IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

COMMISSARIAT À L'ENERGIE ATOMIQUE, Plaintiff, v. SAMSUNG ELECTRONICS CO., et al., Defendants.	:	Civil Action No. 03-484-MPT CONSOLIDATED CASES

MEMORANDUM ORDER

INTRODUCTION

This is a patent infringement case. On May 19, 2003 Commissariat à l'Energie Atomique ("CEA") filed a complaint against Samsung Electronics Co., Ltd. ("Samsung"), and others, for infringement of United States Patent Nos. 4,701,028 ("the '028 patent") and 4,889,412 ("the '412 patent") (collectively "the patents-in-suit").[1] The '028 patent and the '412 patent are directed to technology involving the design and manufacture of liquid crystal displays ("LCDs") and related products.[2] An LCD is a type of flat panel display that is used in products such as computer monitors.[3]

On October 3, 2007 the court issued its Claim Construction Memorandum Order (D.I. 1076) construing certain claim terms of the patents-in-suit. Currently before the court is Samsung's Motion for Summary Judgment of Invalidity of U.S. Patent No.

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[1] D.I. 1. CEA has since filed amended complaints, but the patents-in-suit remain the same. *See* D.I. 371; D.I. 373; D.I. 379.

[2] D.I. 1 at 2.

[3] *Id.*

4,701,028 Due to Failure to Disclose the Best Mode.[4] For the reasons stated below, the court grants Samsung's motion.

DISCUSSION

A grant of summary judgment pursuant to Federal Rule of Civil Procedure 56(c) is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with 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."[5] This standard is applicable to patent cases.[6] A Rule 56(c) movant bears the burden of establishing "that there is an absence of evidence to support the nonmoving party's case."[7] The nonmovant must be given the benefit of all justifiable inferences and the court must resolve any disputed issue of fact in favor of the nonmovant.[8]

"A patent shall be presumed valid."[9] "To overcome this presumption of validity, the party challenging a patent must prove facts supporting invalidity by clear and convincing evidence."[10]

35 U.S.C. § 112, ¶ 1, recites in relevant part that, the specification shall "set forth the best mode contemplated by the inventor of carrying out his invention."

> Determining whether a patent complies with the best mode requirement involves two underlying factual inquiries. First, it must be determined whether, at the time the patent application was filed, the inventor had a

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[4] D.I. 691. Samsung moves for summary judgment under Federal Rule of Civil Procedure 56 on the issue of invalidity under 35 U.S.C. § 112, ¶ 1 for failure to disclose the best mode of practicing the invention described in the '028 patent.

[5] Fed. R. Civ. P. 56(c).

[6] *Johnson v. IVAC Corp.*, 885 F.2d 1574, 1576-77 (Fed. Cir. 1989).

[7] *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

[8] *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 456 (1992).

[9] 35 U.S.C. § 282.

[10] *Schumer v. Lab. Computer Sys., Inc.*, 305 F.3d 1304, 1315 (Fed. Cir. 2002).

> best mode of practicing the claimed invention. *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 927-28, 16 U.S.P.Q.2d 1033, 1036 (Fed. Cir. 1990). This inquiry is wholly subjective and addresses whether the inventor must disclose any facts in addition to those sufficient for enablement. *Id.* at 928, 16 U.S.P.Q.2d at 1036. Second, if the inventor had a best mode of practicing the claimed invention, it must be determined whether the specification adequately disclosed what the inventor contemplated as the best mode so that those having ordinary skill in the art could practice it. *Id.* at 928, 16 U.S.P.Q.2d at 1036-37. The latter question is "largely an objective inquiry that depends upon the scope of the claimed invention and the level of skill in the art." *Id.* at 928, 16 U.S.P.Q.2d at 1037.[11]

The purpose of the best mode requirement "is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived."[12]

