

# EXHIBIT 13



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Leggett & Platt, Inc. v. Vutek, Inc.  
E.D.Mo.,2006.

Only the Westlaw citation is currently available.  
United States District Court,E.D. Missouri,Eastern  
Division.

LEGGETT & PLATT, INCORPORATED, et al.,  
Plaintiffs,

v.

VUTEK, INC., Defendant.

No. 4:05CV788 CDP.

Dec. 26, 2006.

David A. Roodman, K. Lee Marshall, Robert G.  
Lancaster, James B. Surber, Bryan Cave LLP., St.  
Louis, MO, for Plaintiffs.

Jennifer E. Hoekel, Robert M. Evans, Jr., Senniger  
and Powers, St. Louis, MO, Jesse D. Mulholland,  
Michael J. Stimson, William C. Rooklidge, Howrey  
LLP, Irvine, CA, Russell B. Hill, Howrey LLP,  
Lake Forest, CA, for Defendant.

**MEMORANDUM AND ORDER**

CATHERINE D. PERRY, United States District  
Judge.

\*1 Plaintiffs Leggett & Platt, Inc. and L & P  
Management Company (together "L & P") are the  
owners of a patent covering a cold UV printing  
technology used to print on heat-sensitive substrates  
such as poster board, foam board or rigid plastics  
without deforming the substrate. L & P claims that  
defendant VUTEK, Inc., a manufacturer of  
large-scale printers, is infringing claims 1, 2, 3, 7, 9,  
10, and 19 of the patent. The parties have filed  
numerous motions, including several motions for  
summary judgment. Because I conclude that the  
asserted claims of the patent are invalid, I need not  
discuss in detail the other motions.

VUTEk raises four arguments in support of its  
motion for summary judgment for invalidity: (1)  
invalidity by anticipation, (2) invalidity by

obviousness, (3) invalidity for indefiniteness, and  
(4) invalidity for lack of a written description.

I conclude that claims 1, 9, 10, and 19 of the patent  
are invalid because they were anticipated by an  
earlier VUTEk patent teaching mounting cold UV  
sources on the carriage of an ink jet printer. I  
conclude that claims 2, 3, and 7 are invalid because  
it would have been obvious to one skilled in the art  
to combine the teachings of that earlier patent with  
the teachings of another VUTEk patent that  
describes a system for controlling the gap between  
the printheads and the substrate. Alternatively, I  
conclude that all claims of the patent are invalid  
because they are indefinite.

**Undisputed Facts**

U.S. Patent 6,755,518 (the 518 patent) was issued  
on June 29, 2004, based on an application filed on  
November 21, 2001. Richard Codos was the  
inventor and L & P is the assignee of the patent.  
Codos conceived the invention no earlier than May  
23, 2001.<sup>FN1</sup> The patent is titled "Method and  
Apparatus for Ink Jet Printing on Rigid Panels," and  
the patent describes systems for jetting, freezing,  
and substantially curing UV curable inks onto a  
substrate without deforming the substrate. The 518  
patent teaches the use of "cold UV" lamps to freeze  
and substantially cure the dots of ink at the printing  
station. As described in the patent, a "cold UV"  
light source produces a sufficient amount of UV  
radiation to substantially cure the dots of ink at the  
printhead without exposing the dots to an amount of  
infrared radiation that would deform a  
heat-sensitive substrate. Certain of the dependent  
claims in the patent teach methods for controlling  
the distance between the printheads and the  
substrate.

FN1. VUTEk contests this date of  
invention, and argues that it was actually

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later, but for purposes of this summary judgment motion, I will use L & P's date.

U.S. Patent 6,457,823 (the 823 patent) was issued on October 1, 2002, based on an application dated April 13, 2001. Arthur Cleary and Joseph Lahut were the inventors and VUTEK is the assignee. The patent is titled "Aparatus and Method for Setting Radiation-Curable Ink." The invention teaches mounting a radiation source adjacent to ink jet printheads so that energy sufficient to cause the ink to set is applied just as the ink has been jetted.

