

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

CASE NO. 12-60215-CIV-SEITZ/SIMONTON

FLEXITEEK AMERICAS, INC. and
FLEXITEEK INTERNATIONAL AS,
Plaintiffs,

vs.

PLASTEAK, INC. and PLASDECK,
INC.,
Defendants.

ORDER ON CLAIMS CONSTRUCTION

THIS CAUSE came before the Court on the parties' Joint Claims Construction Statement [DE 136], Supplemental Joint Claims Construction Statement [DE 148], and following a non-evidentiary Technology Tutorial held on June 6, 2013. The parties have advised that a *Markman* hearing is unnecessary for claims construction in this matter and that the Court could construe the disputed claim terms solely on the papers. To that end, the parties have jointly identified three terms from the patent-in-suit, U.S. Patent 6,895,881 (the "'881 patent"), which are disputed and require claims construction: (1) longitudinal slots; (2) interconnected; and (3) tightly curved. After a careful review of the parties' claims construction statements and the '881 patent and its file history, the Court construes the claims as follows:

I. CLAIM CONSTRUCTIONS**a. Longitudinal Slots**

The term "Longitudinal Slots" appears in cancelled Claim 1 and all of the independent claims of the re-examined '881 patent, Claims 9, 12, 15, 18, 22, and 27.¹ The following claim elements language appears in all 7 of these claims:

. . . the planks or sheet are formed with longitudinal slots at the underside thereof for facilitating forming of curved coverings and for acting as a base for a glue or adhesive material by means of which the surface covering is mounted on a surface recipient. . .

¹ Longitudinal slots are also referred to in Claims 3, 7, and 27. There they are describe as ". . . wherein the planks or sheet are formed with a plurality of longitudinal slots at the underside. . ." Both usages are incorporated into Claim 27. The absence of slots is referred to in Claim 4 in the description of the intermediate caulking strips: "The intermediate caulking strips have lower surfaces without longitudinal slots."

Based on the plain language of the claims, longitudinal slots serve two distinct functions - they facilitate the planks' curvature and they serve as a base for glue or adhesive. The parties agree, based on their proffered definitions, that the construction of "longitudinal slots" should recite both of these functions, should refer to the slots in the plural, and that it should describe the slots as running the length of the plank or sheet. The key disagreement is about whether any other limitation should be added to claim as construed.

Plaintiffs propose the following definition for longitudinal slots:

Recesses that extend in the direction of the length of the planks or sheet that forms a volume sufficient to (1) facilitate curving and (2) provide a surface connection by means of glue or adhesive material to a surface being covered.²

Defendants have proposed two alternatives. Both include limitations concerning how the slots are spaced relative to each other and the depth and width of the slots. The inclusion of these additional limitations is discussed in turn below. Defendants' two proffered definitions differ from each other in how the depth and width limitation is expressed. The first alternative describes the depth and width of the slots by an expression of relative numerical value as follows:

Multiple recessed grooves spaced relatively close together, in relatively equal parallel distance to each other for the length of the panel or sheet, wherein the grooves have a depth of approximately 25 to 75 percent of the material thickness, and width at the underside of approximately 25 percent of the material thickness, increasing the ability to curve and increasing surface area for adhesion.

The second definition describes the depth and width of the slots in functional terms:

Multiple recessed grooves spaced relatively close together, in alternating, relatively equal, parallel grooves and ridges, for the length of the panel or sheet, wherein the grooves have a depth and width of a material percentage of the material thickness such that, in combination, they materially increase the ability to curve and increase surface area for adhesion.

Slot Spacing

Claims are construed to reflect how "one ordinarily skilled in the art" would understand the claim term at issue. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). Claims are context-

² Plaintiff notes that its preferred construction is one wherein the slots are described only as running the length of the planks and being used to facilitate curving and as a base for adhesive but has amended its definition to include that the slots "form a volume" to "assist the Court in its construction." [DE 148, p. 3.]

dependent and must be interpreted in light of the patent's specifications and prosecution history. *Id.* Defendants propose that the language "grooves spaced relatively close together, in alternating, relatively equal, parallel grooves and ridges" should be included in the claim as construed. Here, a person of ordinary skill in the art who read the '881 patent and was familiar with its file history would understand that even though slot spacing is neither discussed in the claim language nor the text of the specification, the patent nonetheless teaches parallel-running, longitudinal slots spaced relatively close together.