Claim 1 of the '028 patent includes the limitation requiring "a means for polarizing the incident light."[13] Samsung argues that record evidence demonstrates both prongs of the best mode inquiry have been met. First, Samsung avers that the deposition testimony of inventor Jean-Frederic Clerc ("Clerc"), and contemporaneous CEA documents, establish that the inventors of the '028 patent had a subjective belief, during the relevant time period, that a particular polarizer, model R82.60 manufactured by Sanritz, was the best polarizer to carry out their invention. Second, Samsung argues that the inventors concealed the best mode by not disclosing the Sanritz polarizer in the

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[11] *U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 74 F.3d 1209, 1211 (Fed. Cir. 1996); *see also High Concrete Structures, Inc. v. New Enterprise Stone and Lime Co.*, 377 F.3d 1379, 1382 (Fed. Cir. 2004) ("Invalidation for failure to set forth the best mode requires (1) the inventor knew of a better mode than was disclosed, and (2) the inventor concealed that better mode. Both parts of the best mode test must be met in order to invalidate the patent.") (citing *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 927-28 (Fed. Cir. 1990); *Spectra-Physics, Inc. v. Coherent, Inc.*, 824 F.2d 1524, 1535 (Fed. Cir. 1997)).

[12] *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 926 (Fed. Cir. 1990).

[13] In its October 3, 2007 Claim Construction Memorandum, the court adopted Samsung's proposed construction of that limitation. *See* D.I. 1076 at 8 (slip opinion) (adopting Samsung's proposed construction of "means for polarizing the incident light"). The parties, however, do not argue that the court's claim construction is material to a determination of Samsung's motion.

'028 patent and because the patent's specification would not otherwise enable one of skill in the art to practice the preferred method of practicing the invention.

CEA contends that the evidence does not support Samsung's argument that the inventors had the subjective belief that the Sanritz polarizer was the best mode. It argues that the specification's general statement that biaxial media is the preferred polarizer is sufficient disclosure to allow one of skill in the art at the relevant time period to practice the claimed invention. Alternatively, CEA argues that genuine questions of material fact exists as to the inventors' subjective belief regarding the best mode and the sufficiency of the disclosure of the specification.

The relevant date of inquiry concerning the inventors' subjective belief as to the best mode of carrying out their invention is May 18, 1984, the foreign application priority date claimed in the '028 patent.[14] Samsung has presented clear and convincing evidence, through deposition testimony and internal CEA documents, that at the relevant time the inventors subjectively believed that the Sanritz R82.60 polarizer was the best mode for practicing the claimed invention.

Clerc testified that when he was working on the invention that issued as the '028 patent "we cannot say one polarizer is better than other one, another one"[15] and that "[o]ur invention is to say there is no good or bad polarizer." Those statements,

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[14] *See Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 558 (Fed. Cir. 1994) ("[I]t has been held that, in the context of a priority claim under 35 U.S.C. § 119, one looks to the foreign application and its filing date to determine the adequacy of the best mode disclosure and not the filing date of the corresponding U.S. Application."). CEA does not suggest that the court should not consider the filing date of the French application as the relevant date of inquiry. *See* D.I. 794 at 17; *id.* at 17 n.7 ("According to Defendants, 'in this case May 16, 1985, is the relevant date for purposes of the best mode inquiry.'" "Elsewhere Defendants clearly direct the Court to when CEA filed the French application in 1984 as the relevant date regardless, *in both filings, CEA fully disclosed the best mode at the time.*" (emphasis added)).

[15] D.I. 795, Ex. 1 at 307:24-308:2 (Oct. 4, 2005 Clerc deposition transcript).

however, do not create a genuine issue of material fact as to what the inventor considered the best mode for practicing the claimed invention. Clerc testified that the particular polarizer the inventors were using when working on the invention of the '028 patent was the Sanritz polarizer: "[w]e find that we obtain a good matching with approximately 5 micrometers of liquid crystal with .2 – with a birefringence of .2, that means 1 micrometer of optical retardation in the liquid crystal and the Sanritz polarizer, and the reference what was the R82.60 . . . ."[16] A CEA document dated January 3, 1984 includes a table (dated December 15, 1983) listing the Sanritz R82.60 polarizer as the polarizer to be used in "MOCK-UP 001"–ten copies of which were to be produced from November 1983 to February 1984.[17] That document indicates that the same polarizer was to be used to produce "EXPERIMENTAL SCREEN"–sixty copies to be produced from March 1984 through December 1984.[18] A final column in that document, headed "PROTOTYPE SCREEN"–to be produced starting in 1985–listed "Polarizers optimized for compensation," rather than the specific Sanritz R82.60 polarizer.[19]

