

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

LEVEL SLEEP LLC,	§	
	§	
Plaintiff,	§	CIVIL ACTION NO. 2:18-CV-00119-RWS
	§	
v.	§	
	§	
SLEEP NUMBER CORPORATION, SELECT COMFORT RETAIL CORPORATION,	§	
	§	
Defendants.	§	

**MEMORANDUM OPINION AND ORDER**

On March 6, 2019, the Court held a hearing to determine the proper construction of the disputed claim terms in United States Patent Nos. 6,807,698 (“’698 Patent”), 7,036,172 (“’172 Patent”).<sup>1</sup> The Court has considered the arguments made by the parties at the hearing and in their claim construction briefs. Docket Nos. 56, 60 and 67. The Court has also considered the intrinsic evidence and made subsidiary factual findings about the extrinsic evidence where necessary. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). The Court issues this Claim Construction Memorandum and Order in light of these considerations.

**I. BACKGROUND**

The patents in dispute generally relate to mattress design and construction. The ’698 Patent was filed on January 1, 2002, was issued on October 26, 2004 and is titled “Bed Having Low Body Pressure and Alignment.” The disclosure is generally directed to a mattress comprising a combination of uniform displacement and variable displacement members for supporting a

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<sup>1</sup> The Court also heard argument on disputed terms in U.S. Pat. No. 6,202,239 (“’239 Patent”), which Defendants asserted in their counterclaims. Since the hearing, the parties stipulated to dismissal with prejudice regarding claims related to the ’239 Patent and no longer seek construction of the ’239 Patent’s terms. See Docket Nos. 83, 85.

reclining body to support the body in alignment and with uniform low pressure. '698 Patent at Abstract. The '172 Patent was filed on May 20, 2003, was issued on May 2, 2006 and is titled "Bed Having Low Body Pressure and Alignment." The disclosure is generally directed to a mattress that is structurally modified to support a reclining body in alignment with low body pressure. '172 Patent at Abstract; 6:9–14.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

## **II. APPLICABLE LAW**

### **A. Claim Construction**

"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) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) ("There is a heavy presumption

that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry. . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’ ” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’ ” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* (quoting *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); see also *Phillips*, 415 F.3d at 1323. “[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-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* at 1318; see also *Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court recently explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for

example, the background science or the meaning of a term in the relevant art during the relevant time period. See, e.g., *Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

*Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

## **B. Indefiniteness under 35 U.S.C. § 112**

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112. “A claim is invalid for indefiniteness if its language, when read in light of the specification and the prosecution history, ‘fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.’ ” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377 (Fed. Cir. 2015) (quoting *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014)).

The ultimate issue is whether someone working in the relevant technical field could understand the bounds of a claim. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 783 (Fed. Cir. 2010). When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc.*, 783 F.3d at 1378 (internal quotation marks omitted). Likewise, when a subjective term is used as a limitation in a claim, “the court must determine whether that patent’s specification supplies some standard for measuring the scope of the [limitation].” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005); see *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012).

**C. Functional Claiming and 35 U.S.C. § 112 ¶ 6 (pre-AIA) / § 112(f) (AIA)<sup>2</sup>**

A patent claim may be expressed using functional language. See 35 U.S.C. § 112 ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 (Fed. Cir. 2015). Section 112, Paragraph 6, provides that a structure may be claimed as a “means . . . for performing a specified function” and that an act may be claimed as a “step for performing a specified function.” *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But, § 112 ¶ 6 does not necessarily apply to all functional claim language. There is a rebuttable presumption that § 112 ¶ 6 applies when the claim language includes “means” or “step for” terms, and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. See *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (Section 112 ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure”) (internal quotation omitted); *Williamson*, 792 F.3d at 1349; *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (Section 112 ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’”) (internal quotation omitted).

When it applies, § 112 ¶ 6 limits the scope of the functional term “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and

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<sup>2</sup> Because the applications resulting in the patents-in-dispute were filed before September 16, 2012, the effective date of the America Invents Act (“AIA”), the Court refers to the pre-AIA version of § 112.

equivalents thereof.” Williamson, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. “The first step . . . is a determination of the function of the means-plus-function limitation.” Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc., 248 F.3d 1303, 1311 (Fed. Cir. 2001). “[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof.” Id. A “structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” Id. The focus of the “corresponding structure” inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is “clearly linked or associated with the [recited] function.” Id. The corresponding structure “must include all structure that actually performs the recited function.” Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112 does not permit “incorporation of structure from the written description beyond that necessary to perform the claimed function.” Micro Chem., Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1258 (Fed. Cir. 1999).

**III. AGREED TERMS**

The parties have reached agreement as to the following terms (Docket No. 53 at 1; Docket No. 70 at 12–13):

’698 and ’172 Patents	
<u>Term</u>	<u>Construction</u>
“sequencer” (’698 Patent, Claim 8)	“one or more components that can sense pressures in the mattress and adjust them to preestablished levels”
“the mattress as in claim 1, or 7” (’172 Patent, Claim 3)	“the mattress as in claim 1, or 2”

**IV. DISPUTED TERMS**

The parties’ dispute focuses on the meaning of four terms/phrases in the ’698 Patent, four terms/phrases in the ’172 Patent and two terms/phrases in the ’239 Patent. However, for certain terms, the parties agree that the issues are largely duplicative across the ’698 and ’172 Patents. See Docket No. 67 at i; Docket No. 60 at 12 n.8.

