

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION**

KIMBERLY-CLARK CORPORATION and
KIMBERLY-CLARK GLOBAL SALES, LLC,

Plaintiffs,

v.

EXTRUSION GROUP, LLC;
EXTRUSION GROUP SERVICES LLC;
EG GLOBAL, LLC;
EG VENTURES, LLC;
MICHEAL HOUSTON; and
MICHAEL COOK,

Defendants.

Civil Action No.
1:18-cv-04754-SDG

OPINION AND ORDER

This matter is before the Court for construction of claims 1, 2, 5, 7, 9, and 18 of U.S. Patent No. 6,972,104 (“the ‘104 Patent”) at issue in this infringement litigation. After careful consideration of the parties’ briefings and with the benefit of a claim construction hearing, the Court finds that only the term “a series” needs construction.

I. BACKGROUND

a. Procedural History

Plaintiffs, Kimberly-Clark Corporation and Kimberly-Clark Global Sales, LLC (collectively, Kimberly-Clark) are, respectively, Delaware and Wisconsin

companies that sell personal care and professional care products. Defendants, Extrusion Group, LLC; Extrusion Group Services LLC; EG Global, LLC; and EG Ventures, LLC (collectively, Extrusion Group or EG), are Georgia companies headquartered in Roswell, Georgia.

On October 15, 2018, Kimberly-Clark sued EG, as well as Defendants Houston and Cook individually, for, among other things, trade secret misappropriation.¹ KC also sued EG for patent infringement, alleging that EG infringed U.S. Patent No. 8,017,534 (“the ‘534 patent”).² The parties filed claim construction briefs regarding the ‘534 patent.³ Before a claim construction hearing could be held, the ‘534 patent was dropped from the case.

On November 13, 2019, the ‘104 Patent was added to this case.⁴ On July 28, 2020, pursuant to the Court’s Order and the Local Patent Rules, the parties submitted their Joint Claim Construction Statement for the ‘104 Patent, setting forth the terms and phrases in dispute; each party’s proposed construction of the disputed terms and phrases; and the evidence on which each party intended to

¹ ECF 1.

² *Id.*

³ ECF 113; ECF 118-1; ECF 136; ECF 137.

⁴ ECF 184 (Am. Compl.).

rely in support of those constructions.⁵ On November 18, 2020, the Court held a claim construction hearing (the Markman Hearing).

b. The '104 Patent

The '104 Patent claims an invention related to the formation of a “nonwoven web,” which, as the patent explains, is “a structure of individual fibers or threads which are interlaid, but not in an identifiable manner as in a knitted web.”⁶ The '104 Patent identifies different processes for making nonwoven webs, including “[m]eltblowing” – a process by which “fibers [are] formed by extruding a molten thermoplastic material through a plurality of fine, usually circular, die capillaries as molten threads or filaments into converging high velocity heated gas (e.g., air) streams which attenuate the filaments of molten thermoplastic material to reduce their diameters.”⁷ The attenuated extruded fibers are then deposited on a rolling forming belt, creating a nonwoven web.⁸ Extrusion of the thermoplastic, together with the air-induced attenuation of the extruded filaments, occurs by way of a piece of equipment known as a “meltblowing die.”

⁵ ECF 219.

⁶ '104 Patent at 3:48-51.

⁷ *Id.* at 3:51-65.

⁸ *Id.* at 3:65-4:1; *id.* FIG. 1.

The '104 Patent explains meltblowing dies have “changed little since the 1960s.”⁹ The patent further states that “current” dies were large – often requiring three-to-five feet of space in the machine direction (the direction in which the forming belt travels).¹⁰ As a result, the dies occupied too much floor space on the production line, particularly where it would have been “advantageous to have more than one meltblown bank on a production line.”¹¹ According to the '104 Patent, “[t]he present invention provides a meltblown die which has a considerably smaller width in the machine direction of the meltblowing process compared to conventional and commercially used meltblown dies.”¹²

The smaller-sized die described in the '104 Patent results in several advantages. For example, the patent indicates that the reduced size of the meltblowing die “improves the fluid entrainment of the primary attenuating fluid,”¹³ and “improves the secondary air entrainment.”¹⁴ The reduced size also “means that less polymer is present in the meltblowing die at a given time . . . [so]

⁹ *Id.* at 1:52-53; Markman Hr'g Tr. at 19:7-17, 175:3-20.

¹⁰ '104 Patent at 1:61-2:3.

¹¹ *Id.*

¹² *Id.* at 2:7-10.

¹³ *Id.* at 7:7-9.

¹⁴ *Id.* at 11:56-60.

the polymer supply can more readily be stopped and started without the problems found in conventional meltblowing dies.”¹⁵ In addition, the small, machine-direction width allows for adding meltblowing dies “in other nonwoven web formation lines, such that new and different materials can be formed,”¹⁶ or “for several banks of the meltblown dies to be placed in series [a]long the machine direction . . . to produce high basis weight material or to create a gradient fiber size structure.”¹⁷

According to the '104 Patent, the width of the meltblowing die can be reduced in a number of ways. It explains that “[t]his reduced size is a direct result of any one of the unique features of the meltblown dies” described in the patent.¹⁸ A first “feature” that “sav[es] space in the machine direction” is introducing the attenuating fluid through an inlet in the die body.¹⁹ Unlike conventional meltblowing dies, where the attenuating fluid was supplied from outside of the die body (contributing to the larger size), the '104 Patent claims a top-down

¹⁵ *Id.* at 10:32–42.

