IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

ASAHI GLASS CO., LTD. and AGC FLAT GLASS NORTH AMERICA, INC.,	)	
Plaintiffs,	)	
v.	)	Civ. No. 09-515-SLR
GUARDIAN INDUSTRIES CORP.,	)	
Defendant.	)	

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MEMORANDUM OPINION

Dated: September 26, 2011
Wilmington, Delaware

ROBINSON, District Judge

I. INTRODUCTION

Asahi Glass Co., Ltd. ("AGC") and AGC Flat Glass North America, Inc. ("AFNA") (collectively, "plaintiffs") filed a complaint against Guardian Industries Corporation ("Guardian") on July 15, 2009, alleging infringement of plaintiffs' U.S. Patent Nos. 3,664,938 ("the '938 patent") and 6,193,856 ("the '856 patent") (hereinafter, collectively the "patents in suit"). (D.I. 1) Defendant brought declaratory judgment counterclaims of noninfringement and invalidity under 35 U.S.C. §§ 101, 102, 103, 112 and 113. (D.I. 9) On March 3, 2011, defendant moved to amend its affirmative defenses and counterclaims to add new allegations of inequitable conduct. (D.I. 88) Fact discovery closed March 15, 2011 and expert discovery closed April 15, 2011. (D.I. 82, 87) The parties briefed issues of claim construction and several motions for summary judgment: (1) plaintiffs' motion for partial summary judgment of infringement of claim 16 of the '856 patent and claims 1, 3-4, 7-11 and 18-20 of the '938 patent (D.I. 115); (2) defendant's motion for summary judgment of noninfringement of these asserted claims and, in addition, claims 11, 12, 14 and 15 of the '856 patent and claims 23-25 of the '938 patent (D.I. 122); and (3) defendant's motion for summary judgment of invalidity of the '938 and '856 patents (D.I. 120).[1] The court denied defendant's motion to amend on August 12, 2011. (D.I. 174) The issues of claim construction and summary judgment are presently before the court. The court has jurisdiction over these matters pursuant to 28 U.S.C. § 1338.

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[1]Defendant has also filed a motion for leave to file a supplemental brief in support for its invalidity motion. (D.I. 166)

II. BACKGROUND

A. Overview

This case involves technology for applying thin film coatings to glass. One popular metallic coating, titanium dioxide, is highly refractive and also imparts "antibacterial, antifouling or drip flowing" properties to glass. ('856 patent, col. 13:33-37) Coatings are not applied directly onto glass. Rather, a "sputtering" process is employed. Generally, sputtering involves bombarding a sputtering target with charged ions. Metallic atoms from the target (the "target material") are displaced and fall to the surface of a sheet of glass passing below the target. This process of displacing atoms from the sputtering target is analogous to using a cue ball to hit a billiard ball. The result is a thin metal oxide film being deposited on the glass surface.

Sputtering targets may be made by several processes, such as sintering and plasma spraying. Sintering involves creating a target by placing a powder form of the target in a mold and subjecting it to heat and pressure. By this process, the powder solidifies into a mass that becomes the target. Plasma spraying, as its name implies, involves heating and spraying powder material onto a target substrate where it solidifies and hardens. Semi-molten powder particles are coated onto a substrate (such as a cylindrical tube) in layers until the desired thickness is achieved.

B. The Patented Technology

The patents in suit are related as parent and continuation applications;[2] they

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[2]The '856 patent was filed on March 12, 1998 and claimed priority to a PCT application (PCT/JP96/00767) filed March 25, 1996 which, in turn, claims priority to a Japanese application (JP 7-215074) filed August 23, 1995. The '938 patent was filed on December 5, 2000 as a continuation of the application issuing as the '856 patent.

have a common specification. Both patents are entitled "target and process for its production, and method for forming a film having a highly refractive index." The '856 patent issued on February 27, 2001 and the '938 patent issued on January 1, 2002.

The patents teach that excellent optical properties are imparted to glass by employing both a high refractive index film and a low refractive index film; the larger the difference between the two, the better the result. ('856 patent, col. 1:33-36) Direct current (or "DC") sputtering is "most suitable for forming a film over a large area" of glass. (*Id.*, col. 1:49-51) Reactive (DC) sputtering – a process whereby a metallic target having electroconductivity is subjected to sputtering in an atmosphere containing oxygen – has certain pitfalls such as poor productivity and high cost. (*Id.*, col. 1:53-60)

The inventors provide an "electroconductive sputtering target which can be formed into any desired shape and which is capable of forming a high refractive index film at a high speed by DC sputtering, a process for its production, and a method for forming a high refractive index film using such a target." (*Id.*, col. 2:56-61) The target material of the invention comprises a metal oxide of the formula MO_x as the main component, where M is selected from the group consisting of Ti (titanium), Nb (niobium), Ta (tantalum), Mo (molybdenum), W (tungsten), Zr (zirconium) and Hf (hafnium) and, importantly, the metal oxide is deficient in oxygen as compared with the stochiometric composition. (*Id.*, col. 2:64-col. 3:4) Thus, when M in MO_x is Mo and/or W, x is preferably within the range of $2<x<3$. (*Id.*, col. 3:19-21) When the metal is selected from the group consisting of Ti, Zr and Hf, x is preferably within a range of $1<x<2$. (*Id.*, col. 3:21-24) As a comparative example, stochiometrically-balanced

titanium oxide has the molecular formula TiO_2. The sub-stiochiometric targets of the patents (TiO_x) may have the formula $TiO_{1.80}$ or $TiO_{1.90}$.

The patents refer to the advantages of these formulas.