**A. “uniform supporting surface pressure to the reclining body” (’698 Patent)**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“a resilient top member having a top region possessing uniform displacement parameters for providing a <u>uniform supporting surface pressure to the reclining body</u> ” (’698 Patent claims 1, 38, 63)	Plain and ordinary meaning.  ALTERNATIVELY: “The top member provides uniform support along its length and width (as provided by, e.g., a top member of uniform thickness and firmness).”	“the same surface pressure supports the body at all points”

Docket No. 70 at 2–3; Docket No. 56 at 6; Docket No. 60 at 6. The parties submit that this term appears in Claims 1, 38 and 63 of the ’698 Patent. Docket No. 70 at 2.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with a preliminary construction of this term. The Court construed “uniform displacement parameters for providing a uniform supporting surface pressure to the reclining body” as “uniform displacement parameters that provide a uniform supporting surface pressure to the reclining body.”<sup>3</sup>

At the hearing, the parties agreed with the Court’s preliminary construction. Docket No. 79 at 4:8–9. The Court therefore construes “uniform displacement parameters **for providing** a uniform supporting surface pressure to the reclining body” to mean “uniform displacement parameters **that provide** a uniform supporting surface pressure to the reclining body.”

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<sup>3</sup> See ’698 Patent at 7:47–49.

**B. “low supporting surface pressure” (’698 Patent) / “low body pressure” (’172 Patent)**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“low supporting surface pressure” (’698 Patent, Claims 1, 38, 63)	Plain and ordinary meaning <u>or</u> “Lower surface pressure supporting the body as compared to conventional mattresses.”	“pressure below about 30 mmHg”
“low body pressure” (’172 Patent, Claims 1, 5, 11)		

Docket No. 70 at 3–6; Docket No. 56 at 10, 22; Docket No. 60 at 12. The parties submit that these terms may be construed identically across the patents. See Docket No. 60 at 12 n.8.; Docket No. 67 at 3. The parties also submit that the terms appear in Claims 1, 38 and 63 of the ’698 Patent and Claims 1, 5 and 11 of the ’172 Patent. Docket No. 70 at 3, 5.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with the following preliminary construction: plain meaning or “pressure of a level which materially reduces causes of bed-induced shifting.”<sup>4</sup>

**1. The Parties’ Positions**

Plaintiff submits that the specification explains that low supporting pressure is simply where “the supporting surface pressure on a reclining body is lower than the supporting surface pressure on the same reclining body lying on a conventional mattress, such as an innerspring mattress.” Docket No. 56 at 11 (citing ’698 Patent at 2:49–53, 4:37–41). According to Plaintiff, the patents describe that the ideal supporting surface pressure is below the typical ischemic pressure threshold of 30 mmHg. *Id.* Plaintiff argues that the claims do not require the ideal embodiment and objects to importing the embodiment into the claims. *Id.*

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<sup>4</sup> See ’172 Patent at 9:32–35 (“The terminology low body pressure means a pressure which is below a pressure threshold (typically the ischemic threshold) for comfortable sleep and of a level which materially reduces causes of bed-induced shifting.”).

Plaintiff also presents claim differentiation for support that “low body pressure” may include pressure levels above the ischemic pressure threshold. Claim 11 of the ’172 Patent, which ultimately depends from Claim 1, adds the limitation “wherein said low body pressure is below a low-pressure threshold.” *Id.* at 24. Similarly, Claim 12, which depends from claim 11, further adds “wherein said threshold is below an ischemic pressure threshold.” *Id.* Plaintiff argues that “low body pressure” must therefore include pressures above the ischemic pressure threshold to give Claim 12’s limitation any effect. *Id.*

Defendants argue that their proposal is not importing a limitation but clarifying the inherent ambiguity of a term of degree like “low.” Docket No. 60 at 13. According to Defendants, the “specification repeatedly and consistently teaches that ‘low’ pressure means a pressure of about 30 mmHg or below.” *Id.* For instance, the specification discloses that “[f]or a tuned bed made of properly selected foams and other materials, the low pressure threshold is below the ischemic pressure of about 30mmHg.” *Id.* at 15 (quoting ’698 Pat. at 13:15–17 and ’172 Pat. at 16:23–25). Defendants present a separate patent, publications and deposition testimony by Phil Torbet, an inventor listed on both patents, for support that the standard to measure low pressure is the ischemic pressure threshold. Docket No. 60 at 17.

Regarding claim differentiation in the ’172 Patent, Defendants argue that the patentee may have simply chosen to describe the bounds of “low body pressure” using different terms and that claim differentiation is not alone conclusive. *Id.* at 16 (citing *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380–81 (Fed. Cir. 2006)).

Plaintiff replies that there is no ambiguity requiring clarification and no need for any construction of this term. Docket No. 67 at 3.