U.S. Patent 6,616,355 (the 355 patent) was issued September 9, 2003, based on an application filed on October 29, 2001, with a provisional application date of October 30, 2000. Arthur Cleary, Joseph Lahut, Ranier Rall, and Paul Duncanson were the inventors and VUTEK is the assignee. The 355 patent is titled "Printing System for Accommodating Various Substrate Thicknesses," and the invention teaches a printing system that includes a sensor and control system to maintain a desired gap between the printheads and the substrate.

### *Discussion*

\*2 L & P asserts that VUTEK is infringing claims 1, 2, 3, 7, 9, 10, and 19 of the 518 patent, so my invalidity analysis is directed to those claims. VUTEK's motion for summary judgment argues that claims 1, 9, 10, and 19 of the 518 patent are anticipated by the 823 patent. The 823 patent does not deal at all with controlling the gap between the printhead and the substrate, which is essentially what dependent claims 2, 3 and 7 add. VUTEK argues that those claims are invalid because it would have been obvious to combine the teachings of the 823 and the 355 patents. VUTEK also argues that the reference to acceptable print quality in my *Markman* definition of "deform, deforming or deformation" invalidates the claims because print quality is subjective.

When looking at a patent for invalidity, courts must keep in mind the principle that patents enjoy a presumption of validity, and therefore the evidence

to show invalidity must be clear and convincing. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1220 (Fed.Cir.2003). Additionally, of course, this is a motion for summary judgment, and so I may only grant the motion if there is no genuine issue of material fact and if the moving party is entitled to judgment as a matter of law. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

After the *Markman* hearing in this case I construed certain disputed terms of the 518 patent as follows:

"Cold UV" means an ultraviolet light source which: (i) employs selected wavelengths to limit; or (ii) has been adapted to selectively reduce the amount of; radiation (and thus heat) that impinges upon a substrate.

"Deform, Deforming, and Deformation" means a change in the shape or form of a substrate which degrades print quality such that the print is unacceptable for its intended purpose.

"Freeze dots of the jetted ink" and "freeze dots of ink in position" means to sufficiently cure the dots of ink such that they will not spread, wick, or otherwise move on the substrate.

"Substantially cure" means cured to a great extent or almost completely cured.

### **I. Anticipation**

Under 35 U.S.C § 102(a), a person "is not entitled to a patent if the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country." Anticipation is a question of fact, but summary judgment may be appropriate where there is no genuine issue of material fact. *Med. Instrumentation & Diagnostics Corp.*, 344 F.3d at 1220. A patent claim is invalid by anticipation where a single prior art reference either expressly or inherently discloses each limitation of that claim. *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1376 (Fed.Cir.2005). A prior art reference may anticipate by inherency

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even without express reference or recognition in the prior art. *Id.* A person of ordinary skill in the art at the time would not necessarily have to be able to recognize the inherent disclosure, so long as the disclosure is present. *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed.Cir.2003) (“a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference.”). Indeed, an “inherent structure, composition, or function is not necessarily known.” *Atlas Powder Co. v. Ireco, Inc.*, 190 F.3d 1342, 1348-49 (Fed.Cir.1999); *accord Abbott Laboratories v. Baxter Pharmaceutical Products*, 2006 WL 3231411, at \*4 (Fed.Cir. Nov. 9, 2006) (lack of knowledge of the inherent characteristic is wholly irrelevant to the anticipation issue).

\*3 VUTEK argues that the 823 patent revealed all of the limitations of claims 1, 9, 10, and 19 of the 518 patent in that it (1) includes a cold UV curing assembly, (2) discloses substantially curing ink at the printhead, (3) inherently minimizes substrate deformation, and (4) discloses alternately energizing the curing lamps. I agree. Because the undisputed material facts show by clear and convincing evidence that each of these elements is present in the 823 patent, the claims are anticipated and invalid.

