United States District Court,
S.D. Indiana, Indianapolis Division.

**AMERIFAB, INC,**
Plaintiff.
v.
**VOEST-ALPINE INDUSTRIES, INC,**
Defendant.

No. 1:04-CV-1331-LJM-WTL

**July 29, 2005.**

Donald E. Knebel, James R. Sweeney, II, Spencer Patrick Goodson, Barnes & Thornburg LLP, Indianapolis, IN, for Plaintiff.

Bret A. Hrivnak, Richard Eric Gaum, Hahn Loeser & Parks LLP, Akron, OH, Edward F. Welsh, Armstrong Kratz Quintos Hanson & Brooks LLP, Pittsburgh, PA, for Defendant.

## *ORDER ON CLAIM CONSTRUCTION*

MCKINNEY**, Chief J.**

On July 13, 2005, the Court held a hearing to assist it with construction of the claim language of the patent at issue in this infringement suit, U.S. Patent No.6,330,269 (the " '269 patent"). Guided by the Supreme Court's opinion in Markman v. Westview Inst., Inc., 517 U.S. 370, 388-90, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) ( "*Markman II*" ), and by the Federal Circuit's opinions in Markman v. Westview Inst., Inc., 52 F.3d 967 (Fed.Cir.1995) ( "*Markman I*" ) and Phillips v. AWH Corp., No. 03-1269, 03-1286, 2005 WL 1620331 (Fed.Cir. July 12, 2005), the claim construction rendered herein will not be a "tentative one" subject to change upon receipt of additional information and evidence, but a definitive one based on all of the evidence of record at this point in the litigation. *See* Int'l Comm. Mat'ls, Inc. v. Ricoh Co., Ltd., 108 F.3d 316, 318-19 (Fed.Cir.1997) (noting that district court performed a "tentative construction" of the claim language to facilitate a decision of the preliminary injunction issue). The parties in this cause, plaintiff, AmeriFab, Inc., and defendant, Voest-Alpine Industries, Inc. ("Voest-Alpine"), have narrowed the disputed terms of the claims at issue. Having been fully advised by the parties of their relative positions, the Court will discuss the relevant legal rules and application of those rules to the patent in dispute.

## I. *CLAIM CONSTRUCTION STANDARDS*

When construing the '269 patent's claims, the Court must determine the meaning of the language used before it can ascertain the scope of the claims plaintiff, AmeriFab, alleges are infringed. *See* Markman I, 52 F.3d at 979. In doing so, the Court's interpretive focus is not the subjective intent of the parties employing a certain term, but the objective test of what one of ordinary skill in the art at the time of the invention would

have understood the term to mean. *See* Phillips, 2005 WL 1620331, at *5; Innova/Pure Water v. Safari Water Filtration, 381 F.3d 1111, 1116 (Fed.Cir.2004). When the Court undertakes its duty to construe the claims, it first must look to the intrinsic evidence: the asserted and unasserted claims, the specification, and the prosecution history. *See* Phillips, 2005 WL 1620331, at *5-*6; Ecolab, Inc. v. Envirochem, Inc., 264 F.3d 1358, 1366 (Fed.Cir.2001); Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1581 (Fed.Cir.1996); Markman I, 52 F.3d at 979. Most of the time, such evidence will provide sufficient information for construing the claims. *See* Vitronics, 90 F.3d at 1583.

The patent claims should " 'particularly point out and distinctly clai[m] the subject matter which the applicant regards as his invention.' " Markman II, 517 U.S. at 373 (citing 35 U.S.C. s. 112). During claim construction, the appropriate starting point for the Court's inquiry is always the words of both the asserted and unasserted claims. *See* Phillips, 2005 WL 1620331, at *6; Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 977 (Fed.Cir.1999); *see also* Renishaw PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998). As the Federal Circuit has noted, "[c]ommon words, unless the context suggest otherwise, should be interpreted according to their ordinary meaning." *Desper Prods.,* 157 F.3d at 1336 (citing York Prods., Inc. v. Central Tractor Farm & Family Ctr., 99 F.3d 1568, 1572 (Fed.Cir.1996)). *See also* Phillips, 2005 WL 1620331, at *6 (citing Brown v. 3M, 265 F.3d 1349, 1352 (Fed.Cir.2001)). Further, when there are several common meanings for a term, "the patent disclosure serves to point away from the improper meanings and toward the proper meaning." Renishaw, 158 F.3d at 1250. *Accord* Phillips, 2005 WL 1620331, at *7-*9 (discussing the role of the specification in claim construction).