When asked at deposition about that document, Clerc testified:

> What we say is, we started with – the *best we had at this time* was the association, the matching between Sanritz polarizer and the liquid crystal layer, the optical thickness in the range of 1 micrometer. *That is the best we have.* And assume you have something very good, you want to have something better *two years after.* So what we say, it's first *we have the best of today.* Sanritz polarizer plus the liquid crystal, commercial liquid crystal coming from Merck. We will do some experimental panel, many samples, 60 samples – and we do 60 samples *to weigh the existing best situation.* And Planetel asked me to do better because the viewing angle

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[16] D.I. 795, Ex. 1 at 309:20-310:4.
[17] D.I. 693, Ex. 7 at CEA 005371.
[18] *Id.*
[19] *Id.*

still must be improved, still today company try to improve viewing angle *20 years after*.[20]

Later in his deposition Clerc reiterated that use of the Sanritz polarizer was the best mode for carrying out the claimed invention. When questioned about another CEA document that recites "[c]urrently *only the right and left couple R82.60 of Sanritz possesses the wanted specifications.* We, therefore, *only have one source* of product,"[21] Clerc stated that "[t]he situation was that *we have the best fit with this Sanritz polarizer*, and we try to escape the unicity of the source."[22] Clerc also testified that the inventors had obtained "the perfect compensation" using the Sanritz polarizer.[23]

The court finds that clear and convincing evidence supports Samsung's argument that the inventors subjectively believed that the Sanritz R82.60 polarizer was the best mode of carrying out the claimed "means for polarizing the incident light" of the '028 patent at the relevant filing date.

Having determined that the inventors knew of a best mode, the Sanritz R82.60 polarizer, the court must determine whether that best mode was concealed. It is undisputed that the Sanritz R82.60 polarizer is not mentioned in the specification of the '028 patent. Clerc testified that:

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[20] D.I. 795, Ex. 1 at 312:3-21 (emphasis added). Planetel was an entity CEA created in the early 1980s for the purpose of commercializing CEA's LCD technology. D.I. 693, Ex. 2 at 119, 127-28; D.I. 693, Ex. 6 at 336-37.

[21] D.I. 693, Ex. 3 at CEA 005368; D.I. 795, Ex. 1 at 321:11-15 (emphasis added). The CEA document stating that "[c]urrently only the right and left couple R82.60 of Sanritz possesses the wanted specifications," is undated. That statement, however, is made after a discussion of "phase 1" of CEA's research related to the invention claimed in the '028 patent. The document indicates that "phase 2" was to commence in November 1983. D.I. 693, Ex. 3 at CEA 005360.

[22] D.I. 795, Ex. 1 at 322:8-11.

[23] D.I. 795, Ex. 1 at 324:17-21; *see also* D.I. 795, Ex. 1 at 324:3-10 ("In '028 patent, to do the demonstration, we use Sanritz polarizer and the thickness of the cell, the optical thickness of the cell in the range of 1 micrometer. *That is the exactly best matching we internally described in all our documents. It was the same.*" (emphasis added)).

> It was unbelievable to publish the name of the polarizer. It was too dangerous. So what we mentioned is the fact that we obtained the perfect compensation, and we had a description of the material because we was able to characterize Sanritz. But it was not possible to give the trade name of the material.[24]

Although Clerc testified that "we try to reproduce using different materials, the same optical property [of the Sanritz polarizer]" and that "what we have seen, it's possible during complex stretching in two directions," Clerc acknowledged that the complex two direction stretching was not described in the '028 patent's specification: "in fact, what we never wrote because *it was secret, it has been published in '91 only. Double stretching.*"[25]

CEA argues that there was no concealment on the part of the inventors of the '028 patent because the specification recites the inventors' preferred embodiment: "Biaxial media are preferred to uniaxial media for producing delay plates."[26] CEA states that the Sanritz polarizer did not have to be disclosed in the specification because "'the best mode requirement does not require an inventor to disclose production details so

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[24] D.I. 795 at 324:15-23.