## **2. Analysis**

Claim 1 of the ’698 Patent recites (emphasis added):

1. A mattress extending in a longitudinal direction, from a mattress head to a mattress foot, and extending in a lateral direction, normal to the longitudinal direction, for supporting a first reclining body, said body including a head part, a shoulder part, a waist part, a hip part and a leg part for reclining in the longitudinal direction with the head part toward the mattress head and the leg part toward the mattress foot, said mattress comprising,

a resilient top member having a top region possessing uniform displacement parameters for providing a uniform supporting surface pressure to the reclining body,

resilient supporting means below said top member, said resilient supporting means extending in said lateral direction and in said longitudinal direction with differing displacement parameters along the longitudinal direction for imparting differing vertical compressions along the longitudinal direction in the presence of said reclining body, said resilient supporting means for coacting with said top member for establishing alignment of the shoulder, waist and hip parts and for establishing **low supporting surface pressure** on the body,

a cover for covering said resilient top member and said resilient supporting means without interfering with the displacement parameters and the vertical compressions when supporting said reclining body.

Claim 1 of the '172 Patent recites (emphasis added):

1. A mattress, extending in a lateral direction from side to side and extending in a longitudinal direction from a mattress head to a mattress foot, for Supporting a reclining body, said mattress including a head part, a shoulder part, a waist part, a hip part and a leg part, said reclining body having a displacement profile, said mattress comprising,

a core extending in said longitudinal direction and in said lateral direction, said core for undergoing differing vertical displacements when supporting the reclining body,

said core having displacement parameters varying to match the displacement profile of the reclining body whereby the reclining body is supported by **low body pressure**,

said core having a plurality of regions where the vertical displacement in one or more of the regions varies to match the displacement profile of the reclining body to maintain the reclining body in alignment,

said core including one or more foam members having structural modification where the one or more foam members at different longitudinal positions exhibit different displacement parameters including different ILDs to support the reclining body with low body pressure and exhibits different vertical displacements to maintain the reclining body in alignment.

Claims 11 and 12 of the '172 Patent recite:

11. The mattress as in claim 3 wherein said low body pressure is below a low pressure threshold.

12. The mattress as in claim 11 wherein said threshold is below an ischemic pressure threshold.

The '172 Patent specification discloses:

The terminology low body pressure means a pressure which is below a pressure threshold (typically the ischemic threshold) for comfortable sleep and of a level which materially reduces causes of bed-induced shifting.

'172 Patent at 9:31–35.

The '698 Patent specification discloses:

Also, when the body is in spinal alignment, in an ideal mattress, the supporting pressures in the mattress against the skin must be low. The preferred pressure against the skin of a person in bed for an ideal mattress is generally below the ischemic threshold.

The '698 Patent at 2:60–64.

The parties primarily dispute how to define the upper bound for the term of degree, “low,” used in the disputed terms. Both patents include disclosures outlining how to measure low pressure levels. The specification consistently describes the pressures on a reclining body above the ischemic pressure threshold as a source of poor sleep. See '698 Patent at 1:63–67 (“When parts of the body (usually shoulders and hips in conventional mattresses) are subjected to pressures above the ischemic threshold, discomfort results and, hence, a person shifts to remove the discomfort and threat to tissue damage.”); '172 Patent at 1:66–2:3 (same). The '172 Patent further discloses that low body pressure is pressure of a level below a pressure threshold for comfortable sleep, typically the ischemic pressure threshold, and of a level which materially reduces causes of bed-induced shifting. '172 Patent at 9:31–35. The '698 Patent further discloses that surface pressures in the patent’s embodiments are “typically low and below a low pressure threshold. For a tuned bed made of properly selected foams and other materials, the low pressure threshold is below the ischemic pressure of about 30 mmHg.” '698 Patent at 13:11–15. Defendants argue that the disputed terms should therefore be limited to pressure levels below 30 mmHg or the ischemic

pressure threshold. See Docket No. 60 at 15. Defendants' extrinsic evidence supports the specification's teaching that 30 mmHg and the ischemic pressure threshold are important considerations for determining low body pressure levels. See *id.* at 17.

Despite disclosures discussing pressure thresholds (particularly the ischemic pressure threshold), the patents also distinguish between low pressure and low pressure thresholds. The '698 Patent describes the supporting surface pressure in its embodiments as "typically low and below a low pressure threshold." *Id.* The '172 Patent includes Claims 11 and 12, which depend from Claim 1, and support that the scope of "low body pressure" in Claim 1 is broader than being "below a low pressure threshold" or "below the ischemic pressure threshold." See '172 Patent at Claims 1, 11, 12; *InterDigital*, 690 F.3d at 1324. Accordingly, the Court rejects Defendants' proposal to restrict the scope of disputed terms to pressures below about 30 mmHg or below the ischemic pressure.

Defendants also argue that the patents explicitly disclose what is not "low" pressure. Docket No. 60 at 15–16. Defendants assert that the patents draw a distinction between pressures which are high and cause shifting (40 and 80 mmHg), and pressures that are low and do not cause shifting (below about 30 mmHg). *Id.* (citing '698 Patent at 11:61-67, Figure 4; '172 Patent at 15:32-39, Figure 10). Even accepting Defendants' argument, the cited disclosures do not support Defendants' specific numeric proposal because the disclosures fail to clarify whether pressures between 30 mmHg and 40 mmHg are "low."

