

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

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NIKE, INC.	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil No. 18-10876-LTS
	)	
PUMA NORTH AMERICA, INC.,	)	
	)	
Defendant.	)	
_____	)	

MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION

October 24, 2019

SOROKIN, J.

NIKE, Inc. brought this action against PUMA North America, Inc. alleging infringement of 10 patents directed to various aspects of footwear technologies. [Doc. No. 58](#).¹ Puma denies that it infringes and asserts the claims of the patents in suit are invalid. [Doc. No. 60](#). Now pending before the Court are the parties' briefs on claim construction. The Court has reviewed the parties' submissions and held a hearing on October 17, 2019, pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), at which it heard argument and technology tutorials.

¹ Citations to "Doc. No. __" reference documents appearing on the court's electronic docketing system; pincites are to the page numbers in the ECF header.

I. BACKGROUND

The parties dispute the proper construction of 10 terms.² Each of the disputed terms appears in the claims of one or more of the following six of the ten patents at issue in the case: U.S. Patent Nos. 7,401,420 (“the ’420 patent”), 7,637,032 (“the ’032 patent”), 9,375,046 (“the ’046 patent”), 9,314,065 (“the ’065 patent”), 10,051,917 (“the ’917 patent”), 10,098,411 (“the ’411 patent”).³ Puma asks the Court to construe the disputed terms in accordance with its proposed constructions. [Doc. No. 99](#); [Doc. No. 108](#). Nike argues that the terms are all to be understood in accordance with their “ordinary and customary” meaning and that no further construction is required. [Doc. No. 100](#); [Doc. No. 107](#). Because the patents are directed to a variety of non-overlapping technologies, the Court discusses the relevant disclosure of each patent in the course of construing the disputed claim terms below.

² In their opening briefs, the parties disputed the construction of eight additional terms. [Doc. No. 99](#); [Doc. No. 100](#). On July 20, 2019, the parties filed a joint submission on claim construction, in which they notified the Court that they now agree on the following constructions: “**lateral stiffened section**” means “lateral stiffened section of the cleat assembly”; “**medial stiffened section**” means “medial stiffened section of the cleat assembly”; “**lenticular knit structure**” means “knit structure associated with different visual effects when viewed from different viewing angles”; “**unitary knit construction**” means “formed as a one-piece element through a knitting process. That is, the knitting process substantially forms the various features and structures of the knitted component without the need for significant additional manufacturing steps or processes”; “**course**” means “row of loops”; and “**spaced from**” means “some distance from.” [Doc. No. 106 at 6-7](#) (claim terms bolded).

At the claim construction hearing on October 17, 2019, the parties also agreed to construe “**medial stiffened section being stiffer than the lateral stiffened section**” to mean “medial stiffened section being less easily bent than the lateral stiffened section.” And they agreed to withdraw their request for the Court to construe the claim term “**simultaneously knitting**.”

The parties also now agree on the constructions of three additional claim terms that were not the subject of their briefing. They agree to construe “**unitary construction**” as “configuration wherein portions of a textile element are not joined together by seams or other connections,” “**neutral position**” as “position in the absence of applied force,” and “**extended position / stretched position**” as “position in response to applied force.” [Doc. No. 106 at 7-8](#).

After reviewing the patents at issue, the Court accepts and adopts the parties’ agreed constructions of the formerly disputed (and the three formerly undisputed) claim terms.

³ The four other patents at issue in this case are U.S. Patent No. 6,973,746 (“the ’746 patent”), entitled “Soccer Shoe Having Independently Supported Lateral and Medial Sides,” U.S. Patent No. 8,266,749 (“the ’749 patent”), entitled “Article of Footwear Having a Textile Upper,” and U.S. Patent Nos. 9,078,488 (“the ’488 patent”) and 10,070,679 (“the ’679 patent”), both entitled “Article of Footwear Incorporating a Lenticular Knit Structure.”

II. LEGAL STANDARD

The “construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” Markman, 517 U.S. at 372; Teva Pharms. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831 (2015). “It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotation marks omitted). The claim itself is “of primary importance, in the effort to ascertain precisely what it is that is patented.” Id. (citing Merrill v. Yeomans, 94 U.S. 568, 570 (1876)); see also Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 339 (1961) (“the claims made in the patent are the sole measure of the grant”). Because as a general matter, “claims, not specification embodiments, define the scope of patent protection,” a patentee is not limited “to his preferred embodiment,” and “a limitation from the specification” cannot be imported “into the claims.” Kara Tech. Inc. v. Stamps.com Inc., 582 F.3d 1341, 1348 (Fed. Cir. 2009).

“[T]he words of the claim are generally given their ordinary and customary meaning.” Phillips, 415 F.3d at 1312 (internal quotation marks and citations omitted). The “ordinary and customary meaning of a claim term 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.” Id. at 1313. The “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” Id.

“The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.” Renishaw PLC v. Marposs Societa' Per Azioni, 158 F. 3d 1243, 1250 (Fed. Cir. 1998)). “A claim construction is

persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent.” Id. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” Phillips, 415 F.3d at 1313. Other times, though, when “the meaning of a claim term as understood by persons of skill in the art is . . . not immediately apparent,” or when “patentees . . . use terms idiosyncratically,” a court must consider “those sources available to the public” which shed light on how “a person of skill in the art would have understood [the] disputed claim language.” Id. (quotation marks omitted).

Intrinsic evidence—the patent claims, specification, and prosecution history—is the most reliable and useful evidence in determining the meaning of a patent’s claims. Id. at 1317-19. Extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, may also assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. Id.; accord Markman, 52 F.3d at 980. Although a court may consider extrinsic evidence to the extent it is useful, it may not rely on such evidence to “change the meaning of claims in derogation” of the intrinsic evidence of record. Phillips, 415 F.3d at 1319.