#### A. Cold UV Curing Assemblies

First, the 823 patent does disclose cold UV curing assemblies. The patent teaches mounting a radiation source on the carriage, and suggests, among other things, using a multiplicity of light emitting diodes (LEDs). LEDs undisputably fit the definition of cold UV that I established at the *Markman* hearing.<sup>FN2</sup> As set out above, the *Markman* definition of Cold UV is “an ultraviolet light source which: (i) employs selected wavelengths to limit; or (ii) has been adapted to selectively reduce the amount of; radiation (and thus heat) that impinges upon a substrate.” The 823 patent reveals the benefits of use of LEDs in that “they are tuned to emit the wavelength of 365 nm over a very narrow bandwidth.” Additionally, the 823 patent states that

use of LEDs as a UV radiation source is highly desirable partially because they “do not emit wasteful energy.” With the inclusion of these statements regarding LEDs, the 823 expressly speaks to the court’s definition of cold UV. Even though the patent does not use the term cold UV, the patent teaches using LEDs as a cold UV curing source. The patent did not need to use the term cold UV to teach this claim limitation.

FN2. Although L & P initially admitted that LEDs are cold UV, it later argued that LEDs could only be considered cold UV if their use was “intended” to limit heat. I need not consider changed testimony that was raised simply to defeat summary judgment, see *e.g., American Airlines, Inc. v. KLM Royal Dutch Airlines, Inc.*, 114 F.3d 108 (8th Cir.1997), and in any event, this argument makes no sense. A LED is a device, and the parties agree about what it does. The subjective intent of the user cannot possibly change the physical characteristics of the device. And if a particular subjective intent of the user is needed for one to know how to use the patented invention, then the patent is surely invalid.

The parties’ briefs spend considerable time arguing about whether another UV source disclosed in the 823 patent, Xenon flash tubes, are cold UV. Although if I were the fact-finder I would find that VUTEK has shown clear and convincing evidence that they are cold UV, summary judgment must be based on undisputed material facts, and L & P’s expert reports have created a genuine dispute over this fact. But because LEDs are a source of cold UV disclosed in the 823 patent, the dispute over Xenon flash tubes does not preclude summary judgment.

#### B. Substantial Curing

VUTEK has shown clear and convincing evidence that the 823 patent discloses substantial curing at the printhead. I defined “substantial curing” to mean “cured to a great extent or almost completely

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cured.” L & P’s argues that the 823 teaches only how to set the ink at the time the ink is deposited, but not how to cure the ink. There is no doubt that the background and summary sections of both patents relate to different problems: the 823 patent focuses on the need to keep ink dots from moving around after they are jetted, and the 518 patent focuses on avoiding substrate deformation and maintaining the desired space between the printhead and the substrate. But it is the teachings of the claims, not the descriptions in the background and summary portions of the patent, that determine validity. And the undisputed evidence shows that both patents teach substantially curing the ink at the printhead. Both patents also discuss the possibility of a downstream curing station, *compare* 518 pat.: col. 7, l. 18, col 8, ll. 44-50, and Claims 5, 6, 14, and 15; with 823 pat., col. 6, ll. 42-54, but that possibility does not mean that there is no substantial cure at the printhead.

\*4 L & P is correct that the 823 patent teaches a device that can set the ink but not fully or substantially cure it. In several places the 823 refers to this distinction, for example: “It is desirable, therefore, to set (i.e.pre-cure) the ink rather than fully cure it ...” 823 pat., col. 1, ll. 50-51. But the patent also contains teachings that would allow substantial curing. For example: “The method may also include *curing* the ink after the ink has been set.” 823 pat., col. 2, ll. 50-51. The patent notes that “typical UV-curable ink requires UV radiation with a wavelength of about 365 nm to photoinitiate the setting and subsequent *curing* on the ink.” 823 pat., col. 6, ll. 7-11. It then notes that LEDs are set to emit at that wavelength. It goes on to state that LEDs are suitable “regardless whether the radiation source is used to *cure* and/or set the ink.” One of the embodiments disclosed in the specifications shows a “*curing* station ... attached directly” to the carriage. 823 pat., col. 6, ll. 55-56, Fig. 12.<sup>FN3</sup> Additionally, several of the claims make specific references to UV curable ink and to specific radiation output that would, in fact, be sufficient to substantially cure the ink.