Numerical precision is not required when using terms of degree, as all "that is required is some standard for measuring the term of degree." *Exmark Mfg. Co. v. Briggs & Stratton Power Prod. Grp., LLC*, 879 F.3d 1332, 1346 (Fed. Cir. 2018). Defendants' cited examples do not sufficiently establish a specific bright-line pressure level but rather show that the specification

provides a person of ordinary skill in the art sufficient standards for determining what pressure levels cause bed-induced shifting. The '172 Patent's specification further discloses that the "low body pressure" is pressure "of a level which materially reduces causes of bed-induced shifting." '172 Patent at 9:31–35.

As outlined above, and submitted by Defendants, the patents include numerous examples and explanations of pressure thresholds for comfortable sleep, including levels that the patents consider too high. See, e.g., '698 Patent at 11:61-67, Figure 4; '172 Patent at 15:32-39, Figure 10; Docket No. 60 at 15–16. Accordingly, the patents include sufficient disclosure for a person of ordinary skill to measure and determine pressure levels which materially reduce the causes of bed-induced shifting and set the upper-limit of the disputed terms. See *Exmark*, 879 F.3d at 1346.

### **3. Court's Construction**

The Court construes the disputed phrases "**low supporting surface pressure**" and "**low body pressure**" as "**pressure of a level which materially reduces causes of bed-induced shifting.**"

**C. “resilient supporting means” (’698 Patent)**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“resilient supporting means”  (’698 Patent, Claims 1–4, 14–17, 22, 25, 27, 30-32, 38, 47, 55, 59, 63)	Not subject to § 112 ¶ 6, “A combination of compression-resistant members and materials that includes a plurality of foam members.”  <u>or</u>  Function: “for imparting differing vertical compressions along the longitudinal direction in the presence of said reclining body, said resilient supporting means for coacting with said top member for establishing alignment of the shoulder, waist and hip parts and for establishing low supporting surface pressure on the body”  Structure: “combination of compression-resistant members and materials that includes a plurality of foam members below the top member (as in Figs. 1-3, 5-6, 9-32, 34, 35) and equivalent structures”	Subject to § 112 ¶ 6  Function: “for imparting differing vertical compressions along the longitudinal direction in the presence of said reclining body, said resilient supporting means for coacting with said top member for establishing alignment of the shoulder, waist and hip parts and for establishing low supporting surface pressure on the body”  Structure: “contoured surfaces having the same shape as compared to the human body (e.g., as shown in Figs. 24, 26)”

Docket No. 70 at 7–8; Docket No. 56 at 13; Docket No. 60 at 19. The parties submit that the terms appear in Claims 1–4, 14–17, 22, 25, 27, 30–32, 38, 47, 55, 59 and 63 of the ’698 Patent. Docket No. 70 at 7.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with the following preliminary construction: Not subject to § 112 ¶ 6 and given its plain meaning.

**1. The Parties’ Positions**

The parties dispute whether the term “resilient supporting means” is subject to § 112 ¶ 6 and, if so, how to define the corresponding structure. Plaintiff argues that the claims recite sufficient structure to overcome the rebuttable presumption that the disputed term is subject to § 112 ¶ 6 because it contains the word “means.” Docket No. 56 at 14. According to Plaintiff, the

disputed term “connotes sufficient structure to a POSITA . . . it refers to materials that provide positive (upward) support when compressed, such as by a reclining body, and then return to their original shape after compressive load is removed.” *Id.* (citing Docket No. 56-1 (“Friis Decl.”) ¶ 25). Plaintiff asserts that a POSITA would understand what materials provide resilient support and that many of the claims specifically recite that the “resilient supporting means” must include foam or air lifts. *Id.* (citing ’698 Patent at Claims 14, 24, 38, 59, 60 and 63).

Plaintiff also asserts that the claim language provides sufficient details about the structure because it recites “the location of the resilient supporting means (below the top member), the extent of the resilient supporting means (extending in both the lateral and longitudinal directions), and the physical properties of the resilient supporting means (it must exhibit ‘differing vertical compressions along the longitudinal direction[)].’ ” *Id.* at 15 (citing ’698 Patent at Claims 1, 38, 63). Plaintiff argues that, whether or not § 112 ¶ 6 applies, the specification includes sufficient disclosure that resilient supporting means may include lifts inflatable with any gas or liquid suitable for a bed environment, such as water or air, and other compression-resistant members, such as foam members. Docket No. 56 at 16 (citing ’698 Patent at 9:25–30, 9:59–64; 22:37–23:5).

Defendants argue that the dispute is not centered around the applicability of § 112 ¶ 6 but whether the patentee disavowed claim scope during prosecution. See Docket No. 60 at 22 n.14 (“However, resolution of that issue is unnecessary. Whether construed as a means-plus-function term or not, ‘resilient supporting means’ should be limited to the specific contoured shapes that the inventors relied on to obtain their patent.”). Defendants argue that the patentee narrowed the scope of the claims in an Office Action Response where the patentee stated:

By way of distinction, the contoured embodiments[] of the present invention, using the Regan terminology, might be characterized as “contoured surfaces having **the same shape** as compared to the human body so that the mattress will tend to straighten the body while at the same time imparting low body pressure.” The

difference between **inverted shape** in Regan and **same shape** in the present is the difference between undesired high body pressure in Regan and desired low body pressure in the present invention.