¹⁶ *Id.* at 11:48–55.

¹⁷ *Id.* at 11:60–67.

¹⁸ *Id.* at 5:51–53.

¹⁹ *Id.* at 5:15–23, 5:54–60; Markman Hr’g Tr. at 22:12–23, 175:3–20.

primary air flow path within the meltblowing die assembly.²⁰ Because the attenuating fluid is introduced from within the die body itself, “in order to get the attenuating air from the die body . . . to the outlet of the meltblowing” die, the die includes “passages or channels” created between the die tip and the air plates.²¹ As the patent explains, “[a]ny means can be used to form the[se] passage ways.”²² The patent provides, for example, that either the die tip or the air plates can have a series of raised portions, which create grooves or channels between the die tip and the air plates when they are fitted together.²³

II. LEGAL STANDARD

“The construction of claims in a patent case is a matter of law for the Court.” *CBT Flint Partners, LLC v. Return Path, Inc.*, 566 F. Supp. 2d 1363, 1366 (N.D. Ga. 2008) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996)). “[I]n construing a patent claim, [a judge] is engaged in much the same task as the judge would be in construing other written instruments, such as deeds, contracts or tariffs.” *Teva Pharm. USA v. Sandoz, Inc.*, 574 U.S. 318, 325 (2015). As such, the Court

²⁰ ‘104 Patent at 5:15–43.

²¹ *Id.* at 5:54–60; Markman Hr’g Tr. at 23:1–3, 175:3–20.

²² ‘104 Patent at 5:60–61.

²³ *Id.* at 5:60–6:34.

first looks to intrinsic evidence. Intrinsic evidence of a patent's claims includes "the patent itself, the claim terms, the specification (or written description), and the patent prosecution history, if in evidence." *CBT Flint Partners*, 566 F. Supp. 2d at 1366 (citing *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1346 (Fed. Cir. 2004)).²⁴ "However, not all intrinsic evidence is equal" and "[f]irst among intrinsic evidence is the claim language." *Id.* (citing *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1344 (Fed. Cir. 1998) and *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)).

"A 'bedrock principle' of patent law is that the claims of the patent define the patentee's invention." *Id.* (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)). The Court must, therefore, "begin and remain" focused on the claim language in construing the claim, "for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention." *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1370 (Fed. Cir. 2005) (quoting *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001)). "When reading claim language, terms

²⁴ The Court applies Federal Circuit law in patent infringement cases. *Mattress Safe, Inc. v. Just Encase My Mattress, Inc.*, No. 1:11-cv-2492-WSD, 2012 WL 13012363, at *5 (N.D. Ga. Jan. 30, 2012) ("In patent cases, courts apply the law of the Federal Circuit.").

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 at the time of the invention.” *CBT Flint Partners*, 566 F. Supp. 2d at 1366.

Looking beyond the claim language, “the single best guide to the meaning of a disputed term” is the specification of which those claims are a part. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005). “Nevertheless, the Court must be careful not to read a limitation into a claim from the specification. In particular, the Court cannot limit the invention to the specific examples or preferred embodiments found in the specification.” *CBT Flint Partners*, 566 F. Supp. 2d at 1367. The patent prosecution history, moreover, can be used to show whether the patentee intended to limit the scope of the claims. *Id.* “However, because the prosecution history represents the ongoing negotiations between the PTO and the patentee, rather than a final product, it is not as useful as the specification for claim construction purposes.” *Id.*

After considering the intrinsic evidence, the Court may only consider extrinsic evidence, “such as expert and inventor testimony, dictionaries, and learned treatises,” when the claim language remains ambiguous. *Id.* “But extrinsic evidence, including dictionary definitions, cannot be used to vary or contradict the terms of the patent claims.” *Id.* In addition, the Court “may consult the accused

device for context that informs the claim construction process.” *Serio-US Indus., Inc. v. Plastic Recovery Techs. Corp.*, 459 F.3d 1311, 1319 (Fed. Cir. 2006); *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326–27 (Fed. Cir. 2006) (“[K]nowledge of [the accused] product or process provides meaningful context for . . . claim construction.”). Importantly, however, the Court may “not prejudge the ultimate infringement analysis by construing claims with an aim to include or exclude an accused product or process.” *Id.*

III. DISCUSSION

a. The Asserted Claims

Kimberly-Clark asserts the following claims of the ‘104 Patent:

Claim 1: A meltblowing die comprising:

- a. a die body;
- b. a die tip comprising a top side, a bottom side, a first side and a second side, wherein the top side is mounted to the die body, the bottom side is opposite the top side, the first side and second side extend from the top side towards the bottom side, the first side and second side are opposite each other;
- c. a first air plate, wherein a portion of the first air plate is in contact with the first side of the die tip and a series of passages are formed by the first side of the die tip and the first air plate; and
- d. a second air plate, wherein a portion of the second air plate is in contact with the second side of the die tip and a series of passages are formed by the second side of the die tip and the second air plate.

Claim 2: The meltblowing die of claim 1, wherein the die body further comprises a mounting plate, wherein the die tip and the first and second air plates are mounted to the mounted plate.

Claim 5: The meltblowing die of claim 2, wherein the die tip is mounted to the mounting plate with a mounting means which extends from the mounting plate into the die tip.

Claim 7: The meltblowing die of claim 2, wherein the first air plate and the second air plate are mounted with a mounting means to the mounting plate.

Claim 9: The meltblowing die of claim 2, wherein the mounting plate has a series of passages which allow an attenuation fluid to flow from the die body to the series of passages formed by the first and second air plates and the first and second sides of the die tip.

