

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**3FORM, INC.,**  
*Plaintiff-Appellant*

v.

**LUMICOR, INC.,**  
*Defendant-Appellee*

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2016-1535

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Appeal from the United States District Court for the District of Utah in No. 2:12-cv-00293-CW-BCW, Judge Clark Waddoups.

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Decided: February 2, 2017

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SAMUEL C. STRAIGHT, Ray Quinney & Nebeker P.C., Salt Lake City, UT, argued for plaintiff-appellant. Also represented by ARTHUR B. BERGER, MICHAEL K. ERICKSON, S. BRANDON OWEN.

LAWRENCE D. GRAHAM, Lowe Graham Jones PLLC, Seattle, WA, argued for defendant-appellee.

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Before HUGHES, SCHALL, and STOLL, *Circuit Judges*.

STOLL, *Circuit Judge*.

3form, Inc. appeals from a summary judgment order invalidating both a utility patent and a design patent it had asserted against Lumicor, Inc. While we disagree with certain claim constructions adopted by the district court for the utility patent, we nonetheless agree with the district court's validity analysis, and we affirm. We also affirm the court's invalidation of 3form's design patent for obviousness.

#### BACKGROUND

3form and Lumicor both sell decorative laminate architectural panels having natural items, such as twigs, reeds, bamboo, etc., encased within them. One of 3form's products is its "Thatch" product, depicted below:



Lumicor sells similar competing products, for example its "Pampas Reed" panel, depicted below:



3form sued Lumicor, alleging infringement of one of its utility patents, U.S. Patent No. 7,008,700, and one of its design patents, U.S. Patent No. D621,068. 3form's '700 utility patent describes a process for making decorative laminate panels having "compressible objects embedded inside, wherein the compressible objects would be flattened in unnatural shapes under conventional processes." '700 patent abstract. "For example, an exemplary decorative laminate product comprises thatch reed, willow reed, bamboo, weeds, grasses, twigs and branches of a tree or bush, beans, and so forth." *Id.* Claim 1, a product-by-process claim, is representative:

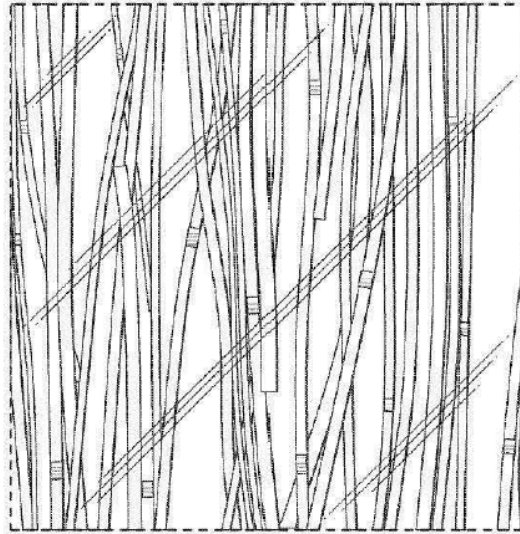
1. A decorative architectural panel comprising:

one or more compressible objects suspended between two extruded resin sheets formed together about the one or more compressible objects using a plurality of pressures in a thermosetting process, at least one of the plurality of pressures being greater than or equal to a critical pressure sufficient to otherwise compress the one or more compressible objects to an *unnatural appearing conformation*;

wherein the one or more compressible objects maintain a *substantially natural appearing conformation* between the two formed resin sheets.

*Id.* at col. 11 ll. 2–13 (emphases added).

3form’s D’068 design patent claims “[t]he ornamental design for an architectural panel with thatch reed design,” D’068 abstract, as shown in Figure 3:



The district court entered summary judgment in Lumicor’s favor, holding 3form’s asserted patents invalid over the prior art. The court first construed disputed claim terms of the ’700 patent. Pertinent to this appeal are the related terms “unnatural appearing conformation,” construed by the district court as “an object that has compressed in an amount equal to or greater than 75% of its thickness in one direction,” and “substantially natural appearing conformation,” construed as “any conformation where the object has experienced compression of less than 75% of its thickness in one direction.” *3form, Inc. v. Lumicor, Inc.*, No. 2:12-CV-00293-CW, 2015 WL 9463092, at \*5 (D. Utah Dec. 28, 2015) (*Dist. Ct. Op.*).