Docket No. 60 at 20 (citing Docket No. 60-7 at 35–36 (emphasis in original)). Defendants assert that Figure 25 of the '698 Patent is an example of the “same shape” embodiments described by the patentees during prosecution. *Id.* at 21.

For the following reasons, the Court finds that the term “**resilient supporting means**” is not governed by 35 U.S.C. § 112 ¶ 6 and should be given its plain meaning.

## 2. Analysis

The term “resilient supporting means” appears in asserted Claims 1–4, 14–17, 22, 25, 27, 30-32, 38, 47, 55, 59 and 63 of the '698 Patent. Because the word “means” appears in the dispute claim language, there is a rebuttable presumption that § 112 ¶ 6 applies. *Williamson*, 792 F.3d at 1348. That rebuttable presumption may be overcome if “the claim recites sufficient structure for performing the described functions in their entirety.” *TecSec, Inc. v. IBM Corp.*, 731 F.3d 1336, 1347 (Fed. Cir. 2013) (citation omitted). “In undertaking this analysis, we ask if the claim language, read in light of the specification, recites sufficiently definite structure to avoid § 112, ¶ 6.” *Media Rights*, 800 F.3d at 1372 (quoting *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014)).

The Court finds that the term is not subject to § 112 ¶ 6. Plaintiff has met its burden to overcome the rebuttable presumption by demonstrating that the claims themselves contain sufficient structure for performing the described functions in their entirety. The parties agree that the function is “imparting differing vertical compressions along the longitudinal direction in the presence of said reclining body, said resilient supporting means for coacting with said top member for establishing alignment of the shoulder, waist and hip parts and for establishing low supporting surface pressure on the body.” See Docket No. 70 at 7. Claim 1, for example, recites that the

resilient supporting means is “below the top member,” that it “extend[s] in said lateral direction and in said longitudinal direction with differing displacement parameters along the longitudinal direction in the presence of said reclining body.” Claim 63, for example, recites “said resilient supporting means including a plurality of foam regions extending laterally.”

Defendants do not directly respond to Plaintiff’s arguments but, instead, assert that the dispute is primarily over prosecution disclaimer as opposed to the applicability of § 112 ¶ 6. See Docket No. 60 at 22 n.14. Accordingly, Plaintiff has met its burden to overcome the rebuttable presumption that § 112 ¶ 6 governs the disputed term “resilient supporting means.” Further, to whatever extent relevant, Plaintiff’s expert declaration supports that the claim language connotes sufficient structure that the disputed term need not be subject to § 112 ¶ 6. See Friis Decl. ¶ 25

Regarding the construction for “resilient supporting means,” Defendants fail to show sufficient disavowal by the patentees to justify limiting the scope of the claims as Defendants request. Prosecution disclaimer “precludes patentees from recapturing the full scope of a claim term only when the patentee clearly and unmistakably disavows a certain meaning in order to obtain the patent.” *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1367 (Fed. Cir. 2018). “When the alleged disclaimer is ambiguous or amenable to multiple reasonable interpretations, we decline to find prosecution disclaimer.” *Id.*

During the prosecution of the ’698 Patent, the PTO issued an Office Action that included a requirement for restriction of the claims and cited various “relevant art” references for “teaching the use of ‘matched’ layers of varying thickness.” Docket No. 60-7 at LS0000128–131. Included in that list of references are U.S. Patent Nos. 3,885,258 and 4,053,957 to Regan (“Regan”). *Id.* at LS0000131. The patentee amended the claims in a subsequent response and remarked that the previously-cited references, “when considered alone or in combination[,] do not address the

combination of the two essential components of the elected claims . . . namely, alignment of and low supporting surface pressure on the body.” Id. at LS0000139.

The patentee further distinguished the contoured mattress surfaces of the Regan references as “exactly opposite” of claimed inventions because “[a]t the waist, the softer upper layer is thickest where the least displacement occurs” and, therefore, the Regan references did not “conform the mattress design to the anatomical shape of the supported body.” Id. The patentee asserted that the design in the Regan references impart “higher body pressure at the shoulder and hips” and thus “achieve alignment only at the expense of increasing body pressure.” Id. at LS0000139. By contrast, the patentees describe the “contoured embodiments [ ]of the present invention” as achieving both alignment and low pressure. Id. at LS0000139-40

Defendants have not shown that the patentee’s statements may be read as a “clear and unmistakable” disavowal of claim scope. The patentee distinguishes the claimed contoured embodiments over the Regan references by explaining that the Regan references’ disclosures do not achieve both alignment and low body pressure. It is ambiguous whether the patentee was categorically disclaiming any contour not conforming to the anatomical shape of a supported body, or whether the patentee was explaining why the contours disclosed by the Regan references could not satisfy the claimed requirement that the mattress provide both alignment and low body pressure. The patentee also explicitly stated that any remarks using the terms “same shape” and “inverted shape” were “using the Regan terminology.” Id. at LS0000139. Because the alleged disclaimer is amenable to multiple reasonable interpretations, Defendants have not shown a clear disavowal of claim scope. See *Core Wireless*, 880 F.3d at 1367; see also *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007).