III. DISCUSSION

Guided by these principles—and having carefully reviewed the language of each patent at issue in its entirety, all cited prosecution history, and the extrinsic evidence proffered by the parties—the Court addresses each of the disputed claim terms in turn.

A. The Court’s Obligation to Resolve Claim Construction Disputes

There is no doubt that the Court must resolve the parties’ dispute over how the claim terms at issue should be construed. O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d

1351, 1362 (Fed. Cir. 2008) (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.”); MedIdea, L.L.C. v. DePuy Orthopaedics, Inc., No. 1:17-cv-11172, 2018 WL 5830849, *5 (D. Mass. Nov. 7, 2018) (when the parties disagree about the meaning of claim terms, “the Court is not only empowered, but required, to construe” them). That said, to the extent that Puma contends that the Court cannot resolve that dispute by determining that any of the claim terms have their ordinary and customer meanings, it is mistaken. See, e.g., Finjan, Inc. v. Secure Computing Corp., 626 F.3d 1197, 1206–07 (Fed. Cir. 2010) (courts may resolve claim construction disputes by ascribing disputed terms their ordinary meaning); Summit 6, LLC v. Samsung Elecs. Co., Ltd., 802 F.3d 1283, 1291 (Fed. Cir. 2015) (“because the plain and ordinary meaning of the disputed claim language is clear, the court did not err by declining to construe the claim term”); ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc., 694 F.3d 1312, 1326 (Fed. Cir. 2012) (“the district court did not err in concluding that these terms have plain meanings that do not require additional construction”); Phillips, 415 F.3d at 1313 (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”).

Of course, sometimes a term requires a particular construction, as was the case in this Court’s opinion in MedIdea, 2018 WL 5830849 at *12 (construing the technical and unfamiliar claim term “cam” because it was not one with which the jury was likely to be familiar) and in O2 Micro, 521 F.3d at 1361 (“In this case, the ‘ordinary’ meaning of a term does not resolve the parties’ dispute, and claim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit.”) (emphasis added).

B. Puma's Proffered Expert Declarations

Puma submits two expert declarations in support of its claim construction arguments but Puma's declarants do not explain the state of the art at the time of the claimed inventions or how their experience or expertise leads them to construe the disputed claim terms in a way that is different from the way in which the terms might be construed by a layperson who reads them in the context of the patent claims, the specification, and the prosecution history. See generally Doc. No. 99-26 (Decl. of Dr. Stefanyshyn); Doc. No. 99-28 (Decl. of Dr. Steszyn). Indeed, Dr. Stefanyshyn cites no authority for his opinions other than the intrinsic record of the patents about which he opines and makes no reference to any subject matter outside the intrinsic record. See Doc. No. 99-26. Dr. Steszyn also cites no authority for his opinions other than the intrinsic record of the patents about which he opines, and with two small and unsupported exceptions discussed *infra*, also makes no reference to any subject matter outside the intrinsic record. See Doc. No. 99-28. Neither illuminates how the disputed terms might have been understood by a person of ordinary skill in the art at the time of the inventions.

For this reason, and because the intrinsic record before the Court suffices to permit the Court to determine the meaning of the disputed claim terms, the Court does not rely on the declarations of Puma's proffered experts to construe the disputed claim terms.

C. The disputed claim terms

1. "fluid-filled bladder" ('420 patent, claim 14)

The term "fluid-filled bladder" appears in claim 14 of the '420 patent, entitled "Article of Footwear Having a Fluid-Filled Bladder with a Reinforcing Structure." Doc. No. 58-5 ('420 patent). As its title suggests, the '420 patent is directed to a sole structure of a footwear article that incorporates a fluid-filled bladder. '420 patent at 1:24-30. Claim 14 recites:

14. An article of footwear comprising:

a sole structure incorporating a **fluid-filled bladder** and a reinforcing structure secured to the bladder, the sole structure having an upper surface and an opposite lower surface, the upper surface forming a ridge that defines a first portion of a lasting surface, at least a portion of the ridge being an inclined surface formed by the reinforcing structure and located over the bladder, the bladder defining a second portion of the lasting surface; and

an upper secured directly to the first portion of the lasting surface and the second portion of the lasting surface.

'420 patent, claim 14 (disputed claim term bolded).

The parties do not disagree about what constitutes a “bladder” and they agree that the “fluid” in “fluid-filled bladder” may consist of any liquid, including ambient air. [Doc. No. 99](#) at 26 n.13 (“[c]onsistent with the specification of the '420 patent, the term ‘fluid’ encompasses gasses, gels, and liquids.”) (citing '420 patent at 8:3-16); [Doc. No. 100 at 17](#) (same). Indeed, the specification broadly describes fluid-filled bladders as bladders filled with any fluid, including pressured fluids or non-pressurized fluids such as ambient air:

The fluid within bladder 30 may be any of the gasses disclosed in U.S. Pat. No. 4,340,626 to Rudy . . . The fluid may also include gasses such as pressurized octafluoropropane, nitrogen, or air. In addition to gasses, various gels or liquids may be sealed within bladder 30. Accordingly, a variety of fluids are suitable for bladder 30. With regard to pressure, a suitable fluid pressure is fifteen pounds per square inch, but may range from zero to thirty pounds per square inch. Accordingly, the fluid pressure within bladder 30 may be relatively high, or the fluid pressure may be at ambient pressure or at a pressure that is slightly elevated from ambient in some embodiments of the invention.

'420 patent at 8:3-16.

With respect to this claim term, the parties disagree only over the word “filled.” Nike argues no further construction is required “because ‘filled’ is a non-technical, commonly understood word.” [Doc. No. 100 at 16](#). Alternatively, Nike suggests that to the extent the claim term needs construction, it may be construed to mean “bladder filled with fluid.” [Doc. No. 107 at 18-19](#).