> By using the sputtering target of the present invention, a transparent film having a high refractive index can be formed at a high speed by DC sputtering. . . [and] a film having a high refractive index can be produced at a high speed and under a stabilized condition.

(*Id.*, col. 13:13-21) The targets are easily produced in a variety of shapes and resist thermal shock, and cracking or breakage when high sputtering power is imparted, thus increasing productivity. (*Id.,* col. 13:22-27, 13:38-45)

1. Sputtering target claims

This case involves both what the parties refer to as "sputtering target claims" ('856 patent claim 16 and '938 patent claims 10-11 and 18-20) and "film forming claims" ('938 patent claims 1, 3-4 and 7-9). Claim 16 of the '856 reads as follows.

> 16. A sputtering target comprising a substrate and a target material formed on the substrate, wherein
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> the target material comprises as a main component an oxygen deficient oxide;
>
> the oxygen deficient oxide comprises at least one metal oxide of a chemical formula TiO_x that is deficient in oxygen as compared with a stoichiometric composition of the at least one metal oxide;
> and
>
> $1<x<2$.

Independent claim 10 of the '938 patent is also directed to sputtering targets, and claims as follows.

> 10. A sputtering target comprising
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> a substrate;

a target material formed on the substrate; and

an undercoat of a metal or alloy between the target material and the substrate, wherein

the target material comprises as the main component an oxygen deficient oxide;

the oxygen deficient oxide comprises a metal oxide of a chemical formula TiO_x that is deficient in oxygen as compared with a stoichiometric composition of the metal oxide; and $1<x<2$.

Claims 11 and 18-20 of the '938 patent depend from claim 10 and add the additional limitations of a specific thermal expansion coefficient for the target material's undercoat (claim 10), target material thickness (claim 18) and target resistivity (claims 19-20).

The patented sputtering targets have three layers: (1) a substrate, or inner layer; (2) an undercoat, or middle layer; and the (3) target material, or the outer layer. The patents provide that the substrate may be "various metals or alloys" such as "stainless steel, copper or titanium." (*Id.*, col. 4:58-59) The undercoat may be made of an electroconductive powder of several metals or metal alloys,[3] and preferably has a thickness from 30 to 100μm. (*Id.*, col. 5:21-25) The undercoat reduces the thermal expansion between the target material to be sprayed and the substrate. (*Id.*, col. 5:1-5) The material for the undercoat must be changed depending upon the thermal expansion coefficient of the ceramic (target material) layer. (*Id.*, col. 5:26-28)

2. Film forming claims

Claim 1 of the '938 patent is directed to a film forming method, as follows.

1. A method for forming a film, the method comprising sputtering a target,

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[3]For example, "Mo, Ti, Ni, Nb, Ta, W, Ni–Al, Ni–Cr, Ni–Cr–Al, Ni–Cr–Al–Y, or Ni–Co–Cr–Al–Y." ('856 patent, col. 5:21-23)

wherein

the sputtering target comprises a substrate and a target material formed on the substrate;

the target material comprises as the main component an oxygen deficient oxide;

the oxygen deficient oxide comprises a metal oxide of a chemical formula TiO_x that is deficient in oxygen as compared with a stoichiometric composition of the metal oxide; and $1<x<2$.

Claims 3-4 and 7-9 depend from claim 1 and further limit the claim so as to require specific target resistivities (claims 3-4), that the sputtering occur in an argon-containing atmosphere (claims 7-9) and that the film has a specific refractive index (claim 9).

The specification provides that a "uniform transparent film can be formed at high speed when sputtering is carried out by using the target of the present invention in an argon atmosphere or in a mixed atmosphere of argon and a small amount of [oxygen] under a pressure of from $1x10^{-3}$ to $1x10^{-2}$ Torr." (*Id.*, col. 6:31-35) There is no need to introduce an excessive amount of oxygen gas (relative to the metal atoms) as with other targets and, therefore, the invention reduces the deposition of oxygen atoms on the target surface, thereby reducing deterioration and increasing the film forming speed. (*Id.*, col. 6:43-67)

C. Issues at Bar

Many of the facts relevant to the pending motions are not disputed between the parties. Defendant manufactures coated glass products using plasma sprayed, TiO_x sputtering targets purchased from three suppliers: NxEdge; Bekaert and Heraeus. The parties do not dispute that these targets (hereinafter, collectively, the "third-party targets") are substantially identical. While defendant does not itself make the third-

party targets, plaintiffs assert that defendant infringes the product (as well as film forming) claims of the patents in suit by "using" patented targets, as proscribed by 35 U.S.C. § 271. Defendant argues that it does not infringe the product claims under the correct claim construction, and that it cannot infringe the process claims because it does not manufacture targets. Defendant also argues that the patents in suit are invalid for lack of an adequate written description and lack of enablement as to the full scope of the claims, and for obviousness in view of the prior art.

III. STANDARD OF REVIEW

A court shall grant summary judgment only if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 n.10 (1986). "Facts that could alter the outcome are 'material,' and disputes are 'genuine' if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct." *Horowitz v. Fed. Kemper Life Assurance Co.*, 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted). If the moving party has demonstrated an absence of material fact, the nonmoving party then "must come forward with 'specific facts showing that there is a genuine issue for trial.'" *Matsushita*, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will "view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party

opposing the motion." *Pa. Coal Ass'n v. Babbitt*, 63 F.3d 231, 236 (3d Cir. 1995). The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the nonmoving party on that issue. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

IV. DISCUSSION

A. Claim Construction

1. Standards

Claim construction is a matter of law. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1330 (Fed. Cir. 2005) (en banc). Claim construction focuses on intrinsic evidence - the claims, specification and prosecution history - because intrinsic evidence is "the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *Markman v. Westview Instruments, Inc.,* 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Claims must be interpreted from the perspective of one of ordinary skill in the relevant art at the time of the invention. *Phillips*, 415 F.3d at 1313.