After construing these claim terms, the district court determined that U.S. Patent No. 6,743,327 (“Schober”), a

patent assigned to Lumicor president Dennis Schober, anticipated the '700 patent's two independent claims—claims 1 and 19—under 35 U.S.C. § 102. The court also found all dependent claims anticipated by Schober, except claims 4, 7, and 15. The court found those remaining claims obvious in view of Schober combined with U.S. Patent Nos. 5,988,028 and 5,643,666 (collectively, the “Eckart patents”) under 35 U.S.C. § 103. Finally, the district court held that one of Lumicor's products—“Exhibit 5”—in view of Schober rendered 3form's D'068 design patent obvious under § 103.

3form appeals, and we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### I.

We begin with the district court's construction of the related '700 patent terms “unnatural appearing conformation” and “substantially natural appearing conformation.”

“[W]e review the district court's ultimate claim construction de novo with any underlying factual determinations involving extrinsic evidence reviewed for clear error.” *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 843 F.3d 1315, 1326 (Fed. Cir. 2016) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841–42 (2015)). Claim construction seeks to ascribe the “ordinary and customary meaning” to claim terms as they would be understood to a person of ordinary skill in the art at the time of invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (citing *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the

specification.” *Id.* at 1313. Indeed, the specification is “the single best guide to the meaning of a disputed term” and “[u]sually, it is dispositive.” *Id.* at 1315 (quoting *Vitronics*, 90 F.3d at 1582). Thus, claims “must be read in view of the specification, of which they are a part.” *Id.* (quoting *Markman v. Westview Instrs., Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996)).

A.

The district court construed the claim term “unnatural appearing conformation” as “an object that has compressed in an amount equal to or greater than 75% of its thickness in one direction.” *Dist. Ct. Op.*, 2015 WL 9463092, at \*5. The court based its construction on a single sentence in the specification:

There are, of course, varying grades of collapse, or compression, for any given compressible object, such that an “unnatural conformation” may mean that an object has compressed to 90% of its thickness in one direction, 75% of its thickness in one direction, and so on.

’700 patent col. 4 ll. 40–45.

The district court adopted its construction despite the parties largely agreeing to a different one. Specifically, 3form proposed that “unnatural appearing conformation” means “the appearance of an object when its structural integrity collapses, such that the object splits, cracks, or substantially deforms.” *Dist. Ct. Op.*, 2015 WL 9463092, at \*5. Lumicor only disputed the “substantially deforms” portion of 3form’s proposed construction, asserting that instead of “substantially deforms,” the term requires “significantly deforms.” *Id.* We agree with the arguments the parties made before the district court regarding this term’s construction.

Like the district court, the parties relied on the patent specification to define the disputed claim term. But,

unlike the district court, the parties cited the sentence preceding the one cited by the district court, which states:

For the purposes of this specification and claims, “critical pressure” refers to the pressure at which the structural integrity of the object collapses, such that the object splits, cracks, or otherwise compresses into an unnatural conformation.

’700 patent col. 4 ll. 36–40. The district court read the comma structure and use of the disjunctive term “or otherwise” in this sentence to limit the term unnatural conformation as referring only to the last item in the series, “compress[ion],” and excluding “split[ting]” and “crack[ing].” We agree with both parties that this sentence provides the clearest guide to the disputed term’s meaning. We disagree with the district court’s reading of the sentence to omit the specification’s reference to splitting and cracking as examples of an “unnatural conformation.” Contrary to the district court’s reading, we find the comma usage actually supports the parties’ interpretation. Because there is no comma separating “otherwise” and “compresses,” those terms must be taken together. The most natural reading of this clause is thus that “otherwise compresses” is a catch-all that sweeps in other deformative acts, including those specifically introduced earlier in the series—splitting and cracking.

Further, the stated purpose of the sentence is to define the term “critical pressure” for the “specification *and* claims.” ’700 patent col. 4 ll. 36–37 (emphasis added). This sentence then defines “critical pressure” in terms of the effect such pressure would have on a compressible object, including both “split[ting]” and “crack[ing].” Thus, when the claims describe a process that applies a “critical pressure” that would typically result in an “unnatural appearing conformation,” the construction must recognize that the specification contemplates not only “com-

press[ion],” but also “split[ting]” and “crack[ing]” resulting from such pressure.