Puma argues that the word “filled” in “fluid-filled bladder” means “added to,” and proposes that the claim term be construed to mean “a bladder to which fluid has been added.” [Doc. No. 99 at 25-27](#). As support for its proposed construction, Puma contends that “[t]he ’420 patent does not describe any embodiments with bladders to which fluid has not been added.” *Id.* at 26. Puma also notes that in discussing “[t]he present invention,” the ’420 patent specification discloses that “the bladder encloses a pressurized fluid that exerts an outward force upon the barrier material,” and that “[t]he pressurized fluid contained by [the] bladder [] induces an outward force.” *Id.* (quoting ’420 patent at 2:45–47; *id.* at 6:7–9). And Puma cites to passages describing processes by which fluid is added to the bladder. *Id.* (“The chambers [of the bladder] are pressurized above ambient pressure by inserting a nozzle or needle connected to a fluid pressure source into a fill inlet formed in the bladder.”) (quoting ’420 patent at 2:16-18); *id.* at 26-27 (“pressurized fluid may be injected [into the bladder] through [a] conduit” and “[t]he conduit is then sealed to enclose the fluid within [the] bladder.”) (quoting ’420 patent at 16:22–24).

Nike counters that Puma mischaracterizes the specification’s statements of “the present invention” and that, in any event, it is well settled that statements of “the present invention” are not limiting. [Doc. No. 100 at 20-21](#). Nike also argues that none of the passages cited by Puma in support of its proposed construction discloses that the bladder becomes filled with fluid only by means of having fluid added to it after the bladder has been formed. *Id.* at 21.

Nike further argues that the doctrine of claim differentiation militates against Puma’s proposed construction. The claim differentiation doctrine provides that an independent claim should not be construed as requiring a limitation added by a dependent claim. Curtiss-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 1380-81 (Fed. Cir. 2006). Nike notes that while other claims of the ’420 patent recites “a limitation that requires ‘the bladder enclosing a fluid that

exerts an outward force,” the asserted claims of the ’420 patent, including claim 14, do not include such a limitation. [Doc. No. 107 at 21](#) (’420 patent at 23:13-28).

Nike’s strongest argument against Puma’s proposed construction is that that construction improperly excludes an embodiment disclosed in the specification—namely, bladders filled with ambient air. [Doc. No. 100 at 11](#) (describing fluid-filled bladder containing “non-pressurized fluids such as ambient air”) (citing ’420 patent at 8:3-16). Nike explains that by virtue of being filled with ambient air, such bladders become “filled with fluid” as they are formed, not after they are formed. Id. Therefore, such bladders are “filled” with fluid even though they are not bladders to which fluid has been “added.” Id.

The Court agrees that Puma’s proposed construction of a “fluid-filled bladder” to mean “a bladder to which fluid has been added” is not supported by the claims and specification and improperly excludes the disclosed embodiment of a bladder that is filled with ambient air. Puma’s proposed construction also improperly imports a method of manufacture—adding fluid to bladders after they are formed—into the claim limitation. No such limitation is disclosed in the specification.

Having reviewed the parties’ submissions and the intrinsic record, the Court construes “fluid-filled bladder” in accordance with its ordinary and customary meaning to mean “bladder filled with fluid.”

2. “stability ribs” and “enhanced stability structures” (’032 patent, claims 1, 14, 16)

The terms “stability ribs” and “enhanced stability structures” appear in claims 1 and 16, respectively, of the ’032 patent, entitled “Footwear Structure with Textile Upper Member.” [Doc. No. 58-1](#) (’032 patent). The ’032 patent is directed to articles of footwear incorporating “a

textile upper member with an exterior constructed from knitted textile material.” ’032 patent at Abstract. Claim 1 of the ’032 patent recites:

1. An article of footwear, comprising:

an upper member substantially constructed from textile material, wherein the upper member includes an exterior portion substantially constructed from knitted textile material, the exterior portion including a first region having **stability ribs** integrally formed in the knitted textile material and a second region continuous with the first region, the second region not including **stability ribs** . . . ”

’032 patent, claim 1 (disputed claim terms bolded). Claim 16 is similar, except it recites “**enhanced stability structures**” instead of “stability ribs.” Id., claim 16.

The parties agree that, whatever they mean, the claim terms “stability ribs” and “enhanced stability structures” mean substantially the same thing. They also do not dispute the meaning of “ribs” or “structures” or “enhanced.” They dispute only the meaning of the word “stability.”

Nike says “stability” needs no further construction because it is a “non-technical, commonly understood word.” [Doc. No. 100 at 19](#). Nike further observes that “stability” “means ‘the state of being stable,’ and ‘stable means ‘not likely to give way or overturn; firmly fixed.’” Id. (citing [Doc. No. 100-13](#), Oxford Dictionary of English, 2d ed.). Puma argues that “stability ribs” and “enhanced stability structures” should be construed to mean “ribs / structures that increase the resistance to bending or stretching of the upper member in the region of the upper where the ribs are located in order to provide support to a wearer’s foot in that region.” [Doc. No. 99 at 28](#).

Puma contends that “[t]he stability ribs / enhanced stability structures provide stability by being ‘place[d] . . . at one or more regions or locations around the foot so as to anatomically place the stability regions at areas around the foot that need to be stabilized during the desired activities.’” Id. at 29 (quoting ’032 patent at 1:60–2:3). And, citing the declaration of Dr. Stezyn, Puma argues that “a person of ordinary skill in the art would understand that stability ribs could be used to increase the ‘Young’s modulus’ of the area of the upper in which they are located,” which Puma

explains is “is a measure of [a] material’s elasticity.” *Id.* (citing [Doc. No. 99-28](#) ¶ 34). The problem for Puma is that Dr. Stezyn cites no authority for his discussion of the Young’s modulus. [Doc. No. 99-28](#) ¶ 34. Nor does he tie his discussion of the Young’s modulus to any particular disclosure of the ’032 patent. *Id.* This is perhaps not surprising as the patent makes no reference to the Young’s modulus. See generally ’032 patent. Nor does it disclose that the feature providing the structures in question their “stability” is their relative inelasticity, as Puma contends. [Doc. No. 99 at 29](#). The Court therefore disregards Dr. Stezyn’s statements regarding the ’032 patent.