The correct claim construction is also the one that "stays true to the claim language and most naturally aligns with the patent's description of the invention." Renishaw, 158 F.3d at 1250. *See also* Phillips, 2005 WL 1620331, at *9. That description, or specification, serves an important purpose. In it, the patentee must provide a written description of the invention that would allow a person of ordinary skill in the art to make and use the invention. *See* Phillips, 2005 WL 1620331, at *9; Markman I, 52 F.3d at 979. The applicable statute requires that "[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same...." 35 U.S.C. s. para. 112, para. 1. *See also* Phillips, 2005 WL 1620331, at *4, *8; *Johnson Worldwide Assocs.,* 175 F.3d at 993. Therefore, to discover the correct meaning of a disputed claim term, the Court must refer to the specification's description of the invention.

In addition, a patentee may be his or her own lexicographer and use terms in a manner different from their ordinary meaning. *See* Phillips, 2005 WL 1620331, at *8; *Johnson Worldwide Assocs.,* 175 F.3d at 990; Vitronics, 90 F.3d at 1582. If the patentee chooses to do that, he or she must clearly state the special definition in the specification or file history of the patent. *See* Phillips, 2005 WL 1620331, at *8 (citing CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002)). The specification then serves as a dictionary when it defines terms, either expressly or by implication, that are used in the claims.

Although claims must be read in light of the specification, limitations from the specification may not be read into the claims. FN1 *See* Phillips, 2005 WL 1620331, at *15-*16; *Comark,* 156 F.3d at 1186. In particular, the Court should not limit the invention to the specific examples or preferred embodiment found in the specification. *See* Phillips, 2005 WL 1620331, at *16; Texas Instruments, Inc. v. United States Int'l Trade Comm'n, 805 F.2d 1558, 1563 (Fed.Cir.1986). Therefore, the "repetition in the written description of a preferred aspect of a claim invention does not limit the scope of an invention that is described in the claims in different and broader terms." Laitram Corp. v. NEC Corp., 163 F.3d 1342, 1348 (Fed.Cir.1998).

*See also* Phillips, 2005 WL 1620331, at *16 (describing how to distinguish between a best mode disclosure and a limitation disclosure in a specification).

FN1. An exception to this rule applies when the claim is written in a means-or step-plus-function format under 35 U.S.C. s. 112, para. 6. The rules of claim construction relative to those types of claims are discussed later herein.

Interpreting the meaning of a claim term " 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.' " Laitram, 163 F.3d at 1348 (quoting Intervet Am., Inc. v. Kee-Vet Lab., Inc., 887 F.2d 1050, 1053 (Fed.Cir.1989) (further citation omitted by Intervet court)). *See also* Innova/Pure Water, 381 F.3d at 1117. An extraneous limitation is a limitation added "wholly apart from any need to interpret what the patentee meant by particular words and phrases in the claim." Hoganas AB v. Dresser Indus., Inc., 9 F.3d 948, 950 (Fed.Cir.1993). *See also* Phillips, 2005 WL 1620331, at *15; Renishaw, 158 F.3d at 1249. Although there is a fine line between reading a claim in light of the specification and reading a limitation from the specification into the claim, the Court must look cautiously to the specification for assistance in defining unclear terms. *See* Phillips, 2005 WL 1620331, at *16; Innova/Pure Water, 381 F.3d at 1117.

The third source of intrinsic evidence is the '269 patent's prosecution history. *See* Phillips, 2005 WL 1620331, at *9; *Desper Prods.,* 156 F.3d at 1336-37; Vitronics, 90 F.3d at 1582. In a patent's prosecution history the Court will find a complete record of the proceedings before the PTO leading to issuance of the patent. *See* Vitronics, 90 F.3d at 1582. The prosecution history contains both express representations made by the patentee concerning the scope of the patent, as well as interpretations of claim terms that were disclaimed during the prosecution. *See* id. at 1582-83; *see also* Phillips, 2005 WL 1620331, at *9; Ecolab, 264 F.3d at 1368. Although the prosecution history is useful for understanding claim language, it "cannot enlarge, diminish, or vary the limitations in the claims." Markman I, 52 F.3d at 979 (quotations omitted).