Claim 18: A process of producing a nonwoven web comprising generating fibers with the meltblowing die of claim 1.

b. Level of Ordinary Skill in the Art

The parties do not dispute the level of ordinary skill in this field of invention nor do they argue that it impacts the Court's ultimate claim construction determination.²⁵ For the purposes of this Order, the Court finds that a person of ordinary skill in the art would have had "at least a Bachelor's Degree in mechanical engineering, chemical engineering, fluid mechanics and/or polymer processing, and at least two years of experience working with dies and other equipment used in polymer processing, such as meltblowing dies, or, in lieu of such work

²⁵ Markman Hr'g Tr. at 50:11-51:6.

experience, additional education and/or coursework exposing them to polymer processing and the equipment used in same, including meltblowing dies.”²⁶

c. Disputed Terms

At the outset, the Court notes that although it concludes that construction of the disputed terms, apart from “a series,” is unnecessary, “it has not given short-shrift to its obligation to construe disputed terms.” *Kason Indus., Inc. v. Component Hardware Grp., Inc.*, No. 3:13-CV-12-TCB, 2014 WL 10588312, at *5 (N.D. Ga. Jan. 31, 2014). “Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). A district court may err in concluding that a disputed term needs no construction “if the disputed term has several ordinary meanings or failing to construe the term leaves the parties’ dispute unresolved.” *Kason Indus.*, 2014 WL 10588312, at *5. “But when . . . the district court rejects a proposed construction—and thus resolves the parties’ dispute—further construction is unnecessary. . . . Put simply, ‘the Court need not provide a new definition or rewrite a term when the Court finds the term’s plain

²⁶ ECF 234-1, ¶ 29 (“Osswald Decl. I”).

and ordinary meaning is sufficient.” *Id.* (quoting *I/P Engine, Inc. v. AOL, Inc.*, 874 F. Supp. 2d 510, 516 (E.D. Va. 2012)).

i. **“Top side”**

The parties dispute the meaning of the “top side” of the die tip as included in claim 1 of the ‘104 Patent. Kimberly-Clark contends that no construction is necessary because “top side” is commonly understood and the patent uses it in accordance with its widely accepted meaning in defining it as “the top side is mounted to the die body.”²⁷ EG proposes that the term “top side” should be construed as “the portion of the die tip exposed to (*i.e.*, open to) the die body.”²⁸ The Court agrees with Kimberly-Clark that no construction is necessary.

Taking EG’s proposed construction in parts, EG’s insertion of the phrase “the portion of” is not supported. Neither the claim nor the specification describes the “top side” of the die tip in terms of “portions.” Instead, the claim recites that “the top side is mounted to the die body.” Moreover, the patentees demonstrated that they knew how to express “a portion of” when appropriate. Claim 1, for

²⁷ ECF 233, at 13–19.

²⁸ During the hearing in response to KC’s argument, EG clarified that “exposed to” in its proposed construction of “top side” meant “open to,” including the vertical portions of the walls of the unlabeled chambers shown in Figure 8 of the ‘104 Patent just below the die body. Markman Hr’g Tr. at 88:10.

example, recites “a portion of the first air plate is in contact with the first side of the die tip.”²⁹ Use of the phrase “a portion of” in some contexts in the claim, but not in others, demonstrates that the patentee knew how to express “a portion of” in the claim language when it so desired. *Takeda Pharm. Co. v. Zydus Pharm. USA, Inc.*, 743 F.3d 1359, 1365 (Fed. Cir. 2014). Plainly, then, had the patentees intended the “top side” of the die tip to mean portions of the die tip they could easily have included those words in the claim language; the patentees did not, and the Court will not do so now.

Next in EG’s proposed construction, the use of the word “exposed” is unsupported and would impermissibly change the scope of the plain claim language. The ‘104 Patent’s specification does not use the word “exposed” to describe the “top side,” or any other side, of the die tip. Lacking any foundation in the patent, EG explained at the Markman Hearing that the intended purpose of “exposed to”: “The intent of the word exposed here was that exposed means sort of open to.”³⁰ But “open to” does not appear in the intrinsic record either. Without any reference point, a person of ordinary skill would not understand “top side,” in the context of the ‘104 Patent, to mean a side of the die tip that is “exposed” or

²⁹ ‘104 Patent at 12:17–18.

³⁰ Markman Hr’g Tr. at 88:9–10.

“open to” the die body. Indeed, during the Markman Hearing, with an image of a stop sign, Kimberly-Clark illustrated the difference between mounting one side of an object to another object and exposing one side of an object to another object.³¹ EG attempts to support its proposed use of “exposed to” by asserting that (1) “portions of the ‘top side’ are not in physical contact with the die body or mounting plate,” and (2) “the ‘top side’ need not be planar.”³² Neither reason compels the Court to adopt EG’s proposed construction.

The parties do not dispute—and the Court agrees—that the entire top surface of the die tip need not contact the die body.³³ During the Markman Hearing, and in response to a question from the Court, Kimberly-Clark explained that the claim language “mounted to” “means that the entire topside is attached. It doesn’t mean the entire topside is necessarily touching” the die body.³⁴ Nothing in the claim language “the top side is mounted to the die body” requires that the entire surface of the “top side” be in contact with the die body. One of skill in the art would understand this aspect of the invention from the figures and description

³¹ *Id.* at 57:16–22.

³² ECF 234, at 32–34; ECF 241, at 7–11; Markman Hr’g Tr. at 83:6–16.