The parties do not appear to dispute that, absent any prosecution disclaimer, the term “resilient supporting means” may be given its plain and ordinary meaning. See Docket No. 79 at 38:15–18 (“Is what the inventors said to the Patent Office -- was that a limit on their invention or not? I don't think there is -- if it's not, then there is no other real dispute between the parties.”), 41:11–14 (“The crux of the issue here is really whether or not the patentee disclaimed any of the scope of the term ‘resilient supporting means’ during construction.”). Accordingly, because the disputed term is not subject to § 112 ¶ 6 or prosecution disclaimer, and the parties do not appear to otherwise dispute the meaning of the term, the disputed term will be given its plain meaning.

### 3. Court’s Construction

The term “**resilient supporting means**” is not governed by 35 U.S.C. § 112 ¶ 6 and will be given its plain meaning.

#### D. “**structural modification**” (’172 Patent)

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“structural modification”  (’172 Patent, Claim 1)	Plain and ordinary meaning.  ALTERNATIVELY: “Modifying foam so that its displacement parameters are not uniform as by cutting or changing the thickness of the foam.”	“formed by deep penetration of cuts from a foam surface into or through a foam layer (i.e., not formed by convolution)”

Docket No. 70 at 8–9; Docket No. 56 at 25; Docket No. 60 at 25. The parties submit that this term appears in Claim 1 of the ’172 Patent. Docket No. 70 at 8.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with a preliminary construction of this term: “non-ornamental modification of the native displacement parameters of a foam or other material by removal of material in any combination of the X-axis, Y-axis, and Z-axis directions.”<sup>5</sup>

<sup>5</sup> See ’172 Patent at 33:59–34:65 (“Commercially available [Surface Modification Technology] has been primarily

At the hearing, the parties agreed with the Court’s preliminary construction. Docket No. 79 at 4:8–9. The Court therefore construes **“structural modification”** to mean **“non-ornamental modification of the native displacement parameters of a foam or other material by removal of material in any combination of the X-axis, Y-axis, and Z-axis directions.”**

**E. “indentation load deflection value (’698 Patent) / “Indentation Load Deflection” (“ILD”) (’172 Patent)**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“indentation load deflection value”  (’698 Patent, Claims 14, 46–48, 52)  “ILD (Indentation Load Deflection)” / “ILD” / “ILDs”  (’172 Patent, Claims 1–3, 6, 9, 14–16, 18, 28–30)	“A measure of resistance to compression for resilient foam materials.”	“force required to compress material a percentage of its original thickness as defined in the ISO 2439 standard”

Docket No. 70 at 8–9; Docket No. 56 at 25; Docket No. 60 at 25. The parties submit that these terms may be construed identically across the patents. See Docket No. 60 at 22 n.15.; Docket No. 79 at 59:20–21. The parties also submit that the terms appear in Claims 14, 46–48 and 52 of the ’698 Patent and Claims 1–3, 6, 9, 14–16, 18, 28–30 of the ’172 Patent. Docket No. 70 at 8.

Shortly before the start of the March 6, 2019 hearing, the Court provided the parties with the following preliminary construction: plain meaning or “the force that is required to compress material a percentage of its original thickness.”<sup>6</sup>

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directed to ornamental appearance. In order to more effectively modify the displacement parameters of foam layers, Structural Modification (‘SM’) technology is employed.”), 27:11–15 (“The important criteria to be recognized is that the native displacement parameters of a foam or other material can be structurally modified with wide latitude by removal of material in any combination of the X axis, Y axis and Z axis directions.”)

<sup>6</sup> See ’172 Patent at 4:5–6.

## 1. The Parties' Positions

The parties primarily dispute whether the terms should be construed to include the '172 Patent's disclosure of an external ISO standard. Defendants argue that "indentation load deflection" is a term of art in the mattress industry, which a skilled artisan in the field would understand refers to a standardized measure. Docket No. 60 at 23. Defendants assert that the '172 Patent expressly defines "ILD" using the ISO 2439 standard:

Indentation Load Deflection (ILD) is a hardness measurement defined in the ISO 2439 standard. ILD in the standard is defined as the force that is required to compress material a percentage of its original thickness, that is, compared 25%, 40% and 60% from its original thickness (using in the standard a circular plate of 322 cm<sup>2</sup>). These ILD's are designated ILD25%, ILD40% and ILD60%.

