

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ARCELORMITTAL and)	
ARCELORMITTAL ATLANTIQUE)	
ET LORRAINE,)	
)	
Plaintiffs,)	
)	
v.)	C.A. No. 13-685 (MN)
)	
AK STEEL CORPORATION,)	
)	
Defendant.)	

MEMORANDUM ORDER

At Wilmington this 26th day of July 2019:

IT IS HEREBY ORDERED that the claim terms of U.S. Reissue Patent No. 44,940 (“the RE’940 Patent”) with agreed-upon constructions are construed as follows (*see* D.I. 211 at 10):

1. “thermal treatment” means “additional controlled heating and cooling (*i.e.*, after rolling and coating)”
2. “hot-shaping” means “shaping at elevated temperature”
3. “prevents decarburization” is a non-limiting statement of the purpose or results of other limitations in the claim and, to the extent construction is required, means “prevents removal of carbon from steel sheet”

Further, as announced at the hearing on July 22, 2019, IT IS HEREBY ORDERED that the disputed claim terms of the RE’940 Patent are construed as follows:

1. “wherein said coated steel sheet is in the form of a delivery coil . . . and the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal treatment” shall be construed in two parts:
 - (a) “wherein said coated steel sheet is in the form of a delivery coil” means “the coated steel sheet has been formed into a coil after being rolled during its production”
 - (b) “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal treatment” means “the steel sheet has been

subjected to additional heating and cooling and has an ultimate tensile strength in excess of 1,500 MPa”¹

2. “that is manufactured by a process comprising providing said hot rolled sheet; and coating said hot rolled sheet with an aluminum coating or aluminum alloy coating” shall be given its plain and ordinary meaning
3. “subsequent thermal treatment” means “a thermal treatment that occurs after the preparation of the coated steel sheet”
4. “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after a subsequent thermal treatment” means “the steel has an ultimate tensile strength that exceeds 1,500 MPa after a subsequent thermal treatment” with the term “subsequent thermal treatment” given the construction set forth above

The parties briefed the issues (*see* D.I. 211) and submitted an appendix containing both intrinsic and extrinsic evidence (*see* D.I. 212), and Plaintiffs ArcelorMittal and ArcelorMittal Atlantique et Lorraine (collectively, “Plaintiff” or “ArcelorMittal”) also provided a tutorial describing the relevant technology (*see* D.I. 210).² The Court carefully reviewed all submissions in connection with the parties’ contentions regarding the disputed claim terms, heard oral argument and applied the following legal standards in reaching its decision:

I. LEGAL STANDARDS

A. Claim Construction

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837-38 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill

¹ As stated at the hearing, this construction affords the terms their plain and ordinary meaning and clarifies that the steel sheet having the required very high mechanical resistance in excess of 1,500 MPa need not be in the form of a delivery coil.

² Defendant AK Steel Corp. (“Defendant” or “AK Steel” or “AK”) did not submit a tutorial.

in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations and quotation marks omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim also must be considered. *Id.* at 1314. “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted).

The patent specification “is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, . . . consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by

demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, courts “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.” *Teva*, 135 S. Ct. at 841. Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

B. Indefiniteness

“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.* competitors of the patent owner, can

determine whether or not they infringe.” *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, “[a] patent holder should know what he owns, and the public should know what he does not.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 731 (2002).

A patent claim is indefinite if, “viewed in light of the specification and prosecution history, [it fails to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). A claim may be indefinite if the patent does not convey with reasonable certainty how to measure a claimed feature. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). But “[i]f such an understanding of how to measure the claimed [feature] was within the scope of knowledge possessed by one of ordinary skill in the art, there is no requirement for the specification to identify a particular measurement technique.” *Ethicon Endo–Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1319 (Fed. Cir. 2015).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the ultimate issue of definiteness. *See, e.g., Sonix Tech. Co. v. Publications Int’l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017); *see also Teva*, 135 S. Ct. at 842-43. “Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

II. THE COURT'S RULING

The Court's rulings regarding the disputed claim terms of the RE'940 Patent were announced from the bench at the conclusion of the hearing as follows:

. . . At issue we have United States Reissue Patent RE44,940 titled "Coated hot- and cold-rolled steel sheet comprising a very high resistance after thermal treatment." There are four terms in dispute. I am prepared to rule on each of the disputes. I will not be issuing a written opinion, but I will issue an order stating my rulings. I want to emphasize before I announce my decisions that while I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have reviewed the '940 Patent^[3] and the portions of the prosecution history submitted as well as the tutorial submitted by ArcelorMittal. There was full briefing on each of the disputed terms. There was an extensive appendix and there has been argument here today. All of that has been carefully considered.