Claim construction starts with the claims, *id.* at 1312, and remains centered on the words of the claims throughout. *Interactive Gift Express, Inc. v. Compuserve*, *Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001). In the absence of an express intent to impart

different meaning to claim terms, the terms are presumed to have their ordinary meaning. *Id.* Claims, however, must be read in view of the specification and prosecution history. Indeed, the specification is often "the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315.

2. The parties' arguments: "formed on"

The construction of the "formed on" limitation, present in the product claims of the patents in suit ('856 patent claim 16 and '938 patent claims 1 and 10) is at the heart of the parties' summary judgment disputes. The asserted claims require "a target material formed on the substrate." In this regard, plaintiffs argue that "formed on" means "adhered by a deposition process directly or indirectly to" the substrate. (D.I. 76) That is, "formed on" refers only to deposition (such as by plasma spraying) to the exclusion of sintering. (D.I. 180 at 38) While plaintiffs admit that "form," "forming" and "formed on" are "general words that could be applied broadly in common usage" (D.I. 96 at 18), they argue that the claims describe the familiar "three layer" system (a substrate, an undercoat layer, and a target material) that can only be created by a deposition process. (*Id.* at 20) Defendant's proffered construction of "formed on" is that the term "[c]an include, among other possibilities, [material that is] bonded on or sintered on" the substrate. (D.I. 76)

Defendant's claim construction arguments are atypical in that they focus on the inventorship of particular claims. Defendant argues that "most of the asserted claims cover **only** sintered targets." (D.I. 105 at 12) This argument is tied to what defendant calls the "three inventor claims" – claim 16 of the '856 patent and claims 1 and 10 of the

'938 patent. As discussed in the court's prior opinion in this case,[4] plaintiffs filed declarations during prosecution of the patents in suit whereby Akira Mitsui ("Mitsui"), Takuji Oyama ("Oyama"), and Kenichi Sasaki ("Sasaki") declared that they were the only inventors of these claims, to the exclusion of the other inventors of record. (D.I. 110, ex. 3 at JA-236, ex. 4 at JA-367) Plaintiffs successfully traversed 35 U.S.C. § 102(a) prior art rejections in both pending applications based on prior art publication "JP-469"[5] on this ground, which reference, defendant asserts, discloses sintered (and not plasma sprayed) targets. Because Mitsui, Oyama and Sasaki did not invent plasma sprayed targets, the three-inventor claims must be limited to sintering processes only. In contrast, other asserted claims may encompass either sintering or plasma spraying processes. (D.I. 180 at 48, 67)

3. The specification and claims

The specification proves examples for methods of preparing the target of the present invention. ('856 patent, col. 3:52-53 ("The target **of the present invention** can be prepared, **for example**, as follows") (emphasis added)) The first example is a sintering process, as follows:

> In a case of a NbO_x target, a Nb_2O_5 powder is subjected to hot-pressing (high temperature and high pressure pressing) for sintering to obtain a target of the present invention. In such a case, the particle size of the powder is preferably from 0.05 to 40 μm. It is important that the atmosphere for the hot-pressing is a non-oxidizing atmosphere, and it is preferred to use argon or nitrogen, since it is thereby easy to adjust the oxygen content in the target. It is also possible to add

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[4] *Asahi Glass Co., Ltd. v. Guardian Industries Corp.*, —F.Supp.2d—, 2011 WL 3555590 (D. Del. Aug. 12, 2011).

[5] Japanese Patent Abstract Publication No. 07-233469, published September 5, 1995.

> hydrogen. The hot-pressing conditions are not particularly limited, but the temperature is preferably from 800 to 1,400°C, and the pressure is preferably from 50 to 100 kg/cm^2.

(*Id.*, col. 3:54-65) Immediately following this description, the specification provides for a plasma spraying process, as follows.

> The present invention also provides a process for producing a sputtering target, which comprises **forming** an undercoat made of a metal or alloy on a substrate, and **forming** a ceramic layer as a target material on the undercoat, **wherein** the ceramic layer as a target material (hereinafter referred to simply as the ceramic layer) is **formed by plasma spraying** wherein a ceramic powder for spraying (hereinafter referred to simply as the ceramic powder) which is made in a semi-molten state in a high temperature plasma gas in a reducing atmosphere, is transported and deposited onto the undercoat by the plasma gas, and, as the target material, a target material comprising a metal oxide of the chemical formula MOx as the main component is used, wherein MOx is a metal oxide which is deficient in oxygen as compared to the stoichiometric composition, and M is at least one metal selected from the group consisting of Ti, Nb, Ta, Mo, W, Zr, and Hf.
>
> In the present invention, the ceramic powder is made in a semi-molten state by means of a plasma spraying apparatus and deposited on a substrate, so that a ceramic layer for a sputtering target is directly formed.
>
> Accordingly, the process **does not require** a molding step, **a sintering step,** a processing step to form a complex structure or shape, or a bonding step.