'172 Patent at 4:3-9. Defendants argue that the terms should be construed the same across patents, even though the definitional statement does not appear in the '698 Patent but, rather, in the later-issued '172 Patent. Docket No. 60 at 24 (citing *Contech Stormwater Solutions, Inc. v. Baysaver Technologies, Inc.*, 310 F. App'x 404, 407–08 (Fed. Cir. 2009)). Defendants also argue that Plaintiff fails to present any evidence supporting a generic construction of "measure of resistance" rather than the express definition found in the '172 Patent. *Id.*

Plaintiff counters that a person of ordinary skill in the art would construe the term as Plaintiff proposes and that Defendants improperly import limitations from an extrinsic document. Docket No. 56 at 18, 20 (citing *Friis Decl.* ¶ 28; '698 Patent at 5:18–20, 13:27–30 and '172 Patent at 16:35–38). Plaintiff argues that there is no clear intent to define the terms according to ISO 2439 because the patents describe multiple ways to determine ILD. *Id.*; Docket No. 67 at 8. As an example, Plaintiff asserts that the tables in the '698 Patent's specification refer to "IFD" or "indentation force deflection" and the specification states that "ILD (indentation load deflection) [is] sometimes called IFD (indentation force deflection)." Docket No. 56 at 18 (citing '698 Patent at 15:40-42; '172 Patent at 22:24-26). Plaintiff also asserts that the '172 Patent's claim language

recites that a single foam member may exhibit different ILDs at different positions, contrary to the ISO's assumption that a material has single ILD. Docket No. 67 at 8 n.6. Plaintiff further argues that new matter added in the '172 Patent should not be used to construe claim terms appearing in the '698 Patent. Id. at 9 (citing *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1167– 68 (Fed. Cir. 2004); *iLife Techs. Inc. v. Body Media, Inc.*, 90 F. Supp. 3d 415, 427 (W.D. Pa. 2015); *Arthrex, Inc. v. Smith & Nephew, Inc.*, No. 2:15-CV-1047-RSP, 2016 WL 4211504, at \*21 (E.D. Tex. Aug. 10, 2016)).

## 2. Analysis

Claim 14 of the '698 Patent, for examples, recites (emphasis added):

14. The mattress as in claim 1 where said resilient supporting means include an outside foam member having displacement parameters including a high **indentation load deflection value**, said outside foam member extending around a substantial portion of a perimeter of said mattress to provide a firm outside perimeter for said mattress.

The '698 Patent specification discloses:

The resistance to compression for resilient foam materials is measured by an ILD (indentation load deflection) value.

\* \* \*

The displacement parameters for foam materials include an ILD (indentation load deflection) value that indicates the resistance to compression of the material.

\* \* \*

The displacement parameters of foams are complex. Foams have varying density, varying ILD (indentation load deflection) sometimes called IFD (indentation force deflection) and many other parameters.

Claim 1 of the '172 Patent, for example, recites (emphasis added):

1. A mattress, extending in a lateral direction from side to side and extending in a longitudinal direction from a mat tress head to a mattress foot, for Supporting a reclining body, said mattress including a head part, a shoulder part, a waist part, a hip part and a leg part, said reclining body having a displacement profile, said mattress comprising,

a core extending in said longitudinal direction and in said lateral direction, said core for undergoing differing vertical displacements when supporting the reclining body,

said core having displacement parameters varying to match the displacement profile of the reclining body whereby the reclining body is supported by low body pressure,

said core having a plurality of regions where the vertical displacement in one or more of the regions varies to match the displacement profile of the reclining body to maintain the reclining body in alignment,

said core including one or more foam members having structural modification where the one or more foam members at different longitudinal positions exhibit different displacement parameters including different **ILDs** to support the reclining body with low body pressure and exhibits different vertical displacements to maintain the reclining body in alignment.

The '172 Patent specification includes the relevant disclosures in '698 Patent's specification as well as additional disclosures:

Indentation Load Deflection (ILD) is a hardness measurement defined in the ISO 2439 standard. ILD in the standard is defined as the force that is required to compress material a percentage of its original thickness, that is, compressed 25%, 40% and 60% from its original thickness (using in the standard a circular plate of 322 cm).

\* \* \*

In FIG. 36, foam layers 36-1 and 36'-1 are structurally modified with slots 36-2 and 36'-2. The slots 36-2 and 36'-2 are arrayed in a parallel pattern in the Y-axis direction with variable depth in the X-axis direction. The deeper slots near the center of each of the layers 36-1 and 36'-1 significantly modify the effective ILD of the FIG. 36 two-layer stack in a non-linear manner in the X-axis direction.

\* \* \*

In FIG. 40, the holes 39-2 of a row taken along section line 40-40' of FIG. 39 are arrayed in a regular pattern with 1 inch diameters and with 1 inch spacing between hole edges in the X-axis direction. The foam layer 39-1 of FIG. 39 when compared with the convolute foam layer 27-1 of FIG. 7 reduces the ILD by an amount that is less relative to the uniform layer of foam that existed prior to structural modification.

\* \* \*

With such dimensions, one example of a base material originally uniformly 4 inch thick with an original ILD of 32 has an effective ILD of about 15 after the structural

modification. Of course, the other displacement parameters of the original material are similarly modified as a result of the structural modification

\* \* \*

The foam layer 11-10 is manufactured from a 23REF material that establishes the base ILD and other base compression parameters. The structural modification of the foam layer 11-10 material is accomplished with cone-shaped holes 68 that establish varying compression parameters in the X-axis direction that tend to match the displacement of the mattress core caused by reclining bodies.