In some cases, it may be necessary for the Court to consult extrinsic evidence to aid it in construing the claim language. *See* Phillips, 2005 WL 1620331, at *10; Vitronics, 90 F.3d at 1584. Extrinsic evidence is any evidence outside of the patent and prosecution history, "including expert and inventor testimony, dictionaries, and learned treatises." Markman I, 52 F.3d at 980. *See also* Phillips, 2005 WL 1620331, at *10. It may be used to assist the Court's understanding of the patent, or the field of technology. *See* Markman I, 52 F.3d at 980-81. However, "courts [should] not *rely* on extrinsic evidence in claim construction to contradict the meaning of claims discernible from thoughtful examination of the claims, the written description, and the prosecution history-the intrinsic evidence." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1308 (Fed.Cir.1999) (emphasis in original) (citing Vitronics, 90 F.3d at 1583). Judges are not usually "conversant in the particular technical art involved," or capable of reading the patent specification and claims as one skilled in the art might. *See* Markman I, 52 F.3d at 986; *see also* Pitney Bowes, 182 F.3d at 1308-09. Therefore, "consultation of extrinsic evidence is particularly appropriate to ensure that [the Court's] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art." Pitney Bowes, 182 F.3d at 1309. *See also* Phillips, 2005 WL 1620331, at *10. When the Court relies on extrinsic evidence to assist with claim construction, and the claim is susceptible to both a broader and a narrower meaning, the narrower meaning should be chosen if it is the only one clearly supported by the intrinsic evidence. *See* Digital Biometrics v. Identix, 149 F.3d 1335, 1344 (Fed.Cir.1998); *see also* Phillips, 2005 WL 1620331, at *11 (discussing the proper use of extrinsic evidence). It is entirely proper for the Court to accept and admit extrinsic evidence, such as an expert's

testimony, to educate itself, but then base its construction solely on the intrinsic evidence. *See* Mantech Envt'l Corp. v. Hudson Envt'l Servs., Inc., 152 F.3d 1368, 1373 (Fed.Cir.1998).

Further, the Federal Circuit has taken special note of the use by courts of a specific type of extrinsic evidence: dictionaries. In its *Vitronics* opinion, the court explained that although technical treatises and dictionaries are extrinsic evidence, judges are free to consult these resources at any time in order to get a better understanding of the underlying technologies. 90 F.3d at 1584 n. 6. The *Vitronics* court stated that judges may rely on dictionaries when construing claim terms as long as the dictionary definition does not contradict the definition found in, or ascertained by, a reading of the patent. *Id*. The Federal Circuit affirmed this approach in Phillips. 2005 WL 1620331, at *15.

At least one claim term disputed by the parties is written in means-plus-function format pursuant to 35 U.S.C. s. 112, para. 6. Claim elements of the '269 patent that are written in a means-plus-function format under 35 U.S.C. s. 112, para. 6 require special rules of construction. When a patentee uses such an element, he or she is subject to the following statutory provision:

[a]n element in a claim for a combination may be expressed as a means ... for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specifications and equivalents thereof.

35 U.S.C. s. 112, para. 6. *See also* Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211 (Fed.Cir.1998).

For an element in a means-plus-function format, the "means" term "is essentially a generic reference for the corresponding structure disclosed in the specification." Chiuminatta Concrete Concepts v. Cardinal Indus., 145 F.3d 1303, 1308 (Fed.Cir.1998). *See also* Mas-Hamilton Group, 156 F.3d at 1211 (quoting Chiuminatta Concrete Concepts, 145 F.3d at 1308). By using this format, a patentee is allowed to claim a function without expressing all of the possible means of accomplishing that function. *See* O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 1583 (Fed.Cir.1997). "The price that must be paid for use of that convenience is limitation of the claim to the means [or acts] specified in the written description and equivalents thereof." *Id*.