(emphasis added) ('856 patent, col. 3:66-col. 4:22) The specification later provides that the "ceramic layer which serves as target material" is formed with "ceramic powder which is made in a semi-molten state in a high temperature plasma gas . . . deposited onto the undercoat by such a gas[.]" (*Id.*, col. 5:53-60)

Following these descriptions, the "best mode[s] for carrying out the invention" are disclosed. Examples 1-7 describe hot-pressing Nb_2O_5 powder to create a sintered target. (*Id.*, col. 7:48-67 & table 1) Examples 8-11 describe creating a Nb_2O_5 film using the sintered target of example 3 further processed to a 6 inch diameter and bonded to a

copper backing plate. (*Id.*, col. 8:18-52 & table 2) The inventors report that "[a]s is apparent from the results in table 2 **by using the target of the present invention**, a transparent Nb_2O_5 film having a high refractive index was formed at a high speed." (*Id.* at col. 8:50-52) (emphasis added) Examples 12-15 also describe creating a sintered target using a combination of Nb_2O_5 and an oxide of Cr (chromium), Ce (cerium), Al (aluminum) or Si (silicon). (*Id.* at col. 9:43-67 & table 3) Example 16 discloses obtaining "similar good results" by changing NbO_x in example 3 to TaO_x and also by changing to TaO_x to MoO_x, WO_x, ZrO_x, and HfO_x. (*Id.* at col. 10:15-25) In contrast to examples 1-16, examples 17-28 describe forming targets using plasma spraying.

Claims 1 and 10 of the '938 patent each require that the sputtering target comprise "a target material formed on the substrate." Claim 1 of the '856 patent is drawn to a "sputtering target comprising a substrate and a target material formed on the substrate" having specific properties. Claim 4 of the '856 patent recites "[t]he sputtering target according to claim 1, produced by a plasma spraying process." Claim 11 of the '856 patent recites a process for producing a sputtering target comprising "forming an undercoat" on a substrate and "forming a target material on the undercoat by plasma spraying a ceramic powder in a semi-molten state in a high temperature plasma gas in a reducing atmosphere onto the undercoat."

4. Discussion

In view of the foregoing, the court declines to limit the term "formed on" such as to exclude sintering, as plaintiffs suggest. As an initial matter, plaintiffs do not point to a clear disclaimer, i.e., an expression of "manifest exclusion or restriction," in the record

such as may evidence an intention to limit "formed on" to formation by plasma spraying processes. *See Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1382 (Fed. Cir. 2009) (citations omitted). This is not surprising given that the specification alternatively describes both sintering and plasma spraying processes as methods for preparing "[t]he target of the present invention." ('856 patent, col. 3:52-53 et seq.)

That the inventors specified "produced by a plasma spraying process" (dependent claim 4 of the '856 patent) or "forming. . . by plasma spraying" (claim 11 of the '856 patent) when they sought fit also supports a narrowed construction. *See gen., Symantec Corp. v. Computer Associates Intern.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008) ("the general assumption is that different terms have different meanings"). The claims do not stand alone, however, and must be read in light of the specification. *Phillips*, 415 F.3d at 1315. The patents in suit describe both sintering and plasma spraying processes. The specification clearly states that "[t]he present invention also provides a process for producing a sputtering target" which comprises a ceramic layer "formed by plasma spraying."[6] ('856 patent, col. 3:52-53, col. 3:66-col. 4:15) As plaintiffs point out, "formed" is not used in the specification in the context of a sintering process. ('856 patent, col. 3:54-65, examples 1-16)[7] "Formed" is used several times in the context of plasma spraying processes. (*Id.*, col. 10:51 (undercoat layer A "formed by repeating an

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[6]While (sintering) examples 1-16 specifically refer to the resultant targets as being "targets of the present invention," (plasma spraying) examples 17-28 do not.

[7]For example, examples 1-7 provide that hot pressing was "carried out" under specific conditions and that a sintered target was "obtained as a target material." ('856 patent, col. 7:52-59) Examples 12-15 also refer to "obtain[ing] a sintered body" by hot pressing. (*Id.*, col. 9:52-53)

operation of moving the plasma spraying gun right and left and up and down"); col. 12:60 (ceramic layer was "formed by water plasma spraying"))

For these reasons, the court finds that the "formed on" limitation of the '856 and '938 patents should not be limited to either a sintering process or a plasma sprayed process.[8] *See, e.g., Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276-77 (Fed. Cir. 2008) ("We normally do not interpret claims in a way that excludes embodiments disclosed in the specification" absent a clear disclaimer) (citations omitted). Therefore, the court construes the "formed on" limitation as "adhered directly or indirectly to, without regard to the application process." Such construction is consistent with the plain and ordinary meaning of "formed on," which does not require a particular method of creation.[9]

In so holding, the court notes that it does not embrace defendant's bifurcation (for claim construction purposes) of the so-called three-inventor claims; it construes the claim language consistently.[10] The court also need not evaluate defendant's argument

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[8]The foregoing is also sufficient, in the court's opinion, to rebut the strong presumption created under the doctrine of claim differentiation by the use of "plasma spraying" in dependant claim 4 of the '856 patent. *See Retractable Technologies, Inc. v. Becton, Dickinson and Co.*, Civ. No. 2010-1402, —F.3d—, 2011 WL 2652448, *14 (Fed. Cir. 2011) ("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") (citation omitted); *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (the "presumption can be overcome if the circumstances suggest a different explanation, or if the evidence favoring a different claim construction is strong") (citations omitted).

[9]If plaintiffs are correct that the sequence of steps in the claims can not encompass a one-step sintering process, it is the required steps that would limit the claims to plasma spraying, not the "formed on" limitation.