FN3. L & P’s expert, Mr. Spencer, says that Fig. 12 shows the curing station offset

some distance downstream from the carriage, but that is an unreasonable interpretation of the drawing and specification.

VUTEK has demonstrated that the 823 patent teaches the same curing power as L & P’s patent and therefore must inherently teach substantial curing to the same extent. VUTEK’s expert, Mr. Whittle, testified that the output of UV radiation described in the 823 patent is equivalent to the amount of UV radiation output provided by L & P’s patent. L & P argues that this is not true, but the only evidence it cites is its own expert’s report. At that citation, however, the expert does not actually discuss VUTEK’s evidence or the basis for Mr. Whittle’s conclusion. Instead, L & P’s expert simply says that Whittle’s testimony is contradicted by the patent’s statements about providing enough energy to set but not cure. Thus, this “expert testimony” adds nothing at all to the evidence in the case. As noted above, the “set but not cure” language is not dispositive, as I must look to the teachings of the patent, and the use of cold UV to cure is taught by the 823 patent.

The 823 patent also teaches that a level of cure greater than mere setting may occur through multiple passes of carriage mounted LEDs. 823 pat., col. 5, ll. 32-65. VUTEK’s expert Whittle testified that these multiple passes would result in a substantial cure, and L & P’s expert stated that the cure drawn in Figure 7B of the 823 patent would be about 75-80% cured. That amount of cure constitutes “cured to a great extent.” While L & P attempts to argue that the number of multiple passes needed for this cure level to happen would never occur, that argument ignores the fact that the patent reveals the possibility, which is all that is necessary. Additionally, L & P presented expert testimony to the effect that the UV cure does not increase linearly with multiple passes (i.e., that the curing effect is not completely cumulative), but at the *Markman* hearing L & P’s inventor, Mr. Codos, testified that there is some cumulative effect. L & P cannot create a factual issue by contradicting its own sworn testimony, but more importantly, this evidence shows that the parties are actually in agreement. Although the result may not be mathematically exactly cumulative, it is undisputed

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that multiple passes can increase the cure, and this is taught by both patents.

\*5 Moreover, as the parties have explained UV curable inks, it is entirely logical that if cold UV can be used to set the ink, it can also be used to cure the ink. Exposure to the right amount of energy initiates the polymerization that cures the ink, and “setting” the ink in the 823 patent refers to the same change in the ink as “freezing dots of ink” in the 518 patent. “Curing” and “substantially curing” are different from “setting” and “freezing” only as a matter of degree: more monomers have been polymerized in the former than in the latter. The parties agree that the amount of UV needed to set and cure different UV curable inks is something that could, at the time these patents were applied for, be calculated by those skilled in the art. Once the patent taught placing the UV energy source on the printhead carriage so that the ink would be exposed to *some* UV energy just after it was jetted, the patent logically also taught that the ink could be exposed to *more* UV energy at the same time.<sup>FN4</sup> Thus, even if the patent does not explicitly teach using cold UV curing lamps to substantially cure the ink at the printhead, it inherently does so. “Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claims limitations, it anticipates.” *Perricone*, 432 F.3d at 1376, quoting *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed.Cir.1999).

FN4. L & P's own arguments prove this point. At the *Markman* hearing L & P argued that a “complete” cure is not really possible, and that even if it were possible, there is no easy way to know that “complete” cure has been achieved.

*C. Minimizing Substrate Deformation*

I also conclude that the undisputed evidence shows, clearly and convincingly, that the 823 patent inherently minimizes substrate deformation. The patent does not expressly deal with substrate deformation, and in fact, it does not even mention deformation. The undisputed evidence shows,

however, that the patent inherently deals with deformation because it discloses using cold UV sources to print on materials that are heat sensitive. The patent discusses printing on a variety of materials, including PVC materials, reinforced vinyl, metals, glass, and plastics. In its response to the motion for summary judgment, L & P does not really challenge this element, it simply argues the undisputed fact that the 823 patent does not talk about substrate deformation. L & P also admits that one using the 823 patent would not encounter heat deformation. In one of his declarations, L & P's expert Mr. Spencer states that PVC materials are normally used for pipes and construction materials, and are not inherently heat sensitive. His declaration goes on, however, to state that when PVC is used as a printing substrate—which is, of course, the only issue here—it “may” be heat sensitive. The undisputed evidence shows that this element is met.