Nike urges the Court to reject Puma’s proposed construction on the grounds that “the specification broadly describes the ‘stability’ ribs or structures as inherently providing stability because they are ribs or other structures,” and that Puma’s claim construction is not supported by the intrinsic record and is unduly limiting. [Doc. No. 100 at 19](#), 20. The Court agrees. The specification discloses that:

[T]he exterior layer 102 a of the upper member 102 may be formed from plural material constructions or formations that each impart different properties or characteristics . . . (e.g., ribbed or other support or stability structures in some areas to provide higher stability as compared to other (e.g., non-ribbed) areas, etc.).

’032 patent at 10:24-30. At the claim construction hearing, Nike proposed that, in keeping with the above-quoted disclosure, the Court construe the disputed claim terms to mean “ribs / structures that provide support.”

Having reviewed the parties’ submissions and the intrinsic record, the Court construes “stability ribs” and “enhanced stability structures” to mean “ribs / structures that provide stability or support.”

3. “webbed areas” and “tubular structures” (’046 patent, claims 1, 2, 17)

The claim terms “webbed areas” and “tubular structures” appear in asserted claims of the ’046 patent, entitled “Article of Footwear Incorporating a Knitted Component with Inlaid Tensile

Elements and Method of Assembly.” See [Doc. No. 58-4](#) (’046 patent). The ’046 patent is generally directed to articles incorporating knitted components that are “formed of multiple knitted component portions.” ’046 patent at 1:20-22; *id.* at Abstract. Claim 1 recites:

1. An article comprising:

a plurality of **webbed areas** that include a plurality of courses⁴ formed from a first yarn, the **webbed areas** having a front surface, the **webbed areas** configured to move between a neutral position and an extended position, the **webbed areas** being biased to move toward the neutral position and

a plurality of **tubular structures** that are adjacent to the **webbed areas**, the **tubular structures** including a plurality of courses;

wherein at least one of the **webbed areas** or **tubular structures** is configured to stretch to move the **webbed areas** to the extended position in response to a force applied to the article

wherein in the neutral position, a first area of the front surface is hidden from visual observation from a first viewing perspective, and

wherein in the extended position, the first area of the front surface is revealed for visual observation from the first viewing perspective.

’046 patent, claim 1 (disputed claim terms bolded).

Figure 3 of the ’046 patent, reproduced below, is an embodiment of the knitted component. ’046 patent at 3:23-24. In this example, one of the webbed areas is identified as element 128. *Id.* at 7:9-11 (“In some embodiments, knitted component 100 can include a plurality of tubular rib structures 126 and a plurality of webbed areas 128.”).

⁴ The parties have agreed to construe “course” as “a row of loops.” See *supra* n.2.

specification for the “knit” component of Puma’s proposed construction. The specification provides:

Generally, webbed areas 128 may be connecting portions between various elements and/or components of knitted component 100. Webbed areas 128 are formed of unitary knit construction with the remaining portions of knitted component 100 and may serve to connect various portions together as a one-piece knit element. Knitted component 100 can include any suitable number of webbed areas 128. In different embodiments, webbed areas 128 can be an area of knitted component 100 comprising one knit layer.

’046 patent at 7:45-53.

Figure 8 of the patent (reproduced below) shows in detail “a portion of knitted component 100 . . . in a flattened configuration.” Id. at 17:4–13. This component includes “[a] representative portion of webbed area 128 and a representative portion of a knit layer of tubular rib structure 126.” Id. at 17:14–15. The specification describes the knitted component 100 as being formed by using “one or more yarns, strands, monofilaments, compound filaments, or other strands that are knitted, and describes that “the plurality of courses 800 of knitted component 100 can include a plurality of web courses 806 that define webbed area 128.” Id. at 17:6–8, 17:20–22. The specification also refers to “[t]he knitting pattern of webbed area 128” and notes that “one or more portions of webbed area 128 can be knitted using a reverse jersey knit pattern,” or “using a front jersey stitching pattern.” Id. at 17:28-35.

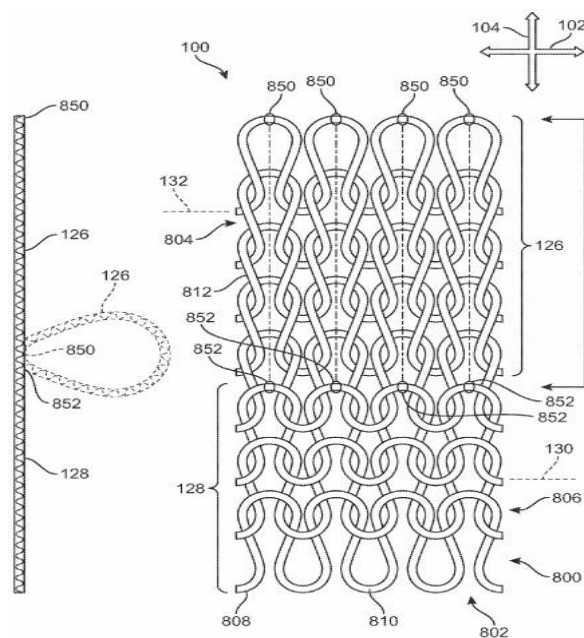


FIG. 8

'046 patent, Fig. 8. That said, a comparison of independent claim 1 of the '046 patent, which does not include a “knit” limitation, with dependent claim 17, which does include such a limitation, supports the conclusion that the doctrine of claim differentiation militates against reading a “knit” limitation into this claim term. *Id.*, claims 1 and 7.