[25] D.I. 795, Ex. 1 at 322:12-19 (emphasis added). Clerc also testified that it was not until "*one – two years later* that a second source of suitable polarizer, from DuPont de Nemours, was available." D.I. 795, Ex. 1 at 323:17-19. The court determines that the inventors did not have that second source of a suitable polarizer at the relevant time period. This determination is supported by CEA's admission that "CEA *in 1985* had concerns whether 'not leading' Sanritz could provide sufficient quantities of its biaxial polarizer to allow for mass production." D.I. 794 at 18 n.8 (emphasis added) (citing Clerc deposition transcript, D.I. 795 at 317). CEA also states that "*at the time of the U.S. application*, Mr. Clerc himself could only 'guess' that the Sanritz polarizer was biaxial. In any event, *soon thereafter* CEA obtained a 'second sourcing' of a biaxial polarizer." *Id.* at 5 (citations omitted) (emphasis added). "*After filing the '028 Application*, CEA reached a business agreement with DuPont de Nemours for 'second sourcing' of a commercial biaxial polarizer." *Id.* at 14. These last two statements are an acknowledgment by CEA that it was not until *after* the filing of the U.S. patent application that a second source of biaxial polarizer was found. *See U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 74 F.3d 1209, 1211 (Fed. Cir. 1996) ("[I]t must be determined whether, *at the time the patent application was filed*, the inventor had a best mode of practicing the claimed invention." (emphasis added)).

[26] '028 patent, 6:39-40.

long as the means to carry out the invention are disclosed.'"[27] The *Transco* case cited by CEA also states, however, that "supplier/trade name information must be provided only when a skilled artisan could not practice the best mode of the claimed invention absent this information."[28]

Here, the evidence establishes that the supplier/trade name, Sanritz R82.60, was necessary for a skilled artisan to practice the best mode of the claimed invention. First, while Clerc described "the situation was that we have the best fit with this Sanritz polarizer,"[29] he could initially only guess that the Sanritz film was biaxial but later confirmed its biaxiality.[30] Clerc testified that the manufacturer, Sanritz, was unaware that its R82.60 was biaxial, rather than uniaxial, 1989.[31] Samsung's contention that one of skill in the art would not have been able to practice the preferred embodiment of the

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[27] D.I. 794 at 6 (quoting *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 560 (Fed. Cir. 1994)). CEA points to *Ralph Gonnocci Revocable Living Trust v. Three M Tool & Machine, Inc.*, No. 02-74796, 2006 WL 800727 (E.D. Mich. Mar. 28, 2006) which denied a motion for summary judgment of invalidity based on failure to disclose the best mode. CEA cites that court's statement that "Defendants fail to demonstrate that the use of a particular type of oil is part of the claimed invention or necessary for carrying out the claimed invention." *Id.* at *5. The *Gonnocci* court, however, noted that "'[t]he specification must set forth the best mode known to the inventor for practice of the invention *claimed* in the patent.'" *Id.* at * 4 (emphasis in original) (quoting *In re Gay*, 309 F.2d 769, 772 (C.C.P.A. 1962)). That court stated that "the claimed invention is a power chuck which is comprised of a body, a plurality of work engaging jaws, a plurality of rocking arms, a plurality of swivel mountings, a plurality of slide members, and a reciprocable actuator." *Id.* at *5. Because a particular type of oil was not part of the claimed invention, the best mode requirement was not violated and defendants' motion was denied. *Id.* Here, a means for polarizing the incident light" is part of the invention of claim 1 of the '028 patent.

[28] *Transco*, 385 F.3d at 560.