Thus, a claim expressed in means-plus-function language constitutes an exception to the rule that prohibits reading limitations from the specification into the claims. *See* Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042 (Fed.Cir.1993). For example, when dealing with a means-plus-function claim, specific alternative structures to accomplish the function mentioned in the specifications, and equivalents thereto, delineate the scope of the patent claim. *See* Mas-Hamilton Group, 156 F.3d at 1211; Serrano v. Telular Corp., 111 F.3d 1578, 1583 (Fed.Cir.1997). The alternative structures must be specifically identified, not just mentioned as possibilities, in order to be included in the patent claim's scope. *See* Fonar Corp. v. Gen. Elec. Co., 107 F.3d 1543, 1551 (Fed.Cir.), *cert. denied,* 522 U.S. 908, 118 S.Ct. 266, 139 L.Ed.2d 192 (1997).

Having set forth the proper claim construction standards, the Court construes the disputed terms as follows:

## **II.** ***DISCUSSION***

AmeriFab and Voest-Alpine's major dispute centers around the term "base section" as it is used in the '269

patent. "Base section" appears in each of the independent claims of the '269 patent, claims 1, 17, and 19. Those claims read:

1. A heavy-walled steel, iron, cast alloy, or ferrous alloy pipe for use in a cooling panel in an electric-arc metallurgical furnace, comprising:

a unitary pipe, including:

a tubular section;

an elongated ridge extending outwardly from the exterior surface of said tubular section, said ridge extending along the length of the tubular section; and

a base section on the exterior surface [of] said tubular section, said base section opposed to said elongate [sic] ridge.

* * *

17. A heavy-walled steel, iron, cast alloy, or ferrous alloy pipe for use in a cooling panel in an electric-arc metallurgical furnace, comprising:

a unitary pipe including:

a tubular section having a first portion and a second portion;

means, outwardly extending from the exterior surface of said first portion of said tubular section, for retaining transient matter, said means forming an elongate [sic] ridge; and

a base section on the exterior surface of said second portion of said main section, said base section opposed to said elongate [sic] ridge.

* * *

19. A method of cooling the interior wall of an electric-arc furnace, comprising the steps of:

providing a panel, said panel including a plurality of unitary pipes, each of said pipes having a tubular section, an elongate [sic] ridge and a base section, each of said pipes being formed by extrusion;

attaching said panes to the interior of an electric-arc furnace; and

retaining transient matter from the electric-arc furnace on said elongate [sic] ridge.

'269 Patent, col. 5, *ll*. 18-28; id. col. 6, *ll*. 22-34; id. col. 6, *ll*. 38-48. Independent claims 1 and 17 also contain the second-most disputed term: the preamble. The third disputed term is "rib" in claim 16, which Voest-Alpine asserts is unsupported by the specification and must be indefinite. The remaining terms that

have been briefed are not highly disputed, "trapezoidal cross-section" in dependent claim 10, and "means ... for retaining transient matter" in claim 19. The Court construes each term below.

## A. "BASE SECTION"

AmeriFab contends that the ordinary meaning of "base section" should apply in this case and proffers the following construction: "a support and foundation for connection of the remainder of the claimed unitary pipe-the tubular section and the elongated ridge(s)-to the relevant cooling panel and/or electric arc furnace." In contrast, Voest-Alpine suggests that the '269 patent should be limited to its preferred embodiment such that "base section" is defined as: "the portion of the unitary pipe, opposite the fins, that has a flat bottom and protruding ends." The Court agrees with AmeriFab that the plain meaning of "base section" should apply, however, it finds AmeriFab's proffered definition too verbose. The Court's construction for "base section" is: a foundation or support portion.

Starting with the claim language, there is no limitation in the independent claims on the structure of the base section. To the contrary, the base section merely needs to be on the exterior surface and opposed to the elongate ridge. '269 Patent, col. 5, *ll*. 27-29; id. col. 6, *ll*. 32-34. Claim 19 requires no certain positioning of the base section, it merely requires that the plurality of unitary pipes each have such a section. Id. col. 6, *ll*. 40-43.

