. 352 at 6:10-12). Therefore,

⁴⁴ Amcor does not dispute that “the Court’s red-dot hypothetical [] would yield results contrary to the patent’s teaching.” (D.I. 354 at 5).

the Court finds the standing base radius terms indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014).


The Honorable Maryellen Noreika
United States District Judge