[29] D.I. 795 at 322:8-10.

[30] The court finds unconvincing CEA's argument that because Clerc did not know the precise properties of the Sanritz polarizer that it would have been *misleading* to include the manufacturer's name and model number in the specification. Clerc stated that the Sanritz polarizer was the best he had. If Clerc did not know of the precise properties of that polarizer, and even the manufacturer was not aware of its biaxiality, it is dubious at best that one of skill in the art would have been able to practice the preferred embodiment of the '028 patent based on the language of the specification.

[31] *See* D.I. 795 at 328-29 (Clerc stating that it was not until he visited Sanritz in 1989 that he made Sanritz aware that it had created a biaxial film due to a production anomaly).

'028 patent is supported by the *unrebutted* declaration of its expert, Allan R. Kmetz.[32]

CEA mistakenly maintains that Samsung's "only supporting declaration is from Samsung's counsel. It simply authenticates eight exhibits, two of which are yet more copies of the Patents-in-Suit."[33] Kmetz has advanced degrees in electrical engineering and has worked in the field of liquid crystal display technology since 1970.[34] His declaration addresses the insufficiency of the '028 patent's best mode disclosure from the perspective of one of ordinary skill in the art and that declaration is cited numerous times in Samsung's opening brief. CEA not only failed to respond in any way to Kmetz' declaration in its answering brief in opposition to Samsung's motion, it did not directly seek to rebut Kmetz' opinions at oral argument on this motion. CEA also failed to cite to the court a rebuttal declaration by Clerc or a CEA expert explaining why Kmetz' opinion is incorrect and explaining how one of skill in the art would have been able to practice the preferred embodiment of the '028 patent based upon the information contained in the specification.[35]

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[32] D.I. 699 ("Declaration of Allan R. Kmetz in Support of Defendant Samsung Electronics Co., Ltd.'s Summary Judgment Motions").

[33] D.I. 794 at 18; *see also id.* at 2 ("Defendants do not offer the testimony of anyone to refute the testimony of inventor . . . Clerc about the adequacy of the specifications in the '028 patent."); *id.* at 18 ("Defendants do not support their contention that the disclosure was 'so poor as to effectively result in concealment,' without a shred of testimony from a 'skilled artisan' or anyone else." (citation omitted)). Apparently, CEA overlooked Kmetz' declaration.

[34] D.I. 699 at 1, ¶ 2.

[35] At oral argument, CEA noted that Samsung had made no argument, and filed no motion contending that "there was an enablement problem with the '028 patent. They do not claim in any way, shape or form that a person of ordinary skill was not enabled by the disclosures in that patent to practice the invention." D.I. 1053 at 155:9-14. That Samsung has not challenged the enablement of the '028 patent is not dispositive with regard to its contention that the '028 patent is invalid for failure to disclose the best mode to practice the invention. *See Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 928 (Fed. Cir. 1990) ("A patent applicant must disclose the *best* mode of carrying out his claimed invention, not merely *a* mode of making and using what is claimed. A specification can be enabling yet fail to disclose an applicant's contemplated best mode." (emphasis in original)); *see also, e.g., Randomex, Inc. v. Scopus Corp.*, 849 F.2d 585, 591 (Fed. Cir. 1988) (Mayer Dissent) ("Enablement and best mode are two separate and distinct elements of patentability. The test for best mode cannot be equated with that for enablement.

Kmetz opines that one of skill in the art would not have known to use the Sanritz polarizer over other polarizers in attempting to practice the preferred embodiment of the '028 patent:

> One of ordinary skill in the art at the relevant time would have presumed that circular polarizers were essentially standard components using effectively uniaxial quarter wave delay plates; he would not expect significant differences in properties for different manufacturers. One of ordinary skill in the art at the time of the invention would not have anticipated significant differences in the properties of the Sanritz R82.60 circular polarizer versus other brands of circular polarizers.[36]

The '028 patent discloses that "[b]iaxial media are preferred to uniaxial media for producing delay plates. This is justified for compensating the high optical thicknesses of the liquid crystal layer. The fast axes R'_1 and R'_2 are then respectively chosen faster than R_1 and R_2."[37] Kmetz states that such description, generally stating a preference for biaxiality, was insufficient disclosure for one of skill in the art to practice the preferred embodiment.