³³ ECF 234, at 32; ECF 242, at 6–7.

³⁴ Markman Hr’g Tr. at 113:2–14:1.

provided by the specification of the '104 Patent.³⁵ EG's proposed use of the word "exposed," however, does not make this point any clearer. That the entire top surface of the die tip need not be in contact with (or "touching") the die body does not justify EG's redraft of the claim.

EG's proposed construction effectively defines "top side" so that the entire top side of the die tip need not be planar. In support, EG points to the infringement contention to show that Kimberly-Clark's interpretation of "top side" includes the top part of the die tip that is on a single plane.³⁶ EG's argument, however, is more appropriate with regard to the question of infringement rather than claim construction. Although "the scope of patent claims will always affect infringement," *NobelBiz, Inc. v. Glob. Connect, L.L.C.*, 701 F. App'x 994, 997 n.1 (Fed. Cir. 2017), the Court may not "tailor[] a claim construction to fit the dimensions of the accused product ... to exclude or include specific features of the accused product." *Wilson Sporting Goods*, 442 F.3d at 1331. To the extent EG proposes its "exposed to" construction solely to rule out a particular factual situation that relates to its accused product, that is a question of fact that must be reserved for the jury. *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331

³⁵ '104 Patent, FIG. 2 (141a and 141b).

³⁶ ECF 235, at 34; Markman Hr'g Tr. at 78:24-79:5; 80:24-81:13, 82:11-13, 85:9-12.

(Fed. Cir. 2011) (the court's role "is not to redefine claim recitations . . . to obviate factual questions of infringement and validity").

ii. **"Mounted to"**

In addition to seeking a construction of the term "top side," EG also asks the Court to construe the longer phrase "the top side is mounted to the die body" to mean "at least a portion of the top side is physically attached to the die body."³⁷ Kimberly-Clark contends that no construction is necessary.³⁸ Because "top side," as explained, has its plain and ordinary meaning, and neither party seeks a construction of "die body," the Court focuses its analysis on whether the term "mounted to" requires construction. It does not.

The Court agrees with Kimberly-Clark that "mounted to" is a commonly understood term and that the '104 Patent uses it in accordance with its widely accepted meaning. There is no reason to depart from that meaning. Indeed, EG and its expert agree that the patentees did not act as their own lexicographer with respect to this term (or any other term), and EG has not pointed to any disclaimer or disavowal that limits or otherwise modifies the commonly understood meaning. To the contrary, the specification of the '104 Patent uses the term

³⁷ ECF 234, at 34.

³⁸ ECF 233, at 14-19.

“mounted to” consistently with its widely accepted meaning.³⁹ Replacing the term “mounted to” with the longer phrase “physically attached to,” moreover, would amount to an “exercise in redundancy.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). First, there does not appear to be a material dispute as to the scope of this claim term.⁴⁰ Second, EG’s proposed construction merely replaces the claim language with a similar phrase that does not improve comprehension. *Luminara Worldwide, LLC v. Liown Elecs. Co. Ltd.*, Case No. 14-cv-3103 (SRN/FLN), 2016 WL 706190, at *12 (D. Minn. Feb. 22, 2016) (“Replacing ‘chaotic’ with ‘unpredictable’ or ‘without a specific pattern’ simply substitutes equally-understandable words for the inventor’s already-understandable claim language and is unnecessary.”).

The Court therefore rejects EG’s proposed construction and concludes that “the top side is mounted to the die body” term has a plain meaning that does not require additional construction.

³⁹ See, e.g., ’104 Patent at 4:47–48 (“[D]ie tip 102 i[s] mounted to the mounting plate 104 using any suitable means, such as bolts”); *id.* at 4:56–59 (“It is desirable to mount the die tip 102 . . . to the mounting plate 104, since it is easier to attach the die tip to the mounting plate 104 than the die body 103”). Compare *id.* at 4:50–53 (“[T]he air plates 106a and 106b are also mounted to the mounting plate 104”), with *id.* at 5:30–35 (“The air plates 106a and 106b are secured to the mounting plate 104 (alternately the die body 103).”).

⁴⁰ Markman Hr’g Tr. at 83:16–24; 96:8–11.

iii. "Top side," "first side," "second side," and "bottom side"

The '104 Patent claims "a die tip comprising a top side, a bottom side, a first side and a second side" and explains that "the top side is mounted to the die body, the bottom side is opposite the topside, the first side and the second side each extend from the topside towards the bottom side, the first side and the second side are opposite each other."⁴¹ By identifying the "top side" as the side "mounted to the die body," the claim defines "top side" and also orients one of skill in the art to the relationship between the "top side" and the remaining sides of the die tip: the "bottom side" is the side "opposite the topside" and the first and second sides are the sides that "each extend from the topside towards the bottom side" and are "opposite each other."⁴² Thus, the claim language, particularly "the context of the surrounding words of the claim," "provide[s] substantial guidance as to the meaning of [the] particular claim terms" and their relationship to one another. *Phillips*, 415 F.3d at 1314; *Honeywell Int'l Inc. v. Universal Avionics Sys. Corp.*, 488 F.3d 982, 993 (Fed. Cir. 2007) (concluding that because "the claim itself provides considerable information about its meaning . . . one of skill in this art would agree that the claim defines this term adequately without additional limitations").

⁴¹ '104 Patent at 12:9-16.