'172 Patent at 4:4–5; 27:45–51; 28:13–20; 34:26–32; 36:60–67 (emphasis added).

At the March 6, 2019 hearing, Defendants submitted that their proposed construction is not substantially different from Plaintiff's proposal or the Court's preliminary construction except for Defendants' inclusion of the ISO 2439 standard. See Docket No. 79 at 50:5–11 (“Now, Sleep Number would actually be okay going with the Level Sleep language here colored in blue -- I think that's the language that the court has suggested, or something very close to it -- as long as it also includes the green language from ours, the definition in the ISO standard.”).

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”<sup>7</sup> *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014).

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669

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<sup>7</sup> Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. See, e.g., *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

F.3d at 1365); see also *Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249. To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); see also *Thorner*, 669 F.3d at 1366. “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

Here, the patentee’s multiple definitions and descriptions of “indentation load deflection” do not support Defendants’ arguments that the patentee specifically defined the disputed terms or intended to limit their scope from their ordinary and accustomed meaning. Defendants rely on the ’172 Patent specification’s disclosure that “Indentation Load Deflection (ILD) is a hardness measurement defined in the ISO 2439 standard. ILD in the standard is defined as the force that is required to compress material a percentage of its original thickness, that is, compressed 25%, 40% and 60% from its original thickness (using in the standard a circular plate of 322 cm).” Docket No. 60 at 23.

However, the ’172 Patent also includes disclosures that “[f]oams have varying density, varying ILD (indentation load deflection) sometimes called IFD (indentation force deflection) and many other parameters as identified above” and “[t]he displacement parameters for foam materials include an ILD (indentation load deflection) value that indicates the resistance to compression of the material.” ’172 Patent at 24–27; 16:35–38. The patentee’s use of different definitions and descriptions for the disputed terms does not demonstrate that the patentee defined the terms “with

reasonable clarity, deliberateness, and precision” or “clearly express[ed] an intent to define the term” as narrowly as Defendants propose. See *GE Lighting Solutions*, 750 F.3d at 1309.

To the extent the specification discloses how to construct a mattress based on specific ISO 2439 values, those disclosures appear to be embodiments and examples only. See, e.g., ’172 Patent at 27:45–51; 28:13–20; 34:26–32; 36:60–67. The examples also disclose “structurally modifying” materials to depart from their “base” or “original” ISO 2439 ILD values. *Id.* At the March 6, 2019 hearing, Defendants represented that once “we have the ILD of the foam . . . [w]e know what that foam’s ILD is. It doesn’t matter if you later cut it up. It’s still the same foam. It’s still the same ILD.” Docket No. 79 at 56:19–23. Defendants’ representations regarding ILD conflict with numerous examples of the patentee’s use of the disputed terms in the specifications and the claims. For instance, Claim 14 of the ’172 Patent recites, in part:

said core including one or more foam members having structural modification where **the one or more foam members at different longitudinal positions exhibit different displacement parameters including different ILDs** to support the reclining body with low body pressure and exhibits different vertical displacements to maintain the reclining body in alignment.

The claim language itself therefore includes a single foam member with varying ILDs. The ’172 specification’s disclosures of modifying the “base” or “original” ILD for foam materials further conflict with Defendants’ assertions that ILD does not change for foams and does not support that the patentee intended to restrict the disputed terms to specific values or standards.

Accordingly, Defendants have not demonstrated that the patentee intended to specifically define or limit the disputed terms to the requirements of ISO 2439.

### 3. Court’s Construction

The terms “**indentation load deflection value**,” “**ILD (Indentation Load Deflection)**,” “**ILD**” and “**ILDs**” will be given their **plain and ordinary meaning**.

**F. “ischemic pressure threshold” (’172 Patent)**

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“ischemic pressure threshold”  (’172 Patent, Claim 12)	“Ischemic pressure is the amount of pressure that causes a discontinuance of capillary blood flow, which can cause tossing and turning. The ischemic pressure threshold is commonly about thirty mmHg (millimeters of mercury).”	“Ischemic pressure is the amount of pressure that causes a discontinuance of capillary blood flow. The ischemic pressure threshold is about thirty mmHg (millimeters of mercury).”

Docket No. 70 at 12; Docket No. 56 at 27; Docket No. 60 at 30. The parties submit that this term appears in Claim 12 of the ’172 Patent. Docket No. 70 at 12.

Since the briefing was submitted, Plaintiff no longer seeks to add Claim 12 of the ’172 Patent to its infringement contentions. See Docket No. 82. As Claim 12 is the only asserted claim including the term “ischemic pressure,” the parties agree this term no longer requires construction. See Docket No. 84.

**V. CONCLUSION**

The Court adopts the constructions above for the disputed and agreed terms of the ’698, ’172 and ’239 Patents. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this Order is constrained by the Court’s reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other’s claim construction positions and should not expressly refer to any portion of this Order that is not an actual construction adopted by the Court. The references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

**IT IS SO ORDERED.**

**SIGNED this 22nd day of May, 2019.**

  
ROBERT W. SCHROEDER III  
UNITED STATES DISTRICT JUDGE