While the specification does not support construing “webbed areas” as a “knit base,” it does support construing the claim term to mean “connecting portions.” *See id.* at 7:45-47 (“Generally, webbed areas 128 may be connecting portions between various elements and/or components of knitted component 100.”).

Having reviewed the parties’ submissions and the intrinsic record of the '046 patent, the Court construes “webbed areas” to mean “connecting portions.”

b. “tubular structures”

The claim term “tubular structures” also appears in asserted claims of the '046 patent. Claim 1 of the '046 patent recites “a plurality of **tubular structures** that are adjacent to the webbed

areas, the **tubular structures** including a plurality of courses...” ’046 patent, claim 1 (reproduced supra at 12) (disputed claim term bolded).

Here, the parties’ dispute centers on the meaning of “tubular.” They do not dispute the meaning of “structures. Puma argues that “tubular structures” should be construed to mean “tube shaped structure, *i.e.*, having the structure of a hollow elongated cylinder.” [Doc. No. 99 at 21](#). Nike counters that “tubular” is not so limited and should have its ordinary and customary meaning of “tube like.” [Doc. No. 100 at 29](#).

The parties’ disagreement over the proper construction of “tubular structures” is twofold: (a) whether the claimed element has the shape of an elongated cylinder, and (b) whether it is hollow. As to shape, Nike points out that while the specification provides that in some embodiments “tubular structure” “may have an elongated cylindrical shape,” the specification also provides that “tubular structure” “can be shaped as a generally circular or elliptical cylinder.” [Doc. No. 100 at 30](#) (citing ’046 patent at 10:19-20). Indeed, the specification provides that the tubular structure can vary in shape and dimensions:

In other embodiments, the shape and dimensions of tubular rib structures 126 can vary across knitted component 100. In some embodiments, tubular rib structures 126 can generally be shaped as a cylinder. In an exemplary embodiment, tubular rib structures 126 may have an elongated cylindrical shape with a wider top portion associated with front surface 108 and a narrower lower portion associated with back surface 110. In other embodiments, tubular rib structures 126 can be shaped as a generally circular or elliptical cylinder. Knitted component can include differently shaped tubular rib structures 126.

’046 patent at 7:34-44.

As to whether the tubular structures must be hollow, Puma argues that in each of the embodiments disclosed in the specification, “the ‘tubular structures’ are consistently described as hollow, tube-shaped knitted components.” [Doc. No. 99 at 22](#) (“[T]he patent describes that ‘[g]enerally, tubular rib structures 126 can be areas of knitted component 100 constructed with

two or more co-extensive and overlapping knit layers,’ and that ‘[t]wo or more knit layers may be formed of unitary knit construction in such a manner so as to form tubes or tunnels, identified as tubular rib structures 126, in knitted component 100”) (quoting ’046 patent at 7:14-16, 7:19–22) (emphasis omitted)). Puma goes on to observe that “[t]he tube shape of the tubular rib structure permits ‘the central area . . . [to] be configured such that another element (e.g., a tensile element) may be located between and pass through the hollow between the two knit layers forming [the] tubular rib structures 126.’” Id. (quoting ’046 patent at 7:26–30) (modifications Puma’s).

The specification does disclose that “[i]n different embodiments, tubular rib structures 126 can define one or more hollow tubes.” ’046 patent at 10:66-67. The specification also provides that in some embodiments, “rib structures may include additional components that are disposed within the tubes.” Id. at 4:61–63. But there is no suggestion in the patent that tubular structures are limited to hollow tubes.⁵

After reviewing the parties’ submissions and the intrinsic record, the Court construes “tubular structures” to mean “tube-like structures.” In so doing, the Court rejects a construction imposing a hollow limitation into the tube-like structures. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” Liebel-Flarshein Co. v. Medrad, Inc., 358 F.3d 898, 913. The term “tubular” ordinarily encompasses non-hollow (or solid) tube-like structures and nothing in the intrinsic evidence disavows such structures.

⁵ Nike also argues that the doctrine of claim differentiation militates against construing “tubular structures” as having to be hollow. It points out that dependent claim 16 “requires that the ‘plurality of tubular structures comprise . . . a central area that is generally unsecured to form a hollow between two knit layers.’” Doc. No. 100 at 30 (quoting ’046 patent at 34:43-46). The Court is not persuaded by this argument for it is far from clear that the “hollow” in claim 16 refers to the tubular structures rather than to the “central area” formed between the two knit layers.

4. “pad” and “stud” (’065 patent, claim 1)

The terms “pad” and “stud” appear in claim 1 of the ’065 patent, entitled “Article of Footwear with Base Plate Having Structure and Studs.” [Doc. No. 58-7](#) (’065 patent). As its title suggests, the ’065 patent relates to “[a]n article of footwear with a base plate having a structure and studs.” ’065 patent at Abstract. “The structure may moderate stud pressure and enhance support during the first step of sprinting, quick directional changes, and backward movement.” Id. Claim 1 recites:

1. An article of footwear comprising:

- a base plate including a forefoot region, a heel region, a midfoot portion disposed between the forefoot region and the heel region, a longitudinal axis extending through the forefoot region and heel region, a forward edge, a rearward edge, a medial edge, and a lateral edge;
- a structure disposed on the base plate, the structure including a medial forefoot **pad** disposed on the forefoot region proximate the midfoot portion and the medial edge, a lateral forefoot **pad** disposed on the forefoot region proximate the midfoot portion and the lateral edge, a medial heel **pad** disposed on the heel region proximate the medial edge, a first lateral heel **pad** disposed on the heel region proximate the lateral edge, a first diagonal rib extending from the medial forefoot **pad** to the first lateral heel **pad**, a second diagonal rib extending from the lateral forefoot **pad** to the medial heel **pad**, a medial midfoot bar substantially parallel to the longitudinal axis and disposed proximate the medial edge, and a lateral midfoot bar substantially parallel to the longitudinal axis and disposed proximate the lateral edge;
- a medial forefoot **stud** disposed on the medial forefoot **pad**;
- a medial heel **stud** disposed on the medial heel **pad**;
- a first lateral forefoot **stud** disposed on the lateral forefoot **pad**; and
- a first lateral heel **stud** disposed on the first lateral heel **pad**;
- the first diagonal rib having a first lateral edge intersecting with the first lateral heel **pad**;
- the second diagonal rib having a second lateral edge intersecting with the first lateral forefoot **pad**;
- the lateral midfoot bar having a third lateral edge;
- wherein the medial midfoot bar extends from a first point on the first diagonal rib to a second point on the second diagonal rib; and

wherein the third lateral edge of the lateral midfoot bar intersects with, and terminates at, a third point on the second diagonal rib at a forward end of the lateral midfoot bar;

wherein the third lateral edge of the lateral midfoot bar intersects with, and terminates at, a fourth point on the first diagonal rib at a rearward end of the lateral midfoot bar;

wherein the third point is spaced from the lateral forefoot **pad**; and

wherein the fourth point is spaced from the first lateral heel **pad**.

'065 patent, claim 1 (disputed claim terms bolded).

Figure 1 of the '065 patent, reproduced below, shows an example article of footwear with a base plate in accordance with the invention. The structure disposed on the base plate includes pads (see, e.g., elements 120, 122, 124, and 126) and studs (see, e.g., element 132). '065 patent 5:52-54; *id.* at 6:20-21.

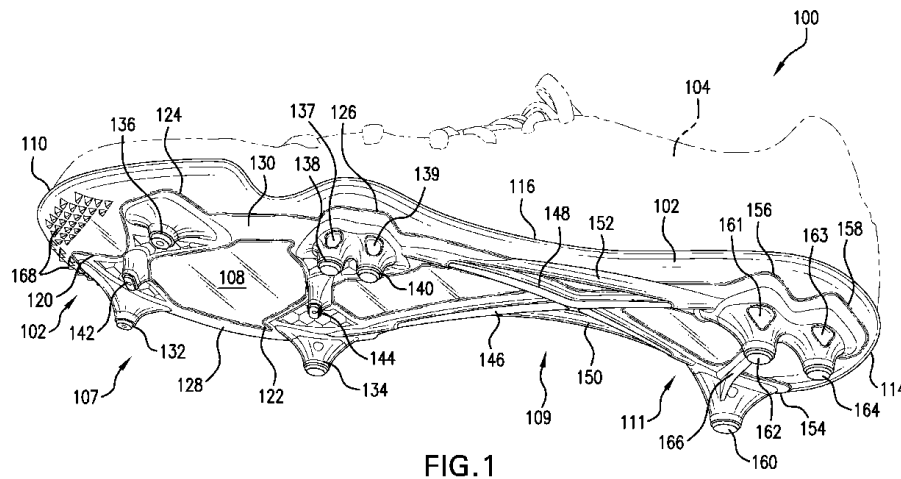


FIG. 1

'065 patent, Fig. 1.

a. “pad”

Puma argues that “pad” should be construed to mean “the base portion of each cleat” and that “stud” should be construed to mean “the top portion of each cleat.” [Doc. No. 99 at 33](#), 34.

Puma supports its proposed constructions by reference to the prosecution of the '065 patent, during

which the examiner noted that “the stud is merely defined as the top portion of each cleat . . . while the pad is defined as the base portion of each cleat[, and these] are therefore two separate elements, with the pad having a larger surface area than a base of the stud (the base of the stud being located at the intersection between the stud and the pad).” Id. at 33 (quoting [Doc. No. 99-14](#), ’065 Patent File History, Sept. 10, 2015 Office Action at 7). Puma contends that Nike “did not dispute the examiner’s understanding of the terms ‘pad’ and ‘stud.’” Id. (citing [Doc. No. 99-14](#), ’065 Patent File History, Nov. 6, 2015 Amendment at 12–17).

Nike counters that the examiner’s statements cannot be attributed to it, and that Puma’s proposed construction is not supported by the intrinsic record and improperly excludes embodiments disclosed in the specification. [Doc. No. 107 at 32-33](#). Nike argues that both “pad” and “stud” should be construed to have their ordinary and customary meanings and that no further construction is required. [Doc. No. 100 at 33-34](#). Alternatively, Nike argues that “pad” is commonly understood to mean “a thin flat mat or cushion,” and that “stud” and “cleat” mean the same thing and are used interchangeably in the ’065 patent. [Doc. No. 107 at 32](#), 33. Accordingly, at the claim construction hearing, Nike proposed that the Court construe “pad” as “a thin flat mat or cushion” and that it construe “stud” as “cleat.”

As Nike points out, Figure 1 of the ’065 patent show an example in which “the pad is a separate element from the cleat, and the pad has a larger surface area than any portion of the cleat.” [Doc. No. 100 at 33](#). Indeed, Nike’s argument is consistent with the portion of the prosecution history cited by Puma, in which the examiner noted that the pad and the stud are “two separate elements” and that the pad “has a larger surface area than a base of the stud (the base of the stud being located at the intersection between the stud and the pad).” [Doc. No. 99-14](#) (“the pad having a larger surface area than a base of the stud”). It is also consistent with repeated statements in the

specification to the effect that the pad may have a larger surface area than the base of the stud. See, e.g., '065 patent at 1:59-62 ("The medial heel pad may have a larger surface area than a base of the medial heel stud and the first lateral heel pad may have a larger surface area than a base of the first lateral heel stud."); id. at 6:28-39 ("In some embodiments, first medial forefootpad 120 may have a surface area that is larger than a base of first medial forefoot stud 132.").