We also disagree with the district court’s decision to limit the term to a mathematical requirement of 75% compression based on a sentence in the specification that merely states that there “are varying degrees of collapse, or compression” and that an unnatural conformation “*may*” mean that an object has compressed to 90% of its thickness or as little as 75% of its thickness “and so on.” *Id.* col. 4 ll. 40–45 (emphasis added). Plucking one of these percentages out of a range of possibilities was not a proper approach for claim construction. *See Conoco, Inc. v. Energy & Env’tl. Int’l, L.C.*, 460 F.3d 1349, 1357–58 (Fed. Cir. 2006) (“[W]hen a claim term is expressed in general descriptive words, we will not ordinarily limit the term to a numerical range that may appear in the written description or in other claims.”) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998)). In addition, because the district court’s construction relates only to compression, and not splitting and cracking, it does not give proper meaning to the claim term as implicitly defined in the patent specification.

For all these reasons, we adopt 3form’s proposed construction and interpret “unnatural appearing conformation” to mean “the appearance of an object when its structural integrity collapses, such that the object splits, cracks, or substantially deforms.”<sup>1</sup>

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<sup>1</sup> As explained earlier, Lumicor proposed a slightly different construction—substituting “substantially deforms” with “significantly deforms”—at the district court. *Dist. Ct. Op.*, 2015 WL 9463092, at \*5. On appeal, Lumicor has not argued for this construction and thus we adopt the construction proposed by 3form.



## B.

The district court construed “substantially natural appearing conformation” as the inverse of its “unnatural appearing conformation” construction—i.e., as “any conformation where the object has experienced compression of less than 75% of its thickness in one direction.” *Dist. Ct. Op.*, 2015 WL 9463092, at \*5. For the same reasons expressed above in connection with “unnatural appearing conformation,” we disagree with the district court’s construction of this related term.

As for the parties, 3form urges us to construe the term as “[t]he appearance of an object in a relatively uncompressed or natural state, even if not perfectly natural or uncompressed,” whereas Lumicor argues that the term is indefinite. *Id.* Lumicor essentially asserts that the district court’s construction presents a mathematical test that is difficult, if not impossible, to perform in practice, and that 3form’s construction is too subjective to provide boundaries on the claim’s scope. We reject Lumicor’s indefiniteness argument. “[A] claim must ‘inform those skilled in the art about the scope of the invention with reasonable certainty’ to meet the definiteness requirement of 35 U.S.C. § 112, ¶ 2.” *Liberty Ammunition, Inc. v. United States*, 835 F.3d 1388, 1396 (Fed. Cir. 2016) (quoting *Nautilus, Inc. v. Biosig Instrs., Inc.*, 134 S. Ct. 2120, 2129 (2014)). Yet, “absolute precision is unattainable” when drafting patent claims. *Nautilus*, 134 S. Ct. at 2129. Thus, “a patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, No. 2016-1449, 2017 WL 56321, at \*5 (Fed. Cir. Jan. 5, 2017) (quoting *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005)).

Here, 3form’s proposed construction aligns with the plain meaning of the term and is supported by the patent specification. While perhaps not mathematically precise,

we conclude that this construction would properly inform one of ordinary skill in the art of the invention's scope with reasonable certainty. Indeed, 3form's expert explained that 3form's quality control process involves visually inspecting panels to identify those suitable for sale and thus one of ordinary skill would understand the meaning of "substantially natural appearing conformation" as opposed to an "unnatural appearing conformation." Lumicor's Quality Assurance Manager similarly testified about Lumicor's quality control process, describing a visual inspection of "the appearance of the natural objects" to determine "whether a panel passes the quality assurance inspection to be sent to a customer." J.A. 464–65, 75:16–76:22. This evidence supports the notion that a person of ordinary skill in the relevant art would understand with reasonable certainty whether objects encased within a panel appear suspended in their natural state or instead are damaged to the point of appearing unnatural. The evidence shows that a person of ordinary skill would recognize this quality without relying on specific compression percentages, as the district court's construction required.

We therefore reject Lumicor's indefiniteness argument and adopt 3form's proposed construction of "substantially natural conformation" to mean "[t]he appearance of an object in a relatively uncompressed or natural state, even if not perfectly natural or uncompressed."

## II.

We next address the validity of 3form's '700 patent. Although we hold that the district court erred in construing the terms "unnatural appearing conformation" and "substantially natural appearing conformation," we nonetheless affirm its summary judgment of invalidity. Because the district court entered its incorrect claim constructions in its summary judgment order, the parties'

summary judgment validity arguments accounted for the alternative constructions we have now adopted. Under those constructions, we conclude that the '700 patent is nonetheless invalid, and that this determination was ripe for summary judgment.