Now as to my rulings. As an initial matter, I am not going to read into the record my understanding of claim construction law generally and indefiniteness. I have a legal standard section that I have included in earlier opinions, including in my recent order in *OmegaFlex v. Ward Manufacturing*, C.A. Number 18-1004. I incorporate that law and adopt it into my ruling today and will set it out in the order that I issue.

With respect to the person of ordinary skill in the art, AK Steel submits that the level of ordinary skill in the art for the original '805 patent should apply equally to the Reissue '940 patent, and thus, a person of skill in the art at the time of the invention of the '940 patent would have had at least, one, a master's degree in metallurgy; two, five years of experience in developing, processing, manufacturing, and evaluating steel products; and, three, experience with the principles and methods of coating steel products.

ArcelorMittal in its briefing agreed to AK's proposed level of skill in the art for purposes of claim construction, and I will use the agreed-upon definition.

First, as to the term "wherein said coated steel sheet is in the form of a delivery coil...and the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal

³ The term "the '940 Patent" refers to the RE'940 Patent.

treatment.” Plaintiff’s proposed construction of the term includes separate recitations. One, “wherein said coated steel sheet is in the form of a delivery coil” means “the coated steel sheet has been formed into a coil after being rolled during its production.” Second part, “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal treatment,” Plaintiff proposes means “the steel sheet has an ultimate tensile strength of 1,500 MPa or above after a thermal treatment,” and the third part, “thermal treatment” means “additional controlled heating and cooling (i.e., after rolling and coating).” And that last part is an agreed-upon construction, as I understand it, as to what the term “thermal treatment” means. Defendant on the other hand proposed a single construction: “Wherein the coated steel sheet is in the form of a delivery coil...and the steel sheet in the form of a delivery coil has been subjected to additional heating and cooling and has an ultimate tensile strength in excess of 1,500 MPa.”

Aside from the breaking up of the terms, the crux of the dispute is whether the steel sheet that has the greater than 1,500 MPa after thermal treatment has to be in the form of a delivery coil. I agree with Plaintiff that it does not. To make this clear I will construe the term in two parts. “Wherein said coated steel sheet is in the form of a delivery coil” means “the coated steel sheet has been formed into a coil after being rolled during its production.” The second part, “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal treatment” means that “the sheet has been subjected to additional heating and cooling and has an ultimate tensile strength in excess of 1,500 MPa.” Essentially, I think this gives the terms their ordinary meaning and clarifies that the steel sheet that has the required ultimate tensile strength need not be in the form of a delivery coil.

This construction is consistent with the intrinsic evidence. First, the claim language. Claim 17 recites “a hot-rolled steel sheet coated with an aluminum or aluminum alloy coating, wherein said coated steel sheet is in the form of a delivery coil.” The claimed coated sheet product thus has a specific structure, a delivery coil. The claim says that “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after thermal treatment.” While AK Steel suggests that that clearly means that the coil must have that mechanical resistance, the claim language, and in particular the use of the phrase “after thermal treatment,” suggests that there is additional processing to the coated sheet. And there is no evidence before me that a person of ordinary skill in the art would think from reading the intrinsic evidence that that thermal treatment to attain

the mechanical resistance claimed must be done on steel in the form of a delivery coil.

To the contrary, the specification contemplates both a “delivery state,” such as a coil, and a separate state after “thermal treatment” and shaping in which the steel attains the ultimate tensile strength required by the claim.

The specification of the '940 patent is directed to a steel that is processed and, at the finish of one or more process steps, such as hot rolling alone or in combination with cold rolling, is rolled into the form of a “delivery coil.” This is described in the specification where it states that the coating applied to the steel protects the steel from corrosion “in the delivery state, during shaping and thermal treatment as well as during usage of the finished casting.” And that’s in the patent in the specification column 3, lines 59 to 62.

It is also described in column 2, lines 56 to 62, stating “the mechanical characteristics in the delivery state of the sheet according to the invention allow a great variety of shaping, in particular a deep stamping. The thermal treatment applied at [] the time of a hot-shaping process or alter [sic] shaping makes it possible to obtain high mechanical characteristics which may exceed 1,500 MPa for mechanical resistance.”

AK Steel relies on the prosecution history, arguing in the second reissue application, ArcelorMittal presented claims for steel sheet in different forms: A claim for a steel sheet that “is in the form of a part,” which is prosecution claim 17; a claim for steel sheet that “is in the form of a delivery coil,” prosecution claim 27; and a claim for steel sheet that “is in the form of delivery sheeting,” prosecution claim 35, as well as other claims that did not specify any form the steel sheet may be in.

AK argues, I believe, that because the “part” referenced would be shaped after heat stamping and thus could have the high mechanical resistance that is claimed, that suggests that the coil in the claim claiming a coil should also have that mechanical resistance when it is in the form of a coil. I am not, however, convinced that the use of this term “part” in a different claim changes what I have found to be the ordinary meaning of this term which uses delivery coil.