[10]The parties did not argue that the terms of the '856 and '938 patents, sharing a common specification, should not be construed consistently.

that plaintiffs could have, but did not, distinguish over prior art asserted by the PTO during prosecution of the patents by specifically narrowing its claims to plasma sprayed targets or plasma spraying processes. Even assuming that plaintiffs' decision not to amend its claims in a particular way is relevant to the inquiry (it is not clear to the court that this is so), such evaluation would require expert testimony regarding the disclosure of the prior art vis a vis the pending claims, which does not appear to be presented by defendant. (D.I. 105)

B. Infringement

1. Standards

A patent is infringed when a person "without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent." 35 U.S.C. § 271(a). A two-step analysis is employed in making an infringement determination. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). First, the court must construe the asserted claims to ascertain their meaning and scope. *See id*. Construction of the claims is a question of law subject to de novo review. *See Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. *See Markman*, 52 F.3d at 976. This second step is a question of fact. *See Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

"Direct infringement requires a party to perform each and every step or element of a claimed method or product." *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007). "If any claim limitation is absent from the accused device, there

is no literal infringement as a matter of law." *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. *See Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). However, "[o]ne may infringe an independent claim and not infringe a claim dependent on that claim." *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) (quoting *Wahpeton Canvas*, 870 F.2d at 1552) (internal quotations omitted). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *See SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

2. Product claims

There is no dispute between the parties that defendant utilizes plasma sprayed (and not sintered) TiO_x sputtering targets purchased from third parties for use in its cylindrical magnetron sputter coating machines (or "C-Mag" machines). Plaintiffs identify fourteen coated glass products manufactured by defendant using the third-party TiO_x sputtering targets at issue.[11] In their motion papers, plaintiffs articulate that defendant's "TiO_x Material Specification Sheet," specifying the characteristics for the TiO_x targets used to manufacture the accused products, as well as defendant's

[11]CG HT (ClimaGuard 71/38 HT, RLE HT); CG 63/31 (ClimaGuard 63/31); CG 70/36 (ClimaGuard 70/36, RLE 70/36, PP III 70/40, GLE 70/40); CG 71/38 (ClimaGuard 70/38, RLE 71/38, SP 71/40); CG 75/68 (ClimaGuard HER Low-E); CG N (ClimaGuard N/NL); PP II (ClimaGuard PP II); PP II HT (ClimaGuard PP II HT); SN 62 (SunGuard SuperNeutral, SN 62/31); SN 68 (SunGuard SuperNeutral SN 68); SN 68 HT (SunGuard SuperNeutral SN 68 HT); NU 61 (SunGuard Neutral 61); NU 61 HT (SunGuard Neutral 61 HR, N61HT); and FSM (FSM aluminum). (D.I. 116 at 6-7)

corporate representative's testimony, confirm that each of the limitations of the product claims are met by the third-party targets.[12] (D.I. 116 at 7-8) In response, and in its own moving papers, defendant articulates only one reason why its use of the third-party targets is noninfringing: the claims are limited to sintered targets, to the exclusion of plasma sprayed targets. (D.I. 123 at 17-19; D.I. 137 at 12)

By defendant's own admission, this argument applies only to the "three inventor" claims (claim 16 of the '856 patent and claims 1 and 10 of the '938) patent. (D.I. 180 at 48, 67) Notwithstanding, the court has declined to exclude plasma-sprayed targets from the scope of the claims as defendant suggests. Accordingly, summary judgment of infringement of '856 patent claim 16 and '938 patent claims 10-11 and 18-20 is appropriate.

3. Process claims

a. Methods for making targets

Defendant moves for judgment that it does not infringe claims 23-25 of the '938 patent, or claims 11, 12, 14, or 15 of the '856 patent, as a matter of law, because it does not make sputtering targets. Plaintiffs do not contest this fact but assert that, pursuant to 35 U.S.C. § 271(g), defendant may be held liable for infringement for utilizing targets made by an infringing process. (D.I. 135 at 11-13) Defendant argues that § 271(g) is inapplicable because the targets it uses are manufactured within the United States. (D.I. 123 at 11-12) Plaintiffs do not dispute that the targets are made

[12]For reasons that shall be explained, the court need not reiterate that evidence here. The court points out, however, that plaintiffs do not call out any particular difference between the Bekaert, Heraeus and NxEdge targets in these regards.

domestically. (D.I. 135 at 11)

Section 271(g) provides that

> [w]hoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product. A product which is made by a patented process will, for purposes of this title, not be considered to be so made after--
>
> (1) it is materially changed by subsequent processes; or
>
> (2) it becomes a trivial and nonessential component of another product.

The court previously considered the legislative intent behind § 271(g) in its decision in *British Telecommunications v. SNC Communications Inc.*, Civ. Nos. 03-526, 03-527 and 03-528, 2004 WL 5264272 (D.Del. Feb. 24, 2004), in which the court noted that "the fundamental purpose underlying passage of the statute has absolutely no application" in a scenario when the patented methods are being used in this country. *Id.* at *2-3 (citing *Bayer AG v. Housey Pharma., Inc.*, 340 F.3d 1367, 1376 (Fed. Cir. 2003)); *see also Monsanto Co. v. Syngenta Seeds, Inc.*, 431 F. Supp. 2d 482, 487 (D. Del. 2006). The rationale is straightforward: Congress recognized that § 271(g) did not have to address unauthorized domestic uses of patented processes, because there are already remedies for such conduct (under 35 U.S.C. § 271(a)). *Id.*

This rationale applies with equal force to the facts at bar. If NxEdge, Bekaert and Heraeus produce the plasma-sprayed targets utilized by defendant in this country, plaintiffs have a cause of action for infringement against those companies pursuant to §

271(a) – not its competitor under § 271(g).[13] Because the court declines plaintiffs' invitation to apply § 271(g) to domestically-manufactured goods, judgment for defendant is appropriate on the aforementioned claims.

b. Film-forming claims

Independent claim 1 and dependent claims 3, 4, and 7-9 of the '938 patent are not directed to making sputtering targets, but are directed to methods for forming a film using the target of the invention. In response to plaintiffs' motion for summary judgment on these claims, defendant argues only that it cannot infringe because the claims are limited to sintering targets. (D.I. 137 at 12) Insofar as defendant does not contest infringement under plaintiffs' claim construction, the court grants plaintiffs' motion with respect to the film-forming claims that were the subject of its motion.