⁴² *Id.*

“This language alone provides enough context such that a person of ordinary skill in the art would be able to orient himself [to] determine which face is which.” *Ironburg Inventions Ltd. v. Collective Minds Gaming Co.*, No. 1:16-CV-4110-TWT, 2018 WL 2999615, at *3 (N.D. Ga. June 15, 2018) (“[A] person of ordinary skill in the art would easily understand what was meant by ‘top edge’ and ‘front’ simply by looking to the rest of the patent. Claim 1 describes the controller as comprising four faces: ‘a front, a back, a top edge, and a bottom edge, wherein the back of the controller is opposite the front of the controller and the top edge is opposite the bottom edge.’”). The claim language (“a die tip comprising a top side, a bottom side, a first side and a second side”) is “not confusing or ambiguous [so] there is no reason to completely redefine the claim language.” *Id.* at *4.

EG would add to the claim description that the first and second sides are “the portion of the die tip extending from the base of the top side toward the bottom side” and further that the second side “is opposite the first side.” This construction is unnecessary.

First, as it does with “top side,” EG injects the concept of “portion” into its proposed construction. For the reasons explained above with respect to “top side,” the Court will not rewrite the claim to include this language where the patentees

chose not to do so (but did so elsewhere in the claim). *Takeda Pharm. Co.*, 743 F.3d at 1365.

For the “first side” and “second side” terms, EG also “incorrectly add[s] limitations not found in the specific language of the claim.” *Honeywell*, 488 F.3d at 993. EG’s proposed constructions add the notion of a “base of the top side,” stating that these sides “extend[] from the base of the top side toward the bottom side.” But EG’s proposed “base of the top side” limitation is unsupported. *Ironburg Inventions*, 2018 WL 2999615, at *3. The word “base” does not appear in the ‘104 Patent either with respect to the “top side” or otherwise, and thereby would only inject ambiguity into the claim where none exists. There is no reason to add this language.

The basis for EG’s construction of the sides of the die tip is the location of the grooves shown in the embodiments described in the ‘104 Patent. EG contends that the grooves define the top side because, with respect to Figures 2–3, the ‘104 Patent describes the grooves on the die tip as extending from the top side to the bottom side.⁴³ Based on this embodiment, EG further contends that the bottom

⁴³ ECF 234, at 32–33; Markman Hr’g Tr. at 89:2–7.

side begins where the grooves end and that the first/second sides begin and end where the grooves begin.⁴⁴

EG's arguments fail because the claims do not define the "top side" with respect to grooves. Rather, claim 1 defines the "top side" with respect to the die body – "the top side is mounted to the die body." Although it may be true that the specification describes (for one embodiment) that the grooves extend from the top side, the patentees did not claim a relationship between the top side and those specific grooves. And, because "a claim construction analysis must begin and remain centered on the claim language," the claimed relationship is the one that matters. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004); *see also Ironburg Inventions*, 2018 WL 2999615, at *4.

The claim language controls for good reason: "[P]ersons of ordinary skill in the art rarely would confine their definitions of terms to the exact representations depicted in the embodiments." *Phillips*, 415 F.3d at 1323 ("[C]laims may embrace 'different subject matter than is illustrated in the specific embodiments in the specification.'" (citation omitted)). Here, the '104 Patent is clear that the grooves of Figures 2-3 are only "[o]ne method," and that "[a]ny means can be used" to form

⁴⁴ ECF 241, at 11-13; Markman Hr'g Tr. at 90:6-11, 94:7-16.

the claimed passages.⁴⁵ For example, the patent teaches that “[a]s an alternative, other methods of providing [these] passage ways” include positioning grooves in the air plates rather than in the die tip.⁴⁶ In such an embodiment, the air plates would therefore define the grooves, not the top side (or any side) of the die tip. The single embodiment of Figure 2, therefore, with grooves extending from the top side to the bottom side of the die tip, does not define the term “top side.” *ScriptPro LLC v. Innovation Assocs., Inc.*, 833 F.3d 1336, 1341 (Fed. Cir. 2016) (holding that where a “specification expressly contemplates other embodiments or purposes,” that “specification’s focus on one particular embodiment or purpose cannot limit the described invention”).

Kimberly-Clark’s dependent claims (claims 2, 5, 7, 9, and 18), which are narrower than the independent claim (claim 1), reinforce this point. For example, as EG explains, dependent claim 3, unlike claim 1, requires the channels to “extend[] from the top side of the die tip towards the bottom side of the die tip.”⁴⁷ And “the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.”

⁴⁵ ’104 Patent at 5:60–65.

⁴⁶ *Id.* at 6:25–27.

⁴⁷ *Id.* at 12:29–39; Markman Hr’g Tr. at 107:19–08:9.

Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed. Cir. 2004). If the Court were to define the “top side” by the grooves of Figure 2, such a restrictive reading would exclude alternative embodiments from claim 1 (such as the grooves-in-the-air-plates embodiment) and would improperly render claims 1 and 3 nearly identical in scope.

iv. **“The bottom side is opposite the top side”**

In addition to seeking a separate construction of the term “bottom side,” EG also asks the Court to construe the entire claim phrase “the bottom side is opposite the topside.” EG proposes that the phrase should be construed as: “the bottom side is below the top side and separated from the top side by the first and second sides.” Kimberly-Clark contends that no construction is necessary.

Despite the long construction, it appears that the parties’ dispute centers on the word “opposite.” EG proposes that the Court construe “opposite” to mean “below.”⁴⁸ Relying on its expert, EG argues that “‘opposite’ does not mean 180 degrees from, but rather generally opposite,” and that “all portions of the die tip that are geographically ‘opposite’ from the ‘top’ side to be the ‘bottom side.’”⁴⁹ Neither EG nor its expert assert that the patentees imposed a definition of

⁴⁸ ECF 234, at 35.