The specification discloses this slot-configuration in figures 1, 6, and 11. In every instance where slots are illustrated in the specification they run in parallel to each other, are spaced relatively close together, and are equally apart. Moreover, the slot spacing shown in the illustrated figures is corroborated by the descriptions of slot spacing from the prosecution history. The Declaration of Dr. C.K. Rhee, which the patent owner filed during the reexamination of the '881 patent, specifically notes that the inventor placed the slots "in a very tight pattern. . . [t]he close longitudinal slots substantially increase the mechanical ability of the sheet and plank to curve." ["Declaration of Dr. C.K. Rhee, Ph.D." DE 77-4, p. 21]. As is discussed below, this ability to be laid in tightly curved formations affixed only with glue or adhesive is the '881 patent's significant advancement over the prior art. The placement of the slots is integral to this ability. As Dr. Rhee notes: "The specification indicates that the underside longitudinal structure is illustrated in Figure 6 which describes a number of parallel slots or ribs which are spaced closely at roughly equivalent distance, . . . so that it can be curved in the manner set forth in Figures 3, 4, and 10. The degree of curvature described in those figures are [sic] tight or at extreme angles. . ." [*Id.*, p. 22]. One skilled in the art would understand that to achieve tight curving with only the use of glue or adhesive, the primary advancement of the invention, the longitudinal slots should run parallel to each other and be spaced in a close-together pattern. As such, the claim as construed will include language that reflects this configuration.

Depth and Width

A statement concerning the depth and width of the slots will also be incorporated into the construction of the term longitudinal slots. Claims must be construed with a full understanding of what

the actual invention contained within the patent is and what the patent intended to claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005); *United States v. Adams*, 383 U.S. 39, 49 (1966) (“[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.”). Here, it is especially important that the depth and width of the slots be included in order to capture the essence of the invention because the invention taught by the ‘881 patent is an exaggeration of a “natural” condition.

The invention of the ‘881 patent is the addition of longitudinal slots to the underside of the plank or sheet which enable the plank or sheet to be laid in tightly curved formations and affixed only with glue or adhesive. The invention, presumably, was borne out of the inventor’s observation that increased flexibility in the longitudinal direction is a bi-product of the extrusion process itself. As Dr. Rhee describes, the problem of the prior art that the invention solved was one of durability. The inherent polymer chemistry of the plastics and resins used to make thermoplastic products limits the finished products’ flexibility. These materials have a degree of inherent stiffness but this can be overcome by the addition of plasticizer. The products become more flexible, but a consequence of adding plasticizer is diminished durability.

As described above, the inventor of the ‘881 patent was aware that the extrusion process aligned the molecules in the direction of extrusion which resulted in an “extended longitudinal structure” that adds “an extra degree of flexibility along the axis that is slightly greater than the degree of flexibility that is inherent in the material itself.” [DE 77-4, p. 21]. His inventiveness was recognizing that by mimicking these molecular arrangements by slotting the underside of the plank, one could achieve flexibility well beyond what was yielded by extrusion alone. The addition of these longitudinal slots “represents the true innovation of this patent which is novel and patentable.” [*Id.*, p. 20]. Because enhanced flexibility is attained through mechanical rather than chemical means, durability is not compromised.

A difficulty of claim construction in this case is that because the invention is an enhancement of a “natural” property of the extrusion process, the claim as construed must adequately capture what the invention is without being overbroad. Defendants’ first proffered definition, however, is inadequate

because it tacks toward the overly-specific. It addresses the depth and width of the slots in numeric terms, specifically that the slots have a depth of “25 to 75 percent of the material thickness” and “a width at the underside of approximately 25 percent of the material thickness.” Defendants’ justification for using such a specific description is that the claims at issue are means-plus-function claims, and as such, the claims are limited to the embodiments disclosed by the specification and equivalents. These claims are not means plus function claims and should not be limited as Defendants propose.³ See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 – 1314 (Fed. Cir. 2005).