4. Conclusion

For the aforementioned reasons, plaintiffs' motion for partial summary judgment of infringement is granted with respect to the target and film-forming claims (claim 16 of the '856 patent and claims 1, 3-4, 7-11 and 18-20 of the '938 patent). Defendant's motion for summary judgment of no infringement is granted with respect to the claims directed to processes for making sputtering targets (claims 11-15 of the '856 patent and claims 23-25 of the '938 patent). While the additional film-forming claims raised by defendant's motion (claims 2, 5 and 6 of the '938 patent) appear to be infringed in view of the court's construction, the court does not enter judgment on these claims insofar as they were not part of plaintiffs' motion. The court, therefore, grants defendant's motion

[13]Plaintiffs' strategy might be guided by the fact that plaintiffs buy the same C-Mag TiO_x targets from the same suppliers. (D.I. 124, ex. Q at 15-19)

for summary judgment of noninfringement in part and denies its motion in part.

B. Invalidity

Defendant asserts that the '856 and '938 patents are invalid for lack of adequate written description, lack of enablement, and as obvious in view of the prior art. There is no cross motion for summary judgment of validity.

1. 35 U.S.C. § 112, first paragraph

a. Standards

The statutory basis for the written description and enablement requirements is found in 35 U.S.C. § 112, paragraph 1, which provides in relevant part:

> The 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, or with which it is most nearly connected, to make and use the same.

The Federal Circuit has explained that "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. . . . Tossing out the mere germ of an idea does not constitute enabling disclosure." *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997).

The written description requirement of 35 U.S.C. § 112, ¶1 ensures that "the patentee had possession of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed." *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1344-45 (Fed. Cir. 2005). "[T]he description must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *Ariad*, 598 F.3d at 1351 (citations and internal brackets omitted). "In other

words, the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Id.* (citations omitted). Whether the written description requirement is met is a question of fact. *Martek Biosciences Corp. v. Nutrinova, Inc.*, Nos. 2008-1459 & 2008-1476, 2009 WL 2780367 at *3 (Fed. Cir. Sept. 3, 2009) (citation omitted).

To satisfy the enablement requirement, a specification must teach those skilled in the art how to make and to use the full scope of the claimed invention without undue experimentation. *Genentech*, 108 F.3d at 1365. "While every aspect of a generic claim certainly need not have been carried out by the inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention." *Id.* at 1366. The specification need not teach what is well known in the art. *Hybritech v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986).

Enablement is determined as of the filing date of the patent application. *In re Brana,* 51 F.3d, 1560, 1567 n.19 (Fed. Cir. 1995). The use of prophetic examples does not automatically make a patent non-enabling. The burden is on one challenging validity to show, by clear and convincing evidence, that the prophetic examples together with the other parts of the specification are not enabling. *Atlas Powder Co. v. E. I. Du Pont de Nemours & Co.*, 750 F.2d 1569, 1577 (Fed. Cir. 1984).

Some experimentation may be necessary in order to practice a claimed invention; the amount of experimentation, however, "must not be unduly extensive." *Id.*

at 1576.

> The test for whether undue experimentation would have been required is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed to enable the determination of how to practice a desired embodiment of the invention claimed.

PPG Indus. Inc. v. Guardian Indus. Corp., 75 F.3d 1558, 1564 (Fed. Cir. 1996) (quoting Ex parte Jackson, 217 U.S.P.Q. 804, 807 (1982)).

The enablement requirement is a question of law based on underlying factual inquiries. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). A court may consider several factors in determining whether undue experimentation is required to practice a claimed invention, including: (1) the quantity of experimentation necessary; (2) the amount of direction or guidance disclosed in the patent; (3) the presence or absence of working examples in the patent; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (6) the predictability of the art; and (7) the breadth of the claims. *Wands*, 858 F.2d at 737. These factors are sometimes referred to as the "Wands factors." A court need not consider every one of the Wands factors in its analysis. Rather, a court is only required to consider those factors relevant to the facts of the case. *See Amgen, Inc. v. Chugai Pharm. Co., Ltd.,* 927 F.2d 1200, 1213 (Fed. Cir. 1991).

b. Discussion

Defendant asserts that the '856 and '938 patents do not comply with the written description requirement for several reasons, to wit: (1) the specification does not show that Mitsui, Oyama and Sasaki invented plasma sprayed targets; (2) there is no

indication that the above three inventors were in possession of a broad range of x-values (between 1 and 2) or (3) ranges of resistivities (less than 1 Ω cm); and (4) there is no disclosure of making C-Mag targets. With respect to the first argument, § 112 does not, as defendant asserts, require a "discussion of who among the seven inventors invented what" portions of the invention. (D.I. 121 at 6-8) What is required is that the specification reasonably confers to those skilled in the art that the inventors possessed the claimed subject matter – here, plasma sprayed targets. *Ariad*, 598 F.3d at 1351. The court has previously described substantial portions of the specification devoted to plasma sprayed targets, *supra*, which would satisfy this burden. Defendant does not argue to the contrary.[14]