⁴⁹ *Id.*; ECF 241, at 12-13.

“opposite” different from its ordinary one; nor do EG and its expert support any of their argument with citations to the specification.⁵⁰

Here again, there is no reason to depart from the plain and ordinary meaning of “opposite.” *Howes v. Med. Components, Inc.*, 814 F.2d 638, 643 (Fed. Cir. 1987) (“[C]ommon, ordinary words” that “are not technical terms or terms of art” can be “properly construed . . . as a matter of law without resort to expert evidence”); see also *FlowRider Surf, Ltd. v. Pacific Surf Designs, Inc.*, Case No.: 3:15-cv-01879-BEN-BLM, 2016 WL 9408691, at *8 (S.D. Cal. Sept. 19, 2016) (declining to construe “opposite” “because the plain and ordinary meaning should control”). The specification uses the term according to its widely accepted meaning and nothing in the intrinsic record suggests that “opposite” departs from that meaning. Redefining “opposite” as “below” would not assist the jury in determining the issues presented to it. The Court therefore rejects EG’s proposed construction and concludes that “the bottom side is opposite the top side” term has a plain meaning that does not require additional construction.

⁵⁰ Osswald Decl. I, ¶ 94.

v. "A series of passages are formed by the first/second side of the die tip and the first/second air plate"

Kimberly-Clark contends that this portion of the claim requires no construction because the terms "a series of" and "passages" should be given their plain and ordinary meaning. However, Kimberly-Clark also maintains that the plain and ordinary meaning of "a series of" is "two or more," and that the plain and ordinary meaning of "passages" is "paths along which something may pass."⁵¹ For its part, EG proposes that the terms be construed as follows: (1) "series" means "more than two things of the same class or type" and (2) "passages" means:

[D]ucts or tubes . . . arranged in a plane generally perpendicular to the fluid flow, that permit a fluid (e.g., air) to flow from the top side to the bottom side of the die tip, each duct or tube in the series is isolated from every other duct/tube in the series such that fluid entering a duct/tube cannot intermingle with fluid entering a different duct/tube while the fluid is within the respective ducts/tubes.⁵²

Turning first to the construction of "a series," the Court agrees with Kimberly-Clark that a series means "two or more" and that further defining a series as "of the same class or type" is unnecessary. Nothing in the claims or

⁵¹ ECF 233, at 24-35.

⁵² ECF 234, at 15.

specification indicates, explicitly or implicitly, that the patentees intended to impart a novel meaning to the term “series.” Indeed, there is no suggestion by either party that the specification reveals a special definition or that the term “series” has a specialized meaning in the relevant art. *See Phillips*, 415 F.3d at 1312–13, 1316.

“[G]eneral purpose dictionaries may be helpful,” as is the case here, where the ordinary meaning of claim language as understood by a person of skill in the art is “readily apparent even to lay judges.” *Phillips*, 415 F.3d at 1314. Both parties provide several dictionary definitions of “series” that were available at the time the ’104 Patent was filed.⁵³ For example, the 1989 version of Webster’s Ninth New Collegiate Dictionary defines “series” as “a number of things or events of the same class coming one after another in spatial or temporal succession.”⁵⁴ Similarly, the 1985 version of The American Heritage Dictionary defines “series” as “a group of things of the same class coming one after the other in succession.”⁵⁵ These definitions place no lower limit on the size of the group or number of things that

⁵³ ECF 233, at 25–26; ECF 234, at 27–28.

⁵⁴ ECF 234-16.

⁵⁵ ECF 234-4; ECF 234-19.

make up a series, but they do indicate that one thing must come after another. A series must therefore include two or more things.

EG points to its own expert's testimony and the "normal usage" of the term "series" in support of its contention that the term refers to more than two things (e.g., World Series (best of 7), playoff series (typically best of 3, 5, or 7)), because two things of the same type or class are usually referred to as a "couple."⁵⁶ EG concedes, however, that none of the dictionary definitions of "series" include a lower limit, and Kimberly-Clark successfully demonstrated that "normal usage" does include a series of two—for example, a two-game series in baseball.⁵⁷ The Court, therefore, will construe "series" as meaning "two or more."

Further, although the Court agrees with EG that a "series" encompasses things "of the same class or type," adding this language to the claim is unnecessary because the claim explicitly specifies the class or type of things that make up the series—the "passages."

The construction of the term "passages" is more complicated. While Kimberly-Clark would define the "passages" referred to in the claim as a

⁵⁶ ECF 234, at 28, fn. 15.

⁵⁷ Markman Hr'g Tr., at 124:22-125:12.

classification term encompassing any pathway through which fluid flows,⁵⁸ EG's proposed construction limits the term "passages" to the specific pathways that allow fluid to pass through without allowing the fluid to intermingle with other fluid along the way.⁵⁹ In sum, EG wants to define "passages" in a way that differentiates it from "chambers" and "channels," both of which, according to EG, allow intermingling of fluids.⁶⁰ While EG's argument is well taken in that it appears that the patentees intended "passages," "chambers," and "channels" to be different from one another, its proposed construction is not necessary.

The specification's use of different words (*i.e.*, "chambers," "passages," and "channels") to describe different types of air spaces is evidence the inventors intended that "chambers," "passages," and "channels" have different meanings. *See Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008) (presumption that use of different terms in claims connotes different meanings). For example, the specification refers to the invention providing "passages or channels," that "get the attenuating air from the die body 103 to the outlet 149."⁶¹

⁵⁸ ECF 234, at 28.