*D. Alternately Energizing Lamps*

For the 823 patent to anticipate claims 9 and 19 of the 518 patent, it must disclose alternately energizing lamps. While the 823 patent does not use those words to describe its use of curing lamps on both sides of the printhead, a reading of the patent reveals that the only reasonable interpretation of the patent's discussion of dual curing lamps on the printhead carriage is that the curing assemblies are alternately energized. 823 pat., col. 4, ll. 39-52. The patent later describes how an area of ink will be exposed to radiation twice. Col. 5, ll. 17-34. If the lamps were not alternately energizing, then the ink would be exposed to radiation three times: first by the lamp trailing the printhead on the first pass, next by the lamp preceding the printhead on the second pass, and a third time by the lamp trailing the printhead on the second pass. As a result, the patent inherently teaches alternately energized curing lamps.

**II. Obviousness**

\*6 I also agree with VUTEK that claims 2, 3, and 7 are invalid for obviousness, because it would have

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been obvious to one skilled in the art to combine the teachings of the 823 patent with the 355 patent. The 355 patent teaches a system for adjusting and controlling the size of the space between the printhead and the substrate. L & P does not contest that the 518 patent and the 355 patent contain the same elements. Rather, it argues that because the 355 patent does not deal with a printer for UV curable inks, it has no relevance here, and there would be no motivation to combine it with the 823 patent. I conclude that there are no genuine disputes over this issue, and that the necessary motivation to combine is present.

Under 35 U.S.C. § 103(a), a claim is obvious if “the differences between the subject matter 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 of ordinary skill in the art to which said subject matter pertains.” In order to determine obviousness under § 103, this court must: (1) determine the scope and content of the prior art, (2) ascertain the differences between the prior art and the claims at issue, (3) resolve the level of ordinary skill in the pertinent art, and (4) consider secondary considerations to give light to the circumstances surrounding the origin of the subject matter sought to be patented. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Obviousness is a question of law based on the factual inquiries enumerated in *Graham*. *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1336 (Fed.Cir.2005). Prior art teachings are properly combined where “a person of ordinary skill in the art, possessed with the understandings and knowledge reflected in the prior art, and motivated by the general problem facing the inventor, would have been led to make the combination recited in the claims.” *In re Kahn*, 441 F.3d 977, 988 (Fed.Cir.2006). Because the independent claims are anticipated by the 823 patent, and because the parties agree that the 355 patent teaches the elements of claims 2, 3, and 7, the only real issue raised by L & P in response to VUTEK’s summary judgment motion is whether a person skilled in the art would have had the motivation to combine these patents.

Both patents deal with drop-on-demand ink jet

printers and they were applied for within six months of one another. Both patents are assigned to VUTEK and were obtained by persons working for VUTEK—the two inventors listed on the 823 patent are among the four inventors listed on the 355 patent. The 823 patent and the 355 patent use the same printer diagram in figure 1, and VUTEK’s inventors have testified that the diagram was based on a VUTEK Press Vu printer, which was originally designed for solvent-based inks but was later redesigned to use UV curable inks. L & P asserts, however, that there is no motivation to combine because the 355 patent relates to a printer using solvent-based inks, not UV curable inks. The patent states that the ink could be “solvent pigment inks, UV resistant inks, or water inks.” 355 pat., col. 6, ll. 6-8. L & P argues, without evidence, that UV resistant inks are the opposite of UV curable inks. VUTEK presented undisputed evidence, however, that while solvent-based inks may be UV resistant, UV curable inks may also be considered UV resistant inks, so the patent’s use of the term “UV resistant” does not necessarily exclude UV curable inks.