Invalidity must be proven by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011). "Anticipation, though a question of fact, may be resolved on summary judgment if no genuine issue of material fact exists." *OSRAM Sylvania, Inc. v. Am. Induction Techs., Inc.*, 701 F.3d 698, 704 (Fed. Cir. 2012) (citing *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1319 (Fed. Cir. 2007)). "We review de novo the determination of whether the evidence in the record raises a genuine issue of material fact." *Id.* (citing *Ormco*, 498 F.3d at 1319). "Similarly, 'a district court can properly grant, as a matter of law, a motion for summary judgment on patent invalidity when the factual inquiries into obviousness present no genuine issue of material facts.'" *Id.* (quoting *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 716 (Fed. Cir. 1991)). "When the facts underlying an obviousness determination are not in dispute, we review whether summary judgment of invalidity is correct by applying the law to the undisputed facts." *Id.* (quoting *Tokai Corp. v. Easton Enters.*, 632 F.3d 1358, 1366 (Fed. Cir. 2011)).

Lumicor argued in its motion for summary judgment that the prior art Schober patent recited most limitations of the '700 patent's independent claims expressly and inherently disclosed the others. The Schober patent's abstract describes:

(1) a matrix made of polymethylmethacrylate, polyvinyl chloride, polycarbonate, or combinations thereof; and (2) one or more visible decorative objects that are permanently fixated in the matrix, and methods for manufacturing these products. . . . The solid surface products of the inven-

tion provide strikingly beautiful and unusual visual effects that are difficult to describe in words.

3form first contends that Schober does not disclose the “compressible objects” limitation. Schober, however, describes its method as capable for use with objects such as twigs, including those from reed and bamboo.<sup>2</sup> Although Schober also discloses other, non-compressible objects, its explicit disclosure of twigs is sufficient to satisfy the “compressible objects” limitation. *See Per-ricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1376 (Fed. Cir. 2005) (“This court rejects the notion that one of these ingredients cannot anticipate because it appears without special emphasis in a longer list.”).

3form next disputes that the method described in Schober *necessarily* produces a panel having compressible objects maintaining a “substantially natural appearing conformation.” We disagree. The Schober two-step method includes a first, low-pressure encasing step. Testimony from 3form’s own expert explained that the purpose of this step was to maintain the integrity of the encased object. Further, as evidence that the Schober method would necessarily maintain “substantially natural appearing conformation” of compressible objects, Lumicor’s expert used the method described in Schober to create test panels. Lumicor’s expert concluded that, to the extent one of skill in the art would understand the scope of the “substantially natural appearing confor-

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<sup>2</sup> 3form argues now on appeal that whether the twigs Schober discloses are “compressible objects” as described by the ’700 patent is a fact issue not ripe for summary judgment. But 3form conceded that twigs are compressible objects before the district court. *See* J.A. 1017 (stating twigs disclosed in Schober are “indisputably compressible objects”). Thus, there is no issue of material fact requiring resolution.

mation” limitation, his test panels maintained such a conformation.

During his deposition, Lumicor presented 3form’s expert with the test panels that were produced by Lumicor’s expert using the Schober method, and 3form’s expert could not testify that any of the panels lacked a “substantially natural appearing conformation.”<sup>3</sup> Indeed, 3form’s briefing to the district court seemed to acknowledge that the test panels had a “substantially natural appearing conformation.” *See, e.g.*, J.A. 1069–70 (“That Lumicor’s expert Dr. Flinn created panels having objects with a substantially natural appearing conformation is evidence only that the ’327 Patent methods ‘could yield’ such panels, which is insufficient.” (citation omitted)). While 3form’s expert conducted his own tests to counter the Lumicor expert testing, the district court found the tests inadmissible after 3form’s expert admitted that he did not monitor significant control factors, such as time and temperature, during his testing. 3form did not challenge the district court’s inadmissibility ruling on appeal.

All of the evidence on record therefore shows that applying the Schober method results in panels having a “substantially natural appearing conformation,” and we thus affirm the district court’s finding of inherent anticipation by Schober of the ’700 patent’s independent claims, claims 1 and 19.

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<sup>3</sup> 3form argues that its expert testified that Lumicor’s Exhibit 421 test panel did not maintain “substantially natural appearing conformation.” Lumicor’s expert, however, did not use the method disclosed in Schober to create that panel. *See* Oral Arg. at 4:18–5:29; 14:34–15:40, *available at* <http://oralarguments.ca9.uscourts.gov/default.aspx?fl=2016-1535.mp3>.