> Although the '028 patent states generally that a biaxial plate is preferred, it neither describes the physical details of the biaxial quarter-wave delay plate such as optical indices of refraction of the biaxial quarter wave plate nor provides any teaching which one of skill in the art could follow to practice the undisclosed preferred embodiment of the Sanritz R82.60 circular polarizer. The only description provided by the '028 patent is that the values of R'_1 and R'_2 are respectively less than R_1 and R_2 without information about their actual values. . . . This information teaches nothing but that the fastest, or weakest, optical index of the biaxial quarter wave delay plate is parallel to the homeotropic direction. Without knowing additional information such as the actual retardation values of the quarter wave delay plate, one of skill in the art would not be able to practice the preferred embodiment or meaningfully apply the stated preference for

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'The question of a specification's adequacy in [the best mode] context is in no way related to the question of the specification's sufficiency in complying with the enablement requirement.'" (citation omitted; alteration in original)).

[36] D.I. 699 at 8, ¶ 16.

[37] '028 patent, 6:39-43.

> biaxiality to make or use the claimed invention. This is because a circular polarizer could be made with many different biaxial quarter-wave delay plates having different retardation values as between the in-plane axes (shown in Fig. 4 as R and L) and the third axis (shown as R'). Clerc had a particular one, the Sanritz R82.60 circular polarizer, which performed best and was considered to be the best embodiment by him. Without details of its physical and optical properties as stated above, one of skill in the art would not be able to practice the best embodiment.[38]

Here, because the inventor was is unable to describe in general terms the optical characteristics of the preferred polarizer which would permit one of skill in the art to practice the claimed invention, the trade name of the best mode polarizer should have been included in the specification.[39] Because that best mode was not disclosed, and because one of skill in the art would not have been able to practice the preferred embodiment set forth in the '028 patent, the court finds that the inventors concealed their best mode.

The court determines that the evidence of record demonstrates that both prongs of the best mode test have been met by clear and convincing evidence and that no genuine issue of material fact exists. Therefore, the 028 patent is invalid, pursuant to 35 U.S.C. § 112, ¶ 1, for failure to meet the best mode requirement.

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[38] D.I. 699 at 9, ¶ 17. The court notes the Federal Circuit's statement that "[w]e have consistently recognized that whether a best mode disclosure is adequate, that is, whether the inventor concealed a better mode of practicing his invention than he disclosed is a function of not only what the inventor knew but also how one skilled in the art would have understood his disclosure." *Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 927 (Fed. Cir. 1990).

[39] *See, e.g., Chemcast*, 913 F.2d at 929 ("Because Chemcast used only [Reynosol compound] R-4467, because certain characteristics of the grommet material were claimed elements of the '879 invention, and because [inventor] Rubright himself did not know the formula, composition, or method of manufacture of R-4467, Section 112 obligated Rubright to disclose the specific supplier and trade name of his preferred material."); *U.S. Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1215 (Fed. Cir. 1996) ("Even though Sil-42 perlite was sold commercially, the '267 specification does not disclose it and, at the time the '267 application was filed, no one in the art except Williams and USG knew that Sil-42 perlite should be used in a joint compound. Section 112 requires that the specification 'set forth the best mode,' if one exists at the time a patent application is filed, so that those having ordinary skill in the art may practice that best mode. Williams had to inform the public of his best mode of practicing the invention in order to obtain valid patent claims. He failed to do so.").

CONCLUSION

At Wilmington, this 31st day of October, 2007:

For the reasons stated above:

IT IS ORDERED and ADJUDGED that Samsung's motion for summary judgment of invalidity of U.S. Patent No. 4,701,028 due to failure to disclose the best mode (D.I. 691) is **GRANTED**.

UNITED STATES MAGISTRATE JUDGE