\*7 While motivation to combine is a fact question, to preclude summary judgment there must be genuine disputes about facts. Here L & P has made arguments, and its expert has made a conclusory statement that there would have been no motivation to combine, but these arguments do not create a genuine issue of fact. The undisputed evidence, including that produced by L & P, shows that the need to maintain a set distance between the printhead and the substrate was an issue that persons skilled in the art were well aware of around the times these competing patents were being sought. This need applied to printers using solvent-based inks, and it also applied to printers using UV curable inks. L & P has provided no evidence that persons skilled in the art of the type of printing involved in this case were somehow separated into parallel worlds of solvent-based ink persons and UV curable ink persons. L & P’s expert reports, like VUTEK’s, show that the opposite is true, and that persons in the printing business were moving to consider UV inks as the technology was advancing incrementally, and that the people working on UV curable printing processes were the

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same people who had been involved in the printing business before UV curable inks were available.

A person of ordinary skill in the art would have been motivated to combine the teachings of these two patents,<sup>FN5</sup> and when those teachings are combined, all of the elements of the claims that L & P is asserting in this case are revealed. Thus, those patent claims are invalid, and VUTEK is entitled to summary judgment.

FN5. VUTEK points out that not only would people be motivated to combine the patents, it actually did combine them by inventing its Press Vu 180. Although it is not proper to use hindsight to look to L & P's actual combination to determine obviousness, looking to the combination of the alleged infringing device is not inappropriate. Although this argument has a certain simple appeal, I am not relying on it because there are genuine disputes regarding the date of VUTEK's invention of this printer.

### III. Indefiniteness

Alternatively, I also agree-reluctantly-that the claims are impermissibly vague because the terms "deform, deforming, and deformation" are not capable of being construed in a way that meets the definiteness requirement of § 112. My *Markman* construction of these terms was deformation that "degrades print quality such that the print is unacceptable for its intended purpose." At that time I rejected VUTEK's arguments that such a construction rendered the claims indefinite. Having now reconsidered the argument, I agree that the term as used in the claims is not amenable to reasonable construction, and therefore the patent is invalid.

Under the second paragraph of 35 U.S.C. § 112, a patent must contain "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." Indefiniteness is a question of law to be determined by the Court. *Intel Corp. v. VIA Tech.*,

*Inc.*, 319 F.3d 1357, 1365 (Fed.Cir.2003). The standard for indefiniteness is whether "one skilled in the art would understand the bounds of the claim when read in light of the specification." *Exxon Research and Engineering Co. v. U.S.*, 265 F.3d 1371, 1375 (Fed.Cir.2001). A determination that a patent claim is invalid for failure to meet the definiteness requirement of 35 U.S.C. § 112, par. 2 is a conclusion "that is drawn from the court's performance of its duty as the construer of patent claims [and] therefore, like claim construction, is a question of law." *Bancorp Services LLC v. Hartford Life Insurance Co.*, 359 F.3d 1367 (Fed.Cir.2004), quoting *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1378 (Fed.Cir.1999).

\*8 The 518 patent uses the phrase deform, deforming and deformation. For example, claim 1 requires that the energy from the cold UV assembly be sufficient to substantially cure the ink "without impinging radiation that would heat the substrate so as to *deform it, even temporarily*, while at the printing station. 518 pat., col. 9, ll. 22-25. Initially VUTEK had argued that there could be no deformation at all, but shortly before the *Markman* hearing it modified that argument to include any change "measurable by those of ordinary skill in the art." Thus, both parties agreed that the term has to include a concept of degree, because all printing and all energy exposure would cause at least some degree of deformation. The *Markman* order reflected this agreement:

First, as both parties' proposed constructions suggest, the term "deform" is inherently limited by degree. Not all changes in a substrate necessarily rise to the level of "deformation." Codos explained that it is a physical fact that exposure to any level of light, regardless of the level of IR, will result in some movement of the particles that make up a substrate. Thus, a person of ordinary skill in the art would not read the claim language "without heating and thermally deforming, even temporarily" to exclude *any* movement of the substrate particles.