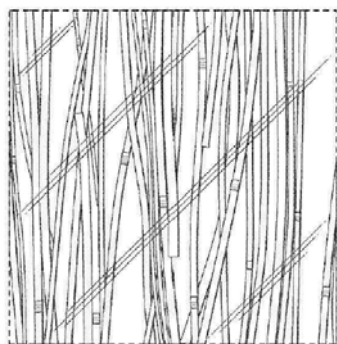
The district court also held that Schober anticipates dependent claims 2–3, 5–6, 8–14, and 16–18. On appeal, 3form challenges the district court’s anticipation findings for dependent claims 5 and 16, which require that at least one of the two extruded resin sheets “comprise extruded polycarbonate.” Before the district court, 3form did “not dispute [whether] the ’327 Patent [Schober] describes the use of polycarbonate,” J.A. 1022, 1028, and it never specifically argued or articulated why Schober’s use of polycarbonate would impact the “substantially natural appearing conformation” limitation, as it does now for the first time on appeal. We conclude, therefore, that 3form waived its separate arguments on these claims. Thus, we affirm the district court’s summary judgment holding that Schober anticipates dependent claims 2–3, 5–6, 8–14, and 16–18.

We also conclude that the district court did not err in finding claims 4, 7, and 15 obvious in view of the prior art. Claims 4, 7, and 15 require use of a PETG-type resin. The Eckart patents, which the district court considered in combination with Schober, disclose using PETG-type resins in decorative laminate panels. Lumicor’s expert testified that PETG was one of several widely used resins for decorative panels at the time of the invention and that a person of ordinary skill would know that all resins work equally well in the Schober method. Indeed, Schober itself discusses how the Eckart patents use PETG in decorative laminate panels. *See* Schober col. 2 ll. 1–39. We conclude that one of skill in the art would have been motivated to combine the Schober method with the Eckart patents’ suggestion to use PETG as the resin. Again, we do not consider 3form’s new argument that using PETG would have somehow altered the Schober method’s “substantially natural appearing conformation” of compressible objects, as 3form did not present this argument to the district court. Thus, we affirm the district court’s summary judgment of invalidity of claims 4, 7, and 15 as

being obvious in view of Schober in combination with the Eckart patents.

### III.

3form challenges the district court's summary judgment of invalidity of the D'068 patent as obvious. The primary reference on which the district court relied in invalidating the D'068 patent was one of Lumicor's own panels, known as "Exhibit 5":



*D'068 patent, Figure 3*



*Exhibit 5*

Exhibit 5 uses beach grass, whereas the D'068 patent uses reeds. Because Schober describes using reeds in place of grass in decorative panels, the district court concluded that a designer of ordinary skill would have been motivated to substitute Exhibit 5's beach grass with Schober's reeds and that this combination rendered the D'068 patent obvious.

We agree with the district court. 3form's expert testified that a designer would not have been motivated to combine Exhibit 5 with Schober's reeds because beach grass is flat, not cylindrical like a reed. 3form's expert admitted, however, that she had not read the Schober patent's written description and had instead only considered the figures. Thus, 3form's expert's opinion was formed without considering the motivation to combine

plainly contemplated by Schober’s specification, i.e., that reeds may be a substitute for grass. The obviousness inquiry for design patents is not so limited, as it asks whether a designer “would have combined *teachings* of the prior art to create the same overall visual appearance as the claimed design,” not merely the figures or illustrations. *Durling v. Spectrum Furniture Co.*, 101 F.3d 100, 103 (Fed. Cir. 1996) (emphasis added). Because 3form’s expert did not consider Schober’s teachings in full, her testimony regarding motivation to combine does not preclude summary judgment of obviousness.

In light of the forgoing, we conclude that the district court did not err in holding that the D’068 patent is invalid as obvious in light of Exhibit 5 combined with Schober.

#### CONCLUSION

We have considered the parties’ remaining arguments and find them unpersuasive.<sup>4</sup> For the foregoing reasons, we modify the district court’s construction of the terms “unnatural appearing conformation” and “substantially natural appearing conformation,” but conclude nonetheless that all claims of the ’700 patent are invalid as either anticipated or obvious. We also affirm the district court’s invalidation of the D’068 patent for obviousness.

#### AFFIRMED

#### COSTS

No costs.

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<sup>4</sup> Lumicor moved to strike portions of 3form’s reply brief for raising new arguments for the first time. We have considered 3form’s arguments that Lumicor asserts are untimely and find them unpersuasive. We thus deny Lumicor’s motion as moot.