In addition, including the limitations of a flat bottom surface and protruding ends to the definition of "base section" would render claim 14 superfluous. Claim 14 reads: "The heavy-walled pipe of claim 1, wherein said base section includes a planar surface facing away from said tubular section and opposed protruding ends." Id. col. 6, *ll*. 13-15. As stated recently by the *Phillips* court, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." 2005 WL 1620331, at *7 (citing Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 910 (Fed.Cir.), *cert. denied sub nom.,* 543 U.S. 925, 125 S.Ct. 316, 160 L.Ed.2d 223 (2004)). The "presumption can be overcome if the circumstances suggest a different explanation, or if the evidence favoring a different claim construction is strong...." Liebel-Flarsheim, 358 F.3d at 910. Voest-Alpine asserts that the absence of any description of an embodiment other than one with a flat bottom with protruding ends in the '269 patent's specification is strong evidence that the intended invention requires a base section with a flat bottom and protruding ends. Moreover, Voest-Alpine continues, the provisional application upon which the '269 patent is based never uses the term "base section" it merely describes the shape of one side of the unitary pipe as "the flat surface portion." Def.'s Exh. B, U.S. Provisional App. No. 60/184,147, Feb. 22, 2000, at 5-6 (" '147 Provisional App."). Voest-Alpine also contends that the prosecution history of the '269 patent supports adding a flat-surface limitation to the term "base section" because AmeriFab never distinguished itself from the prior art on a basis that is inconsistent with such a limitation. In other words, AmeriFab never argued that its system was patentable over prior art systems because the base section could be any shape or configuration, therefore, AmeriFab must have intended to include a flat-surface limitation in the base section element.

The Court is not persuaded by Voest-Alpine's arguments that there is strong evidence to overcome the presumption that "base section" has something other than its ordinary meaning. While it is true, as Voest-Alpine points out, that the description of the preferred embodiment describes a base section that has a flat bottom and protruding ends, the claims themselves, and the first description of the invention, in the Objects of the Inventions section of the patent, merely require a "base section" without further explicit shape. Furthermore, the patent specification contemplates that the "base section" has at least one other shape-a

curve-because it teaches, "the pipes 10 can be linear, or, the pipes 10 can curve to follow the interior contour of the furnace wall." '269 Patent, col. 4, *ll*. 45-48. It is nearly impossible to imagine how the mounted pipes may follow the curved interior contour of the furnace wall if the base section is not itself curved.

It is true that in the Detailed Description of the Preferred Embodiment certain aspects are described as "preferably" containing certain elements, while "base section" is not so described, but this is the only intrinsic evidence that points away from the ordinary meaning of "base section." The Court expects a patentee to be more specific in the description of the preferred embodiment than in the claims. In addition, there is a reference to the pipes, and therefore the base thereof, to curve. Therefore, the differences contained in that description is not enough evidence to rebut the presumption raised by the existence of the disputed limitations appearance in a dependent claim.

The Court is not persuaded by the other circumstances presented by Voest-Alpine related to the preliminary application and the description of the prior art that the presumption raised by the dependent claim should change the ordinary meaning of "base section." In the preliminary application the patentees described the portion of the unitary pipe opposite the elongate ridge as:

a flat surface such that the portion formed into a flat surface is diametrically opposed to the preferably two parallel series of elongate finds extended from the outer surface of the pipe. The flat surface portion of the pipe serves the supplemental purpose of acting as a back plate for equipment built from and incorporating the invented pipe. In addition, the back flat portion of the pipe acts as a seal bar to ease the manufacturing process.

Def.'s Exh. B, Preliminary App., at AM 001546. The inventors claimed the following in the preliminary application: "a flat surface, on the outer surface of the main section, roughly diametrically opposed to the at least one elongate ridge, defined by protruding portions which extend from the surface of the main section." Id. at AM 001549. First, the preliminary application is not part of the prosecution history of the '269 patent, which makes it extrinsic evidence and less relevant than intrinsic evidence. *See* Phillips, 2005 WL 1620331, at *11. Moreover, the fact that the inventors broadened the claims in the '269 patent application, included the more narrowly-defined dependent claim, and were granted the patent, is better evidence that the inventors intended to include a "base section" that did not have a flat bottom or protruding ends than it is evidence that they intended to narrow the definition of "base section." Even taken together with the inventor's distinctions of their invention over the prior art, the Court is not persuaded that the preliminary application limits the plain meaning of "base section." FN2

FN2. Similarly, the Court is not persuaded that the European Patent Office's rejection of the broader term "base section" is an indication that the United States Patent & Trademark Office ("PTO") would similarly reject a broad definition of "base section." To the contrary, there is nothing in the intrinsic record to indicate that the PTO attributed anything but the ordinary definition to "base section."