Defendants’ second definition appropriately captures the distinction between the slots claimed in the ‘881 patent and the molecular formations “naturally” yielded by extrusion. The word “material” in the Defendants’ second definition distinguishes the invention, slots that are enhanced over the latent longitudinal structures created incident to extrusion from the art not taught by the patent without importing numerical descriptors that would unduly limit the claims:

. . . the grooves have a depth and width of a material percentage of the material thickness such that, in combination, they materially increase the ability to curve and increase surface area for adhesion

Plaintiffs contend that the prosecution history disclaims size-based limitations and quote the following language from the re-examination:

Claim 1 broadly recites planks formed with longitudinal slots at the underside thereof ‘for facilitating forming of curved coverings and for acting as a base for a glue or adhesive

³ Plaintiffs have not addressed Defendants’ argument that the claims at issue are means-plus-function claims. The language of the claims uses the phrase “*by means of which*.” Use of the word “means” in claim language triggers the presumption that the claim falls under the ambit of 35 U.S.C. § 112 ¶6, which allows for a claim element to be expressed as a means for performing a function without the recital of a corresponding structure for performing the function with the claim construed to cover the corresponding structure in the specification and equivalents. *Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361 (Fed. Cir. 2005). The presumption is rebutted where the claim language itself provides the structure that performs the recited function. See *Phillips*, 415 F.3d 1303 (finding that a claim limitation stating “means disposed inside the shell for increasing its load bearing capacity comprising internal steel baffles” provides the relevant structure and is not limited to the embodiments in the specification.) The claim language at issue here is as follows:

. . . the planks or sheet are formed with longitudinal slots at the underside thereof for facilitating forming of curved coverings and for acting as a base for a glue or adhesive material *by means of which* the surface covering is mounted on a surface recipient. . . (emphasis added)

The claim itself recites the structures used for mounting the surface covering to the surface recipient, *i.e.*, glue or adhesive, and the slotted underside of a plank or sheet. Like the baffles in *Phillips*, the claim itself describes the structure to be employed for the function and, accordingly, does not warrant means-plus-function treatment.

material by means of which the surface covering is mounted on a surface recipient'. This broad, functional language is met by any structure that is capable of performing the recited functions of facilitating the formation of curved coverings and acting as a base for glue/adhesive The fact that the slots are "large" is immaterial since the claims do not define the relative size of the slots." ["Examiner's Answer" DE 77-4, p 119.]

Plaintiffs' contention is worthwhile, but misplaced. The quoted statement was in response to Plaintiffs' attempt to differentiate its invention over the Kemerer art (discussed more fully below) based, among other factors, on slot size. ["Amendment Response to Ex Parte Reexamination" DE 77-5, p. 20.] Unlike a re-examination, where applicants seek to distinguish how a claimed invention is different from those previous, the purpose of claims construction is to assist the trier of fact understand what someone of ordinary skill in the art would understand the patent actually claims. Here, the relative depth and width are being invoked to reflect that the '881 patent teaches, in part, longitudinally-slotted planks as an enhancement over the molecular structures formed incident to extrusion. As such, characterizations of depth and width should be included in the construction of "longitudinal slot."

While the substance of Defendants' definition will be incorporated, the wording must be altered. The phrasing of Defendants' definition is unwieldy and redundant and claims should be construed so as to be understandable to the jury. *See Mediatek, Inc. v. Sanyo Elec. Co. Ltd.*, 513 F. Supp. 2d 778, 789 (E.D. Tex. 2007). Accordingly, the Court defines longitudinal slot as follows:

Grooves spaced relatively close together that run parallel to each other for the length of the planks or sheet, wherein the grooves have a depth and width of a material percentage of the planks' or sheets' thickness such that the grooves materially increase the ability to curve and the surface area for adhesion.

b. Interconnected

The phrase "adapted to be interconnected aside of each other" appears in all independent claims of the '881 patent. Plaintiffs submit that the term "interconnected" should be given its plain and ordinary meaning - "joined together so as not to separate." Defendants' proposed definition imposes a functional limitation: "planks, sheets or intermediate strips joined together along their longitudinal edges wherein

each edge assists in keeping the adjacent edge from lifting.” The Court will accept Plaintiffs’ definition.