The issue thus becomes where to draw the line. VUTEK proposes to draw this line at those changes in substrate shape "measurable by those of ordinary skill in the art." L & P proposes to draw this line at changes in a substrate "which unacceptably degrade print quality."



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Thus, the parties agreed that deformation could not simply mean any movement of molecules. They agreed that sophisticated measuring devices can measure very tiny movements that might not be noticeable to the human eye. They also agreed that people in the printing business do not typically use those types of measuring devices. At the other extreme, both parties agreed that a change that caused the substrate to hit the printhead would be deformation covered by the patent. I chose to draw the line closer to L & P's proposal, and construed the term to mean "a change in the shape or form of a substrate which degrades print quality such that the print is unacceptable for its intended purpose."

My conclusion from the evidence at the *Markman* hearing was that persons skilled in the art knew what they considered acceptable print quality, based on the particular product and the particular use to which the product would be put, as well as based on the price the customer was willing to pay. I continue to believe that this is the way print quality is judged by the people in this business, although the parties have presented evidence that there is a movement toward development of objective industry standards. But for a patent to properly describe the invention under § 112, there must be some objective standard given, so that the definition of the claim is not "completely dependent on a person's subjective opinion." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed.Cir.2005).

\*9 As L & P's own witnesses have admitted, there are many factors that go in a determination of print quality, including lighting, size, amount of text vs. image, color, and the distance from which the print will be viewed. They agreed that there is no "useable, quantifiable standard" and that there was a "level of subjectivity" required to determine print quality. Like the definition of "aesthetically pleasing" in *Datamize*, whether this definition is met would depend on the "unpredictable vagaries of one person's opinion." *Id.* In *Datamize* the court further noted, "While beauty is in the eye of the beholder, a claim term, to be definite, requires an objective anchor." *Id.*

L & P argues that my construction of deformation is

closer to the "so dimensioned" language approved in *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1575 (Fed.Cir.1986), than it is to the "aesthetically pleasing" language rejected in *Datamize*. In *Orthokinetics*, the court held that a claim including the term "so dimensioned" met the definiteness requirement. In that case, the dimensions of the travel chair depended on the dimensions of the various types of automobiles with which it would be used. *Id.* at 1576. While in the abstract "so dimensioned" might be indefinite, when considered in light of the only use to which the invention could be put the term was not abstract at all. The chair would not fit in the car unless it was "so dimensioned" to do so, and the precise measurements needed for any particular make or model of car were readily ascertainable. Here, acceptable print quality depends not only on the commercial application for which the printer is being used, but also on the subjective belief of the customer, at the least. Customers are willing to pay different amounts for different levels of quality, and customers and sellers may frequently disagree about whether a particular job meets the level of quality for which they bargained. The parties here agree that acceptable print quality always requires a level of subjectivity. This, like "aesthetically pleasing," is too indefinite to meet the requirement of § 112. Yet I continue to conclude that no more precise definition of "deform" is reasonable. As a result, the claim terms deform, deforming, and deformation are not capable of reasonable construction, and the claims are indefinite. VUTEk is entitled to judgment as a matter of law for this reason, even apart from its anticipation and obviousness arguments.

### *Conclusion*

The claims at issue are invalid, so VUTEk is entitled to judgment as a matter of law. There are a number of other summary judgment motions pending, as well as motions to exclude expert witnesses and for other relief. I need not rule on the infringement summary judgment motions, but I would have denied them if that had been necessary, because factual issues remained on the question of infringement. With regard to the expert witness

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motions, the parties should be aware that I have relied on some of the expert witness reports and testimony, to the extent the parties cited that evidence in their invalidity briefs. In doing so I first considered the motions to exclude or limit expert testimony, and with the exception of the testimony of Mr. Shefte, which I did not consider here, I found the motions to be baseless, and would have denied them even had the case gone to trial.

\*10 Accordingly,

**IT IS HEREBY ORDERED** that VUTEK's motion for summary judgment of invalidity [# 172] is granted. A separate judgment is entered this date.

**IT IS FURTHER ORDERED** that all other pending motions are denied as moot.

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