As outlined above, Voest-Alpine asserts that because AmeriFab did not distinguish U.S. Patent No. 4,135,575, to Gersh ("Gersh" or "Gersh patent"), and U.S. Patent No. 1,774,150, to Murray ("Murray" or "Murray patent"), on the basis of a different base, it must have intended to limit its invention to those with a flat bottom and protruding ends because that is all that is disclosed by Gersh and Murray. However, AmeriFab never said anything about a limitation on the base section, it merely pointed out the most

significant difference between the Gersh and Murray references and the '269 patent claims.

In summary, the Court is not persuaded that the circumstances or evidence presented by Voest-Alpine rebuts the presumption raised by the doctrine of claim differentiation that "base section" has its ordinary meaning. "Base section" as that term is used in the '269 patent means: a support or foundation portion.

**B. THE PREAMBLE AS A LIMITATION**

The second dispute between the parties is whether or not the preamble of the independent claims is a limitation. With respect to independent claims 1 and 17, which share the same preamble, AmeriFab contends that the preamble provides the following limitations: heavy-walled, and made of steel, iron, cast alloy or ferrous alloy. Voest-Alpine argues that the preamble is not a limitation because it does not meet one of several criteria laid out by the Federal Circuit Court of Appeals in Catalina Marketing International v. Coolsavings.com, Inc., 289 F.3d 801, 808-09 (Fed.Cir.2002). More specifically Voest-Alpine contends that the preambles of the '269 patent do not add structure: 1) because the claims describe a structurally complete invention; 2) because neither of those limitations are underscored as important by the specification; 3) because the preamble merely describes the prior art; 4) because the preamble only states an intended use; and 5) because "heavy-walled" is a term of degree without a standard for measurement.

The Court finds that the preamble adds life and meaning to the terms of the claims, therefore, they are limitations on the claims. To resolve whether or not a preamble is a limitation, the Court must review the entire patent to ascertain what the inventors intended to encompass by the claim. Catalina Marketing, 289 F.3d at 808. "[A] preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Id*. (quoting Pitney Bowes Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed.Cir.1999)). The Federal Circuit has found that a preamble limits a claim when the claim is in the format required by 37 C.F.R. s. 1.75, when the claim, or future claims, depend on the preamble for antecedent basis, when the preamble is necessary for understanding something in the body of the claim, when the preamble recites additional structure or steps underscored as important by the specification, and when there is clear reliance on the preamble during prosecution to distinguish the invention over prior art. Catalina Marketing, 289 F.3d at 808. However, "a preamble in not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.' " *Id*. (quoting Rowe v. Dror, 112 F.3d 473, 478 (Fed.Cir.1997)).

In the instant case, the Court finds evidence that the preamble limits the claims. First, claim 1 is redundant without including the limitations of "heavy-walled" and "steel, iron, cast alloy or ferrous alloy" in the claim. Without meaning in the preamble, one of ordinary skill in the art would read claim 1 as: "a ... pipe ..., comprising: a unitary pipe, including: ...," '269 Patent, col. 5, *ll*. 18-21, which is nonsensically redundant. In addition, the specification indicates in the Objects of the Invention section and the Summary of the Invention section that "[t]he present invention is directed to a unitary heavy-walled, steel, iron or ferrous alloy pipe ...," id. col. 2, *ll*. 34-35, and that "[t]he invention is a heavy-walled pipe...." Id. col. 2, *l*. 66. The Detailed Description of the Preferred Embodiment section also teaches that the type of material used is "heavy-walled steel, iron, or ferrous material ..." for extruded pipe, id. col. 4, *ll*. 57-58, and as "cast alloy such as, for example, cast iron or cast steel." Id. col. 4, *ll*. 65-67. Contrary to Voest-Alpine's assertion, the Court finds much support in the specification for finding the preamble adds limitations to the claims.