Having reviewed the parties' submissions and the intrinsic record, the Court adopts Nike's proposal and construes "pad" to mean "a thin, flat mat between the stud and the base plate."

b. "stud"

The specification of the '065 patent supports Nike's contention that "studs" and "cleats" are used interchangeably and mean the same thing. The specification discloses that in some embodiments, the claimed studs may include apertures. See, e.g., '065 patent at 7:18-21 ("In some embodiments, second medial forefoot stud 134 may include an aperture 133, second lateral forefoot stud 138 may include an aperture 137, and/or third lateral forefoot stud 140 may include an aperture 139."). The specification also discloses that "[a]perture 133, aperture 137, and/or aperture 139 may include any of the features disclosed in Auger et al., U.S. patent publication number 2009/0235558, entitled Cleat Member for Article of Footwear, published on Sep. 24, 2009," and that the '065 patent incorporates the entirety of the Auger application ("Auger") by reference. Id. at 7:21-26. Where the '065 patent discusses "studs" and "apertures," Auger discusses "cleats" and "holes." See, e.g., Auger at [0007] ("In one aspect, a cleat member is provided for use with an article of footwear. . . . A hole extends completely through the cleat member."); id. at [0050] ("The term 'aperture' as used herein, . . . may be a gap, a cavity, an opening, a hole, . . .).

Having reviewed the parties' submissions and the intrinsic record, the Court adopts Nike's proposal and construes "stud" to mean "cleat."

5. “the skin material panel conforms to the mesh material panel and reveals a surface texture corresponding to the mesh material panel in the skin/mesh/substrate overlap area” (’917 patent, claim 1)

This claim term appears in claim 1 of the ’917 patent, entitled “Shoe with Composite Upper and Foam Element and Method of Making Same.” [Doc. No. 58-26](#) (’917 patent). The ’917 patent relates to a “three-dimensional upper shell” formed of “[a] bonded mesh composite panel.” ’917 patent at Abstract. Claim 1 recites:

1. An upper for an article of footwear, comprising:
 - a plurality of panels assembled as a composite panel, wherein the composite panel includes a substrate material panel having a first side and a second side,
 - a mesh material panel having a first side facing away from the substrate material panel and a second side facing the substrate material panel, at least a portion of the mesh material panel overlapping the substrate material panel in a mesh/substrate overlap area, and
 - a skin material panel having a first side facing away from the substrate material panel and a second side facing the substrate material panel, at least a portion of the skin material panel overlapping both the substrate material panel and the mesh material panel in a skin/mesh/substrate overlap area,wherein the skin material panel is bonded with the mesh material panel and the substrate material panel throughout the entire skin/mesh/substrate overlap area, the mesh material panel being captured between the skin material panel and the substrate material panel,
wherein at a portion of the composite panel outside the skin/mesh/substrate overlap area, the mesh material panel is not captured between the skin material panel and the substrate material panel, and
wherein **the skin material panel conforms to the mesh material panel and reveals a surface texture corresponding to the mesh material panel in the skin/mesh/substrate overlap area.**

’917 patent, claim 1 (disputed claim phrase bolded).

The parties do not dispute what any of the constituent terms in the disputed claim phrase, such as “skin material panel,” “mesh material panel,” and the “skin/mesh/substrate overlap area” mean. Still, they disagree about how this claim phrase should be understood. Nike argues it should be construed to have its ordinary and customary meaning. [Doc. No. 100 at 37](#). Puma argues that

the claim phrase should be construed to mean “the skin material panel overlapping and conforming to the mesh material panel, at a position where the skin material panel and mesh material panel both overlap the substrate material panel, such that the exterior surface of the skin material panel reveals protrusions of the mesh material panel generally perpendicular to the surface of the skin material panel.” [Doc. No. 99 at 37](#). As support for its proposed construction, Puma quotes the specification as disclosing that “a view of this conformance *perpendicular to a skin layer* is represented in the drawings as a partially broken version of the grid pattern used for mesh layer 28.” *Id.* at 37-38 (quoting ’917 patent at 5:29-32) (emphasis Puma’s).

Aside from being unnecessarily complicated and difficult to follow, Puma’s proposed construction is not supported by the specification. Prefaced by “[f]or simplicity,” Puma’s quoted sentence is clear that it is the view, not any claimed limitation, that is perpendicular to the skin layer.

Accordingly, after reviewing the parties’ submissions and the intrinsic record, the Court construes the claim term “the skin material panel conforms to the mesh material panel and reveals a surface texture corresponding to the mesh material panel in the skin/mesh/substrate overlap area” as having its ordinary and customary meaning.

6. “divider(s)” (’411 patent, claims 1, 3, 9) and “operable to migrate between the locations within the interior cavity of the casing via the gaps” (’411 patent, claim 9)

The claim term “divider(s)” appears in claims 1 and 9 of the ’411 patent, entitled “Particulate Foam with Other Cushioning.” [Doc. No. 58-29](#) (’411 patent). The claim phrase “operable to migrate between the locations within the interior cavity of the casing via the gaps” appears in claim 9 of the patent. As its title suggests, the ’411 patent generally relates to articles of footwear having foam beads incorporated with other cushioning. ’411 patent at 1:23-25.

Claim 1 recites:

1. An article of footwear comprising:

- an upper;
- a casing comprising:
 - a casing top surface opposing the upper; and
 - a casing bottom surface defining a first **divider** that extends between a medial side and a lateral side of the article of footwear, the first **divider** protruding toward the casing top surface and terminating within the casing such that a gap extends between the first **divider** and the casing top surface;
- a plurality of foam beads disposed within the casing; and
- an outsole comprising:
 - an outsole top surface secured to the casing bottom surface and a ground-engaging surface, the outsole top surface and the ground-engaging surface each being contoured upward to define a first groove that extends at least partially between the medial side and the lateral side of the article of footwear and is aligned with the first **divider**.