⁵⁹ ECF 234, at 22-23.

⁶⁰ *Id.*

⁶¹ '104 Patent at 5:55-60.

It also refers to “distribution chambers” that receive air from “passages 140a and 140b” and allow for “mixing of attenuating fluid.”⁶² Since it is clear that these terms have different meanings, and the parties dispute these meanings, the Court first looks to intrinsic evidence to construct them and then, if necessary, will turn to extrinsic evidence. *CBT Flint Partners*, 566 F. Supp. 2d at 1366.

As an initial matter, Kimberly-Clark’s explanation of the meaning of passages, as “paths along which something may pass,” helpfully orients the analysis. The specification explains that “the air plates 106a and 106b and the die tip 102 form passages 120a and 120b, which allow the attenuating fluid to pass from the ... mounting plate 104 towards the outlet opening 129 in the die tip.”⁶³ The patent also uses the term “passages” in a similar manner when describing the flow of polymer material through the meltblowing die, explaining that “the material passes through a narrowing passage 133 [from the breaker plate/filter assembly] to narrow cylindrical or otherwise shaped outlet 129.”⁶⁴ Thus, in construing the term passages, it is necessary to consider structures that allow fluid to pass through.

⁶² *Id.* at 5:24-27.

⁶³ ’104 Patent at 5:30-36; 6:11-16.

⁶⁴ *Id.* at 5:1-5.

While the terms “passages,” “chambers,” and “channels” may be used for different purposes in the specifications, this does not mean they are mutually exclusive. Indeed, it is clear from the patent that “channels” is a particular type of “passage.” Claim 3, which depends on claim 1, is narrower and claims specific type of passages, *i.e.*, passages formed by “raised portions” on each side of the die tip that “defin[e] a series of channels” between the die tip and the first air plate. Thus, claim 1 is broad and covers any type of passage whereas claim 3 is narrower and more specific as to the particular type of passage required. *See Intamin Ltd. v. Magnetar Tech., Corp.*, 483 F.3d 1328, 1335 (Fed. Cir. 2007) (“An independent claim impliedly embraces more subject matter than its narrower dependent claim.”); *The Chamberlain Group v. Techtronic Indus. Co., Ltd.*, 676 F. App’x 980, 986 (Fed. Cir. 2017) (“The inclusion of a particular limitation in a dependent claim does not suggest that the limitation is eschewed by the claim from which it depends. Rather, it compels the opposite conclusion.” (citation omitted)).

When describing one embodiment of the passages created by the die tip and the air plates, the specification uses the words “passages” and “channels” interchangeably, assigning the reference number 120 to both of these terms. “This drafting choice equates the[se] terms for claim construction purposes.” *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1282 (Fed. Cir. 2017). Although the

patent provides that “any means” can be used to form the passageways, “one method” is to “have grooves or channels (shown in FIG. 3) extending [from] the top side 160 to the bottom side 161 of the die tip.”⁶⁵ These “channels . . . provide passages which allow the attenuating fluid to pass [from] the die body to an outlet of the meltblowing die.”⁶⁶ The patent thus uses the term “channels” to mean a type of “passage.” More specifically, channels are a type of passage that are formed by “a series of raised portions” coming into contact with another structure.⁶⁷

As for “chambers,” the distribution chambers described in the patent are clearly different from the passages described in claim 1, and so cannot be included in Kimberly-Clark’s definition of “passages.” The specification identifies “distribution chambers 141a and 141b” as receiving air from “passages 140a and 140b.”⁶⁸ The distribution chambers allow mixing of the attenuating fluid.⁶⁹ From the distribution chambers, the air is transported via “passages 120a and 120b” and then out of the die tip.⁷⁰ In other examples provided in the specification, structures

⁶⁵ *Id.* at 5:62-65.

⁶⁶ *Id.* at 2:49-52.

⁶⁷ *Id.* at 12:29-39.

⁶⁸ *Id.* at 5:24-26; *id.* Fig. 2.

⁶⁹ *Id.* at 5:25-27.

⁷⁰ *Id.* at 5:26-43.

that mix the air are referred to as “chambers” 439a and 439b and “distribution chambers 441a and 441b.”⁷¹ The description of Figure 8 in the specification is similar, referring to “passages” 613 as transporting air between “chambers” 611 and “chambers” 439a and 439b.⁷² “Chambers,” therefore, must be different from both passages and channels.

The Court nonetheless finds that the proper construction of the term “passages” is found within the claim itself. *Honeywell Int’l Inc.*, 488 F.3d at 993 (Fed. Cir. 2007) (concluding that because “the claim itself provides considerable information about its meaning . . . one of skill in this art would agree that the claim defines this term adequately without additional limitations”). A person of ordinary skill in the art would understand that the claimed “passages” do not exist in the abstract; they must be “formed by the first/second sides of the die tip and the first/second air plates.”⁷³ By contrast, distribution “chambers” are not formed by the contact between the die tip and the air plates and serve the primary function of “allowing mixing of the attenuating fluid.”⁷⁴ No construction of the term

⁷¹ *Id.* at 7:27-47; *id.* Fig. 4.

⁷² *Id.* at 9:62-10:4.

⁷³ *Id.* at 12:19-23 (claim 1).

⁷⁴ *Id.* at 5:27.