Voest-Alpine contends that another reason to exclude the preamble from the limitations of the claims of the '269 patent is that the term "heavy-walled" is relative, and with nothing in the specification to identify its

scope, the claims would be invalid for indefiniteness. The Court disagrees. Although the Court recognizes that in certain instances the Federal Circuit has construed a claim more narrowly because to use its plain meaning would cause the patent to be invalid the plain meaning of the terms in this case, as highlighted by the specification, is the term meant by the patentee, as a result, the Court is unwilling to broaden the claim by leaving out the limitation of "heavy-walled." In addition, as AmeriFab asserts, it would be clear to one of ordinary skill in the art the approximate thickness of "heavy-walled" pipe given its use for cooling panels in electric art metallurgical furnaces.

For the foregoing reasons, the Court finds that the preamble of independent claims 1 and 17 add the limitations "heavy-walled" and "steel, iron, cast alloy or ferrous alloy" to those claims.FN3

FN3. There is really no argument that the intended use specified in the preamble is not a limitation.

Independent claim 19 also has a preamble. The preamble of claim 19 reads, "A method of cooling the interior wall of an electric-arc furnace, comprising the steps of:...." '269 Patent, col. 6, *ll*. 38-39. AmeriFab argues that unlike claims 1 and 17, apparatus claims, claim 19 is a method claim in which the intended use provides necessary context for the steps of the method described. Additionally, the preamble provides an antecedent basis for the claim's reference to "the electric-arc furnace" in elements two and three of claim 19. Voest-Alpine contends that the preamble of claim 19 merely states an intended use, which is rarely construed as a limitation. *See* Poly-America, L.P. v. GSE Lining Tech., Inc., 383 F.3d 1303, 1310 (Fed.Cir.2004); Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp., 320 F.3d 1339, 1345 (Fed.Cir.2003) ("An intended use or purpose usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates."). But in this case, the preamble of claim 19 limits the claim because "it recites not merely a context in which the invention may be used, the but essence of the invention without which performance of the recited steps is nothing but an academic exercise." Boehringer Ingelheim Vetmedica, 320 F.3d at 1345. Without the "cooling of the interior" portion of the preamble, the method for collecting transient matter discussed in claim 19 has no utility. For this reason, the Court finds that the preamble of claim 19 has a "cooling" limitation.

**C. RIB**

The parties dispute the meaning of "rib" in dependent claim 16 of the '269 patent. Claim 16 reads: "The heavy-walled pipe of claim 1, wherein said elongate [sic] ridge includes a rib." AmeriFab contends that "rib" should have its ordinary meaning, "an elongate ridge on an elongate ridge," because there is no limiting language in the claims. However, Voest-Alpine argues that

claim 16 is indefinite because (1) its ordinary meaning found in a common dictionary has nothing to do with the claimed unitary pipe, (2) the '269 patent does not show a "rib" in any of the figures, and (3) the '269 patent defines "rib" by referring to "undulations" and "crevices," which have no relation to Amerifab's [sic] proposed construction.

Def.'s Reply Br. at 15.

The Court finds that the proper construction for "rib" in the '269 patent is: something resembling a rib of man in form in that it is longer than it is wide or tall. Starting with the plain language of the claim, a "rib" usually refers to a part of the anatomy that has a particularly long and curved shape and provides structure.

In the context of the unitary pipe described in the '269 patent, it seems that the term "rib" may refer to something that resembles such a rib. *See* WEBSTER'S NEW INT'L DICTIONARY 1831 (G. & C. Merriam Co.1926) ("WEBSTER'S 1926") (definition 4. "something resembling, suggesting, or likened to, a rib of man or an animal in some way, as in form or use"). The use of the term "rib" in the '269 patent also seems to suggest a connotation with mechanical uses or structures: "a ridge, fin, or wing (as on a plate, cylinder, or beam) used to strengthen, stiffen, or dissipate heat." WEBSTER'S THIRD NEW INT'L DICTIONARY 1950 (Merriam-Webster Inc.1981) ("WEBSTER'S 1981"). This type of definition for "rib" is in keeping with the purpose of the elongate ridges in the '269 patent for providing something to which slag might attach. *See* '269 Patent, col. 3, *ll*. 5-10; id. col. 5, *ll*. 4-9. Because claim 16 teaches that the "rib" is located on the elongate ridge, an additional "ridge" or "something resembling, suggesting, or likened to, a rib of man ... in form," would further the purpose of providing additional places for slag to attach.