'411 patent, claim 1 (disputed claim terms bolded).

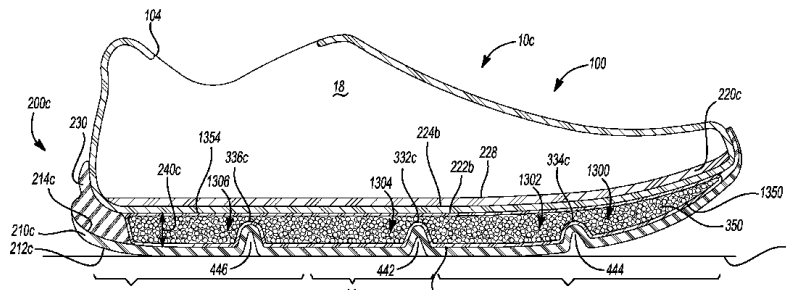
Claim 9 recites:

9. An article of footwear comprising:

- an upper component;
- a casing secured to the upper component, the casing comprising: a top wall; and
- a bottom wall defining a plurality of laterally extending **dividers** that protrude upward within an interior cavity defined by the casing towards the top wall of the casing to define locations separated by the laterally extending **dividers**, at least a portion of the laterally extending **dividers** being offset from the top wall to define a gap between each laterally extending **divider** and the top wall of the casing;
- a plurality of foam beads disposed within the interior cavity and **operable to migrate between the locations within the interior cavity of the casing via the gaps**; and
- an outsole secured to the casing opposite of the upper component and comprising a plurality of laterally extending grooves aligned with the plurality of laterally extending **dividers**.

'411 patent, claim 9 (disputed claim terms bolded).

Figure 14 of the patent, reproduced below, illustrates the claimed dividers at 336c, 332c, and 334c. See '411 patent at 19:56-20:11.



'411 patent, Fig. 14.

a. “divider(s)”

Puma argues that a “divider” should be construed to mean “protrusion that extends partially into a cavity to separate said cavity into regions or portions and restrict migration of foam beads between said regions or portions.” [Doc. No. 99 at 38](#). But the specification does not support Puma’s construction. As Nike points out, the dividers do not just “restrict” movement of the particulate matter; the specification provides examples in which the dividers have gaps that “allow some particulate matter 350 to migrate between adjoining regions” and in which the dividers also “manipulate migration of the particulate matter 350 between adjoining regions.” [Doc. No. 100 at 40](#) (citing '411 patent at 20:1-6 and at 19:48-50).

In its briefing, Nike argued that Puma’s proposed construction should be rejected on the grounds that it defines “divider(s)” as “protrusion(s),” [Doc. No. 100 at 40](#), and that Puma’s proposed construction is “improper because it unnecessarily redefines and restates other limitations of the claim,” [Doc. No. 107 at 40](#). At the claim construction hearing, however, Nike stated that it no longer opposes at least part of Puma’s proposed construction of “divider(s)” as a “protrusion that extends partially into a cavity.” The Court accepts this agreement for the claim

language itself refers to dividers “protruding” and to “dividers that protrude upward within an interior cavity.” ’411 patent, claim 1; id. claim 9. That said, the Court finds that the rest of Puma’s proposed construction is unnecessarily limiting and not supported by the claims or specification.

Having reviewed the parties’ submissions and the intrinsic record, the Court construes “divider” to mean “protrusion that extends partially into a cavity to restrict or manipulate migration of particulate matter, including foam beads, between regions or portions of said cavity.”

b. “operable to migrate between the locations within the interior cavity of the casing via the gaps”

The claim phrase “operable to migrate between the locations within the interior cavity of the casing via the gaps” also appears in the ’411 patent and refers to the movement of foam beads and other particulate matter between adjoining regions of the casing. ’411 patent at 20:4-6. Puma argues the claim phrase should be construed to mean “designed to move between regions or portions of the interior cavity of the casing that are separated [by] laterally extending dividers by moving through the gaps above said dividers.” [Doc. No. 99 at 40](#) (modification added at claim construction hearing). Nike argues that nothing in the intrinsic record suggests it requires construction beyond its ordinary and customary meaning. [Doc. No. 100 at 40](#). It also urges the Court to reject Puma’s proposed construction on the grounds that it “improperly adds a number of limitations,” including a “designed to move” requirement, and the requirement that the foam beads be designed to “move between regions or portions of the interior cavity of the casing that are separated [by] laterally extending dividers . . . ” Id. at 41.

Nike points out that Puma’s proposed construction “redefines, without explanation, ‘locations within the interior cavity of the casing’ as ‘regions of the interior cavity of the casing that are separated [by] laterally extending dividers,’ even though ‘locations’ is defined earlier in the claim.” [Doc. No. 107 at 41](#) (modification added). Indeed, “locations” is defined in claim 9 of

the '411 patent as “locations separated by the laterally extending dividers.” ’411 patent, claim 9. Nike also points out that Puma “also redefines, without explanation ‘via the gaps’ as ‘by moving through the gaps above said dividers,’ even though ‘the gaps’ is defined earlier in the claim.” Id. Claim 9 recites that “at least a portion of the laterally extending dividers being offset from the top wall to define a gap between each laterally extending divider and the top wall of the casing.” ’411 patent, claim 9.

Having reviewed the parties’ submissions and the intrinsic record, the Court finds that Puma’s proposed construction is unnecessarily complicated, difficult to follow, and not illuminating. The Court agrees with Nike that the claim phrase “operable to migrate between the locations within the interior cavity of the casing via the gaps” is intelligible on its face in light of the claims and the specification, and should be construed to have its ordinary and customary meaning.

IV. CONCLUSION

The claim terms at issue will be construed at trial and for all other purposes in this litigation in a manner consistent with the above rulings of the Court.

SO ORDERED.

/s/ Leo T. Sorokin
United States District Judge