I will also note that while the appeal of this case did not specifically address claim construction, the Court’s construction today is consistent with the Federal Circuit’s decision to remand this

case for additional proceedings to determine whether the product after thermal treatment such as hot stamping meets the mechanical resistance requirement of the claims.

The second disputed term is “that is manufactured by a process comprising providing said hot rolled sheet; and coating said hot rolled sheet with an aluminum coating or aluminum alloy coating” as found in unasserted claim 18. Defendant asks for the plain meaning. Plaintiff proposed a construction in its papers, but here today agreed that this term has its plain and ordinary meaning. I will afford it the plain and ordinary meaning.

Defendant, however, wants me to go further and address the validity of claim 18, asserting that it fails to further limit the subject matter claimed by independent claim 17. I am going to decline to do that. At Defendant’s request, I required the [P]laintiff to limit the asserted claims in this case. It has done so, and it has chosen not to assert claim 18. Defendant argues that Plaintiff has asserted claim 19, which depends on claim 18, and that there may be collateral estoppel issues that arise if there are asserted differences in claim 18 vis-à-vis claim 17. Plaintiff represented that to the extent differences in the claims are argued, it will be the terms in claim 19, not 18, that will be at issue in any arguments. To the extent, however, that an issue arises later that would require me to further address claim 18, we will take that up at an appropriate time.

The third disputed term is “said subsequent thermal treatment” in claim 26 and the fourth term is “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after a subsequent thermal treatment” in claim 27. Plaintiff argues that the words “subsequent thermal treatment” in these terms means “a thermal treatment that occurs after the preparation of a coated steel sheet.” Defendant argues that those words in both terms are indefinite.

I again agree with Plaintiff and construe “subsequent thermal treatment” as used in both dispute terms to mean “a thermal treatment that occurs after the preparation of the coated steel sheet.”

In claim 26, AK Steel asserts that the term “subsequent thermal treatment” lacks antecedent basis. Federal Circuit precedent makes clear that the Court has to determine whether a person experienced in the field of an invention would understand the scope of the claimed term lacking antecedent basis when read in the light of the specification. That’s *Energizer Holdings Inc. v. ITC*, 435 F.3d 1366, 1371[] (Fed. Cir. 2006).

Here, however, it is not clear [t]hat a person of ordinary skill in the art would[n't] understand [the scope of the term], particularly given that claim 17, the claim on which claim 26 ultimately depends, refers to “after thermal treatment” which seems to me could make the scope of claim 26 understandable to a person of ordinary skill in the art. Moreover[,] here, as in *Energizer Holdings*, the patent examiner never rejected or objected to claim 26 for lack of antecedent basis.

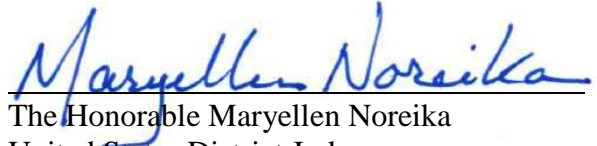
For a claim to be held invalid for indefiniteness, there must be clear and convincing evidence. And that's *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 912. At this time, the Court finds that the Defendant has not met its burden to show that this term in claim 26 is indefinite. However, should there still be a disagreement regarding this claim in the future, Defendant may raise the issue later, if appropriate, after full fact and expert discovery.

In claim 27, the antecedent basis is not the issue. Instead, Defendant argues that indefiniteness is at issue because the patentee introduced a new term that could mean numerous different things, each giving a different claim scope, and thus leaving the claim scope uncertain.

Again, however, I have only attorney argument on both sides – without more – and I cannot conclude that this term as I have construed it would fail to inform, with reasonable certainty, a person of ordinary skill in the art about the scope of the invention. Thus, again, on the record before me I find that Defendant has not met its burden to show by clear and convincing evidence that this term in claim 27 is indefinite. But again, to the extent appropriate, Defendant may raise the issue later or at trial after full fact and expert discovery.

Finally, as for the words “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa” which precede “subsequent thermal treatment” in the fourth disputed term, Plaintiff in essence proposes the ordinary meaning of the words used prior to the term “subsequent thermal treatment” in the fourth disputed term. Defendant argues that those words mean “the flat-rolled steel has been subjected, after rolling, to additional controlled heating and cooling and has an ultimate tensile strength in excess of 1,500 MPa.” Defendant's proposal adds a lot of words without really explaining why, and thus does not seem to add anything to the plain meaning of the words.

Thus, I will construe the words “the steel sheet has a very high mechanical resistance in excess of 1,500 MPa after a subsequent thermal treatment” to mean “the steel has an ultimate tensile strength that exceeds 1,500 MPa after a subsequent thermal treatment” and giving “subsequent thermal treatment” the construction that I did above.



The Honorable Maryellen Noreika
United States District Judge