The specification is consistent with this definition of "rib," however, it also seems to suggest that the patentee intended "rib" to mean something other than just a "ridge." With respect to a "rib" on the elongate ridge, the specification teaches: "Additionally, the sides 26 and/or outer end 28 of the fin 14 can be provided with a rib. By rib it is intended to include a plurality of ribs, undulations, and crevices." '269 Patent, col. 4, *ll*. 13-16. This is the only reference to "rib" in the specification. To the extent that a plurality of ridges side-by-side could create undulations in the surface of the elongate ridge between the ribs, a plurality of "ribs" could form undulations. However, "crevices" is certainly not a word that is normally associated with "rib" or even a plurality thereof. As with undulations, the only consistent interpretation is if the crevices were a description of what is between a plurality of ribs such that the ribs are so closely aligned that the spaces between them were crevices, rather than dips, or the down side of an undulation. In other words, a rib in the '269 patented invention need only be shaped like a human rib in that it is longer than it is either wide or tall, but its outer shape may vary such that a plurality of them may create either undulations or crevices between.

For the foregoing reasons, the Court finds that "rib" means: something resembling a rib of man in form in that it is longer than it is wide or tall.

**D. TRAPEZOIDAL CROSS-SECTION**

It appears that the parties are in agreement about the proper construction for the term "trapezoidal cross-section" as it is used in the '269 patent, however, the Court wants to clarify the proffers. There term appears in claim 10, which states: "The heavy-walled pipe of claim 1, wherein said elongate ridge has a trapezoidal cross-section." '269 Patent, col. 6, *ll*. 1-2. AmeriFab contends that the proper construction is "a cross-section that resembles a trapezoid." Voest-Alpine argues that the definition should be more specific: "a cross-section having the form of a quadrilateral having only two sides parallel."

Although the Court agrees that these definitions are quite similar, they differ in one respect, something that resembles a trapezoid may have two sides that are *nearly* parallel, and two sides that are not, while something that has the form of a quadrilateral having only two sides parallel *must* have two sides parallel, and two sides that are not. In the '269 patent, the Court finds that the best definition for "trapezoidal" cross-section is a cross-section that has the form of a quadrilateral having two sides nearly parallel. This definition best comports with the plain language of the patent that describes, in every claim, that the invention is a pipe with a tubular section, from which the elongate ridge extends. It is clear then, that at least one side of the elongate ridge would curve, to a certain degree, which would prevent the side of the elongate ridge adjacent to the pipe from ever being completely parallel to its opposite side. A construction for the term "trapezoidal" that does not account for this-however slight-curvature, might exclude the preferred

embodiment, which is pictured in the '269 patent, and shows a "trapezoidal" elongate ridge, where the two most parallel sides of the ridge are the one adjacent or a part of the pipe surface and the one opposite. *See* id. Fig. 3.

For this reason, the Court finds that "trapezoidal" cross-section means a cross-section that has the form of a quadrilateral having two sides nearly parallel.

### E. MEANS ... FOR RETAINING TRANSIENT MATTER

The last term of the '269 patent that the parties commented on in either briefing or at the *Markman* hearing, is found in independent claim 17; the term is "means ... for retaining transient matter." Voest-Alpine proposes that the structure that corresponds to the function of "retaining transient matter" is "an elongated ridge extending from the tubular surface." AmeriFab does not disagree with this construction, and neither does the Court.

Therefore, the Court construes the term "means ... for retaining transient matter" as an elongated ridge extending from the tubular surface.

### F. SUMMARY OF TERMS

The following summarizes the Court's construction for the disputed terms:

| | |
|---|---|
| "Base Section" means | a support or foundation portion |
| The Preamble | has a "cooling" limitation |
| "Rib" means | something resembling a rib of man in form in that it is longer than it is wide or tall |
| "Trapezoidal Cross-Section means | a cross-section that has the form of a quadrilateral having two sides nearly parallel |
| "means ... for retaining transient matter" means | an elongated ridge extending from the tubular surface |

## IV. *CONCLUSION*

The Court has construed the meaning of the disputed claim terms of U.S. Patent No. 6,330,269. The

definitions are set forth in the Discussion section of this Order.

IT IS SO ORDERED.

Distribution attached.

S.D.Ind.,2005.
AmeriFab, Inc. v. Voest-Alpine Industries, Inc.

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