Defendant's next arguments are that the written description does not show that the inventors were in possession of targets with a broad range of x-values (between 1 and 2) and resistivities (less than 1 Ω cm). Defendant admits that the patents describe TiO_x targets having an x-value of 1.93, but asserts that there is no explanation for how to achieve lower x-values. (D.I. 121 at 11) This argument is more one of nonenablement than lack of written description. Notwithstanding, defendant presents little more than attorney argument that the inventors did not have the capability to obtain lower x-values in support of this theory. (*Id.* at 10-12)

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[14]The overarching argument made by defendant in this case is that Mitsui, Oyama and Sasaki did not invent plasma sprayed targets, and defendant has gathered deposition testimony and/or other evidence demonstrating that they did not know how to make such targets. (D.I. 121 at 9) This is not a § 112 issue. In one paragraph of its (40-page) opening brief, defendant briefly argues that claim 16 of the '856 patent and claims 1 and 10 of the '938 patent may be invalid pursuant to 35 U.S.C. § 102(f). (*Id.*) The issue has not been sufficiently presented such as to be considered by the court on summary judgment.

Defendant's arguments regarding lower resistivities suffer the same flaw. (*Id.* at 12-13) (the patents "simply show that **if** one makes a target having an x-value of 1.93 in the manner taught in example 17, **then** the resistivity will be 0.33 Ω cm") (emphasis in original) While an expert's opinion was not necessarily required,[15] the patents are presumed valid and defendant has not met its clear and convincing burden on this record. *See Ariad*, 598 F.3d at 1352 (the written description inquiry involves an "objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.").

Defendant's argument regarding C-Mag targets is not clear and convincing for various reasons. Defendant contends that the inventors failed to adequately describe the C-Mag targets it now asserts infringe the claims ("a species of sputter target" that are "cylindrical rotating targets [ ] 8-10 feet long [running] for hundreds of hours"). (D.I. 121 at 14-15) The claims are not drawn to C-Mag or any other particular type of target, however. Defendant only argues that C-Mag targets needed to be described and/or enabled because plaintiffs now assert those targets are within the scope of the otherwise broad claims; no correlation is made to the claim language. (D.I. 121 at 13-17) It is well-established that inventors need not describe every conceivable embodiment of their invention. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001). Put most simply, defendant's correlation of infringement and written description does not appear to have a proper basis on these facts.

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[15] *See, gen., Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927 (Fed. Cir. 2004) (under certain circumstances, a patent may be held invalid for failure to meet the written description requirement based solely on the language of the patent specification).

Defendant reiterates many of its same arguments in the context of enablement. That is, because the patents do not describe how to achieve an x-value for TiO_x below 1.93, how to achieve lower resistances than 0.33 Ω cm, or several of the plasma spraying parameters ("spray distance; the spray atmosphere; the ratio of spray gases; particle shape; particle composition; phase of material; hopper flow rates; nozzle configuration; and target cooling"), they are not enabled as a matter of law. (D.I. 121 at 20) Defendant also argues that the patents are nonenabled because they do not teach how to make a C-Mag target. (*Id.*)

The court need not delve into the minutia of defendant's arguments insofar as, upon its review, the court finds that defendant has not demonstrated that no genuine issues of material fact regarding the validity of these (presumably valid) patents exists on this record. The legal question of enablement rests on a hosts of inherently factual inquiries (the *Wands* factors), including the sufficiency of the direction and guidance provided in the specification to a person of ordinary skill in the art, as well as the quantity of experimentation required by such a person. *Wands*, 858 F.2d at 737. Defendant does not provide any citation to expert testimony in support of the majority of its arguments. Its argument consists primarily of attorney argument regarding the proper import of the cited facts of record.[16] The court does not take the enablement question from the jury under these circumstances.

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[16]At the end of its lengthy enablement argument, defendant invites the court to read its expert reports for further explanation of its theories. (D.I. 121 at 27 ("This is all explained in detail in the expert reports of Dr. Horn. (Ex. DD, ¶¶ 150-97; Ex. QQ, ¶¶ 37-63)") For purposes of summary judgment, the court is disinclined to acquiesce to this request. By its concurrent memorandum order, the court separately explains why defendant's expert's § 112 opinions are excluded as they are not helpful to the jury.

2. Obviousness

a. Standards

"A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a). Obviousness is a question of law, which depends on several underlying factual inquiries.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)).

"[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418. Likewise, a defendant asserting obviousness in view of a combination of references has the burden to show that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed. *Id*. at 418-19. The Supreme Court has emphasized the need for courts to value "common sense" over "rigid preventative rules" in determining whether a motivation to combine existed. *Id*. at 419-20. "[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the

elements in the manner claimed." *Id*. at 420. In addition to showing that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, a defendant must also demonstrate that "such a person would have had a reasonable expectation of success in doing so." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc*., 491 F.3d 1342, 1360 (Fed. Cir. 2007).

"Because patents are presumed to be valid, *see* 35 U.S.C. § 282, an alleged infringer seeking to invalidate a patent on obviousness grounds must establish its obviousness by facts supported by clear and convincing evidence." *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 968 (Fed. Cir. 2006) (citation omitted). In conjunction with this burden, the Federal Circuit has explained that,

> [w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984)).