“passages” is necessary because the plain meaning of “passages,” as defined in the patent by the way they are formed, includes “channels” and excludes “chambers.”

vi. **“Wherein the mounting plate has a series of passages which allow an attenuation fluid to flow from the die body to the series of passages formed by the first and second air plates and the first and second sides of the die tip”**

EG also seeks to add the following functional language into the construction of the term “a series of passages”:

[T]hat permit a fluid (e.g., air) to flow from the top side to the bottom side of the die tip, each duct/tube in the series of ducts/tubes is isolated from every other duct/tube in the series such that fluid entering a duct/tube cannot intermingle with fluid entering a different duct/tube while the fluid is within the respective ducts/tubes.⁷⁵

The Court declines to do so. First, this is yet another effort to improperly limit the claims to the preferred embodiments. *Phillips*, 415 F.3d at 1323 (“[A]lthough the specification often describes very specific embodiments,” the court cannot “confine the claims to those embodiments”). Second, for the reasons discussed, in the context of the ’104 Patent, a skilled artisan would not ascribe this narrow functional meaning to “passages” nor is it consistent with the term’s broad meaning in the relevant art. Third, as EG’s expert agreed during his deposition,

⁷⁵ ECF 234, at 20.

this functional language has no connection to any of the language actually in the claim. The Court is not empowered to expand the claim or to import words into the claim constructions that have no tie to the claim (or to the specification of which they are part). *Phillips*, 415 F.3d at 1314–18; *see also O2 Micro*, 521 F.3d at 1362 (“[I]t is the court’s duty to resolve” only “fundamental dispute[s] regarding the scope of [the] claim term[s].” (emphasis added)).

Finally, because the term “series of passages are formed . . .” is “entirely a structural one,” the “importation of functional requirements is incorrect.” *Synthes USA, LLC v. Spinal Kinetics, Inc.*, 734 F.3d 1332, 1351 (Fed. Cir. 2013) (where “a claim uses clear structural language, it is generally improper to interpret it as having functional requirements”; “a straightforward structural limitation that needs no further construction, much less the addition of functional qualifiers”). Based on the specification of the ’104 Patent, no reason exists to deviate from this “general rule.” For one, neither “isolated,” “intermingle,” nor any related concept appears in the ’104 Patent. And, although the specification explains that the passages allow the fluid to flow from the die body to the outlet opening, “that is not a reason to add” EG’s detailed (and unsupported) functional limitations. *Id.*

vii. “Wherein a portion of the first/second air plate is in contact with the first/second side of the die tip”

EG proposes that the Court construe this term to mean “a portion of the first/second air plates is physically touching the corresponding first/second sides of the die tip.” Kimberly-Clark contends that no construction is necessary because this term is made up of commonly understood words and the ’104 Patent uses them in accordance with their widely accepted meanings. Kimberly-Clark objects to EG’s use of the phrase “physically touching” and insertion of the word “corresponding.”

EG fails to justify its proposed rewrite of the claim. First, EG’s proposed construction inserts “physically touching” in place of “in contact with.” But there is no reason to depart from the plain and ordinary meaning of “in contact with.” The specification uses the term “in contact with” consistently with its widely accepted meaning. For example, the patent states that “a portion of the first air plate is in contact with the first side of the die tip,”⁷⁶ and further explains that “[t]he air plates can rest directly on the sides of the die tip 102.”⁷⁷ The phrase “physically touching” does not appear in the specification; “in contact with” does.

⁷⁶ ’104 Patent at 2:30–31.

⁷⁷ *Id.* at 6:36–37.

Like with the term “mounted to,” the parties do not point to a material dispute as to the scope of this claim term. The Court is not obligated to construe terms where no dispute exists. *O2 Micro*, 521 F.3d at 1362. And redefining “in contact with” as “physically touching” would not assist the jury, but would, again, be an exercise in redundancy. *Id.*

Finally, EG’s proposed construction also inserts the word “corresponding.” During the Markman Hearing, EG explained that the inclusion of “corresponding” was intended “to make clear that the first side of the die tip is in contact with the first air plate and the second side of the die tip is in contact with the second air plate.”⁷⁸ But the claim language itself captures EG’s intended meaning: The claim states “a portion of the first air plate is in contact with the first side of the die tip” and, likewise, “a portion of the second air plate is in contact with the second side of the die tip.”⁷⁹ There is nothing unclear or uncertain about this claim language.

The Court therefore rejects EG’s proposed construction and concludes that the term “in contact with” has its plain and ordinary meaning and no construction is necessary.

⁷⁸ Markman Hr’g Tr. at 169:1-7.


⁷⁹ ‘104 Patent at 12:17-24.

IV. CONCLUSION

The Court rules as follows with regard to the disputed terms:

Claim Term	Court's Construction
"a die tip comprising a <i>top side</i> , a <i>bottom side</i> , a <i>first side</i> and a <i>second side</i> "	No construction necessary
"the top side is <i>mounted to</i> the die body"	No construction necessary
"bottom side <i>opposite</i> the top side"	No construction necessary
" <i>a series of passages are formed by the first/second side of the die tip and the first/second air plate</i> "	"a series" means "two or more" No other construction necessary
"wherein the mounting plate has <i>a series of passages which allow an attenuation fluid to flow from the die body</i> to the series of passages formed by the first and second air plates and the first and second sides of the die tip"	No construction necessary
"wherein a portion of the first/second air plate <i>is in contact with</i> the first/second side of the die tip"	No construction necessary

SO ORDERED this the 29th day of January 2021.



Steven D. Grimberg
United States District Court Judge