The claim language, by its terms, does not require that the planks keep each other from lifting. The lifting limitation Defendants seek to impose in the claims as construed appears only once in the entire specification, in the description of a joining mechanism pictured in figure 5i which features interlocking components. Imposing this anti-lifting requirement on the term interconnected would potentially exclude the embodiments shown in figures 5a and 5e, which have straight edges and which do not outwardly confer any anti-lifting benefit. “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.” *See Lava Trading, Inc. v. Sonic Trading Mgm’t*, 445 F.3d 1348, 1355 (Fed. Cir. 2006) quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed.Cir.2005) (en banc). Incorporating the lifting limitation would exclude at least two of the embodiments disclosed by the patent. Because claim terms are to be construed within the context of the entire patent, the anti-lifting limitation will not be incorporated. Interconnected will have its plain and ordinary meaning: **“joined together so as not to separate.”**

c. Tightly Curved

Claims 2, 9, 12, 15, 18, and 28 use the language “[a shape conforming surface] . . . wherein the planks or sheet are mounted on the surface recipient in a tightly curved formation. . .” Plaintiffs propose that tightly curved means: “a high degree of curvature towards the limit of the inherent curvature of the product.” Alternatively, Plaintiffs propose: curvature to an angle exceeding the inherent curvature of the material.” Defendants propose: “Curvature of an acute angle exceeding the inherent ability of the material to curve.” The Court will accept Plaintiffs’ alternate definition.

Claim 1, the patent’s sole claim before re-examination, recited the words “laid in curved formations.” The phrase “tightly curved” was added in the re-examination after the PTO found that Claim 1 was anticipated by the art disclosed in Kemerer. Kemerer teaches large area thermoplastic panels that can be textured to simulate wood and used to cover walls, floors, or roofs. These panels are prepared by extruding a thermoplastic material such as PVC. The Board of Patent Appeals and Interferences

reasoned that because an inherent property of materials like PVC is their ability to curve, Kemerer could inherently facilitate forming curved coverings. [“Decision on Appeal” DE 77-3, p. 12.]

The phrase “tightly curved” that appears in Claims 2, 9, 12, 15, 18, and 28 was added to disclose a unique ability of the invention of the ‘881 patent of which Kemerer was incapable, being laid in tightly curved formations without the use of additional fixation besides glue or adhesive. [See “Amendment Response to Ex Parte Reexamination” DE 77-5, p. 2.] One of ordinary skill in the art would understand that under these circumstances “tightly curved” can only mean a curvature which *exceeds* the inherent ability of the material to curve. However, inclusion of the words “acute angle” into the claim as a further limitation would be improper. Defendants reason that because the prosecution history describes an angle of curvature which is “extreme,” the word “acute” is an appropriate substitute. The word “acute,” however, is a mathematical term which means an angle of less than 90 degrees. Such a term should not be implied into the claim because “[i]t is usually incorrect to read numerical precision into a claim from which it is absent.” *Modine Mfg. Co. v. Int'l Trade Comm'n*, 75 F.3d 1545, 1557 abrogated on other grounds by *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 234 F.3d 558 (Fed.Cir.2000). Though not imposing the word acute on the definition may pass a less precise term to the jury “[A] sound claim construction need not always purge every shred of ambiguity.” Accordingly, tightly curved will be defined only as **“curvature to an angle exceeding the inherent curvature of the material.”**

II. CONCLUSION

It is therefore,

ORDERED THAT

(1) The claims are construed as follows:

Longitudinal Slots - Grooves spaced relatively close together that run parallel to each other for the length of the planks or sheet, wherein the grooves have a depth and width of a material percentage of the planks’ or sheets’ thickness such that the grooves materially increase the ability to curve and the surface area for adhesion.


Interconnected - Joined together so as not to separate.

Tightly Curved - Curvature to an angle exceeding the inherent curvature of the material.

(2) In light of the issuance of this Order and the parties having filed Joint Claims Construction Statements [DE 136, DE 148], the following motions are DENIED AS MOOT:

- a. Plaintiff's Motion to Strike Defendants' *Markman* Briefs and to Preclude Defendants' Extrinsic Evidence for Claims Construction. [DE 116].
- b. Plaintiffs' Motion for Clarification of Order Clarifying Order Setting *Markman* Hearing, to Exclude Defendants' Expert Harlan Wilk from Testifying as to New Subjects and to Exclude Defendants' Use of Plaintiffs' Products and Defendants' Products at the *Markman* Hearing. [DE 127].

DONE AND ORDERED in Miami, Florida, this 16th day of July 2013.


PATRICIA A. SEITZ
UNITED STATES DISTRICT JUDGE

cc: Honorable Andrea M. Simonton
All counsel of record