b. Discussion

Defendant asserts that the '856 and '938 patents are invalid in view of the following prior art: (1) U.S. Patent No. 4,379,040 ("Gillery"); (2) U.S. Patent No. 3,309,302 ("Heil"); (3) U.S. Patent No. 4,690,745 ("Klein"); (4) U.S. Patent No. 5,480,531 ("Weigert"); (5) Japanese Patent Application No. 62-161945 ("Sakurai"); (6) U.S. Patent No. 5,209,835 ("Makino"); (7) Japanese Patent Abstract No. 06-330297 ("Kodera"); (8) U.S. Patent No. 4,422,917 ("Hayfield"); (9) a 1991 article in Electronics

and Optics entitled "Electrical Conductivity of Plasma-Sprayed Titanium Oxide (Rutile) Coatings" by Ohmori et. al ("Ohmori"); (10) U.S. Patent No. 4,931,213 ("Cass"); (11) U.S. Patent No. 5,354,446 ("Kida"); (12) Japanese Patent Application No. 07-233469 ("Mitsui"); (13) U.S. Patent No. 5,110,637 ("Ando"); and (14) Great Britain Patent No. 1,438,462 ("Hoechst"). (D.I. 121 (citing D.I. 124, exhibits to ex. DD))

It is defendant's position that Gillery, alone, is sufficient to render the claims obvious insofar as Gillery discloses forming a TiO_x film using a "partially oxidized" titanium oxide cathode. (D.I. 124, ex. DD at ¶ 20) Defendant cites the report of its expert, Dr. Mark Horn, opining that the disclosure of a "partially oxidized" titanium oxide implies a TiO_x target having a value of $1<x<2$. (*Id.* at ¶ 21[17]) Defendant goes on to argue that the rest of the prior art buttresses the obviousness conclusion in other respects, for example: (1) Weigert and Klein show that oxygen-deficient metal oxide targets are conductive; (2) Kida, Makino and Ando disclosed the oxygen-deficient indium tin oxide targets; (3) Cass discloses a "wealth of other teaching on uses for TiO_x powder" such as for use in electrochemical reactions; and (4) Ohmori shows plasma spraying TiO_x powder on a substrate. (D.I. 212 at 31-37) The majority of defendant's arguments in these regards do not contain citations to Dr. Horn. (*Id.*) Defendant does not specifically articulate in its papers a motivation to combine specific references, or a reasonable expectation of success. Moreover, defendant does not address the

[17]Defendant cites two paragraphs of Dr. Horn's report with respect to Gillery, paragraphs 21 and 35. (D.I. 121 at 31) Paragraph 21 is a portion of Dr. Horn's opinion on anticipation. In paragraph 35 of his report, Dr. Horn briefly describes Gillery's additional teachings that sputtering takes place in an argon-oxygen atmosphere, DC sputter coating, and magnetically-enhanced DC sputtering. (D.I. 124, ex. DD at ¶ 35)

additional references, providing only as follows:

> Guardian had limited space in this brief to highlight the strongest and clearest of the rationales. But there are so many ways to explain why the Asahi claims are obvious and not inventive. The court may gain further assistance and insight by considering some of these, and so Guardian attached them as ex. DD, ¶¶ 56-121 [Dr. Horn's report].

(D.I. 121 at 38) Defendant also attaches claim charts for the independent claims "to demonstrate how each element of each claim reads on the prior art."[18] (*Id.* at 38, n.2)

As an initial matter, the court declines to search the record for arguments not deemed worthy of discussion in defendant's opening papers. Such consideration would not only obliterate the court's page limitations for summary judgment briefs,[19] but usurp counsel's role as articulating why summary judgment is appropriate (or not appropriate) in view of the proffered expert testimony.

With respect to the references described in defendant's papers, the court finds that defendant has not met its burden to demonstrate the absence of a triable fact with respect to obviousness. Obviousness is based upon a host of underlying factual underpinnings, including how persons of ordinary skill in the art would view the disclosures of the asserted prior art, the knowledge of such persons, their motivation to combine references in the manner claimed as well as the reasonableness of their

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[18]Dr. Horn did not provide claim charts in connection with his expert report.

[19]The court allows parties to exceed the local rules and present 40 pages in support for motions for summary judgment on invalidity in patent cases.

In addition to its 20 pages allotted for a reply brief, defendant has also filed a motion for leave to file an additional brief addressing a 1993 Japanese Patent Application ("the Tani reference") that has recently been cited by the PTO in rejecting the '938 patent in copending reexamination proceedings. (D.I. 166) The court denies that motion.

expectation of success in doing so. *KSR*, 550 U.S. at 406-07. The court has rarely (if ever) been presented with motion for summary judgment of invalidity based on obviousness in a complex technology area such as this, based on the number of references identified by defendant, without reliance on an expert opinion.[20] Defendant has not made out a prima facie case of obviousness, and its motion is denied.

V. CONCLUSION

For the foregoing reasons, the court grants plaintiffs' motion for partial summary judgment of patent infringement (D.I. 115); denies defendant's motion for summary judgment of invalidity (D.I. 120); and grants in part and denies in part defendant's motion for summary judgment of noninfringement (D.I. 122). An appropriate order shall issue.

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[20]As noted in the court's memorandum order of this same date, the court will address the sufficiency of Dr. Horn's opinion as expressed in his report at the pretrial conference.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

ASAHI GLASS CO., LTD. and AGC FLAT GLASS NORTH AMERICA, INC.,	)	
Plaintiffs,	)	
v.	)	Civ. No. 09-515-SLR
GUARDIAN INDUSTRIES CORP.,	)	
Defendant.	)	

ORDER

At Wilmington this 26th day of September 2011, consistent with the memorandum opinion issued this same date;

IT IS ORDERED that:

1. Plaintiffs' motion for partial summary judgment of patent infringement (D.I. 115) is granted.

2. Defendant's motion for summary judgment of invalidity (D.I. 120) is denied.

3. Defendant's motion for summary judgment of noninfringement (D.I. 122) is granted in part and denied in part.

4. Defendant's motion for leave to file a supplemental brief in support for its motion for summary judgment of invalidity (D.I. 166) is denied.

United States District Judge