NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

PACIFIC COAST BUILDING PRODUCTS, INC.,
Plaintiff-Appellant

v.

CERTAINTEED GYPSUM, INC., SAINT GOBAIN PERFORMANCE PLASTICS CORPORATION,
Defendants-Appellees

2019-1524

Appeal from the United States District Court for the Northern District of California in No. 5:18-cv-00346-LHK, Judge Lucy H. Koh.

Decided: June 30, 2020

W. SCOTT HASTINGS, Locke Lord LLP, Dallas, TX, argued for plaintiff-appellant. Also represented by JASON E. MUELLER, GALYN GAFFORD, Sheppard Mullin Richter & Hampton LLC, Dallas, TX; MATTHEW GUY HALGREN, San Diego, CA.

MATTHEW J. MOORE, Latham & Watkins LLP, Washington, DC, argued for defendants-appellees. Also represented by GABRIEL BELL, DIANE GHRIST, ADAM MICHAEL

GREENFIELD, REBECCA RABENSTEIN; RICHARD GREGORY FRENKEL, Menlo Park, CA.

Before REYNA, CHEN, and HUGHES, *Circuit Judges*.

CHEN, *Circuit Judge*.

Pacific Coast Building Products, Inc. (Pacific Coast) sued CertainTeed Gypsum, Inc. and Saint-Gobain Performance Plastics Corp. (collectively, CertainTeed) for patent infringement of claim 21 of U.S. Patent No. 9,388,568 (the '568 patent) in the United States District Court for the Northern District of California. Claim 21 is directed to a drywall structure having a "scored flexural strength" of "about 22 pounds per 1/2 inch thickness of the structure." Pacific Coast appeals from the district court's claim construction order, which found the claim term "scored flexural strength" indefinite.

We agree with the district court that there are multiple ways to measure "scored flexural strength" and that the specification's lack of guidance for choosing which measurement to use renders claim 21 indefinite. Accordingly, we *affirm* the district court's invalidity finding.

BACKGROUND

I.

Typical drywall consists of three layers: a paper layer, a core material, and another layer of paper. When manufacturing drywall, manufacturers produce the drywall in standard sizes, but contractors often need the drywall in smaller sizes. As a result, contractors frequently break the drywall into the desired size. But breaking drywall by hand typically does not break the drywall in a straight line. To solve this problem, contractors routinely cut the paper layer on one side of the board so that the drywall can break along that line—a method known as scoring.

Typical drywall, however, is not suitable for all applications, such as soundproofing, for example. For soundproofing, two layers of core material are used and an additional paper layer is included between the two core layers. The additional paper layer significantly increases the flexural strength of the drywall and renders the typical scoring method ineffective. Thus, contractors were forced to use other methods, such as cutting the boards with power tools, driving up time and cost.

The '568 patent aimed to fix this problem by removing the middle paper layer and, instead, gluing the two core layers together. This allowed contractors to use the scoring method to break the boards into the desired size.

Pacific Coast asserted claim 21 of the '568 patent against CertainTeed. Claim 21 reads:

> 21. A laminated, sound-attenuating structure which comprises:
>
> > a first gypsum board having two surfaces, the first of said two surfaces comprising an outer, paper-clad surface and the second of said two surfaces comprising an inner surface, wherein the entire inner surface of the first gypsum board is unclad;
> >
> > a layer of viscoelastic glue on the second of said two surfaces; and
> >
> > a second gypsum board over said viscoelastic glue, said second gypsum board having two surfaces, the first of said two surfaces of said second gypsum board comprising an outer, paper-clad surface and the second of said two surfaces of said second gypsum board comprising an inner surface, wherein the entire inner surface of the second gypsum board is unclad;

> a scored flexural strength of the laminated structure is about 22 pounds per 1/2 inch thickness of the structure;
>
> the scored flexural strength being the flexural strength of the laminated structure after the outer, paper-clad surface of one of the first and second gypsum boards has been scored.

'568 patent at claim 21.

The claim includes the term "scored flexural strength" with a specified value of "about 22 pounds per 1/2 inch thickness." But "scored flexural strength" is a term coined by the patent and is not an industry term. Claim 21 further recites that "scored flexural strength" is "the flexural strength of the laminated structure after the outer, paper-clad surface of one of the first and second gypsum boards has been scored." *Id.* The specification instructs that "[t]he measurement technique used to establish the flexural strength of gypsum wallboard or similar construction panels is ASTM C 473-06a 'Standard Test Methods for the Physical Testing of Gypsum Panel Products' (publication date Nov. 1, 2006)." *Id.* at col. 2 ll. 50–54. ASTM 473-06a sets forth the test for flexural strength as measuring the flexural strength in four different orientations. ASTM 473-06a at § 11.6 **[J.A. 700–01]**. Specifically, the ASTM states that to report the results, the report should "*calculate and report the average breaking load in pounds-force or newtons for each test condition*, rounded to the nearest 1 lbf (N). The test conditions are: (1) parallel, face up; (2) parallel, face down; (3) perpendicular, face up; and, (4) perpendicular, face down." ASTM 473-06a at § 11.7 (emphasis added) **[J.A. 701]**. The ASTM standard thus contemplates four different flexural strength measurements, each calculated under a different test condition corresponding to a different board orientation. And "for each test condition," the standard calls for calculating an "average breaking load." *Id.*

[J.A. 701]. In other words, the standard does not report a single flexural strength value; it instead reports and calculates four, with each of the four values representing an average of multiple measurements for a given test condition. Moreover, it does not suggest further averaging those four strength values.

The specification describes Figure 3 as showing "flexural strength results for one sample embodiment of a laminar material constructed in accordance with the present invention," and then later indicates the reported results are actually for *scored* flexural strength by saying that "[t]he present invention (represented by H1 to H4) has a scored flexural strength of 22 pounds force as shown in FIGS. 3 and 4." '568 patent at col. 3 ll. 47–49, col. 6 l. 66–col. 7 l. 4. Figure 3 is reproduced below.

ASTM C473 Flexural strength test results for a laminated wallboard

Sample Number	Sample Description	Peak Load at Fracture (lbf)
H1	½ inch thick laminated gyp panel optimized for fracture	24.1
H2	½ inch thick laminated gyp panel optimized for fracture	21.7
H3	½ inch thick laminated gyp panel optimized for fracture	19.8
H4	½ inch thick laminated gyp panel optimized for fracture	22.4
Average		**22.0**
Standard Deviation		**1.82**

FIG. 3

Id. at Fig. 3.

II.

At claim construction, CertainTeed challenged that claim 21 was indefinite because the specification was unclear as to how to derive a single value for the scored flexural strength, as required by the claim. CertainTeed also asserted that the specification failed to identify the depth of the scoring mark required for testing a drywall board's scored flexural strength. Furthermore, the method for converting the scored flexural strength measurement from the claimed 1/2-inch thickness to different board thicknesses was unclear.

In response, Pacific Coast contended that a skilled artisan knew what scoring was and the scoring depth insignificantly impacted a drywall board's scored flexural strength measurement. Pacific Coast also contended that a skilled artisan would choose the particular ASTM test condition where the pressure applied to the board was parallel to the scoring and with the scoring facing outward. Pacific Coast alternatively argued that a skilled artisan would average measurements from all four ASTM testing conditions together because Figure 3 depicted four "measured samples" and an average value. Pacific Coast interpreted these "samples" as representing a measurement in each of the orientations identified by the ASTM standard. Finally, Pacific Coast contended that a skilled artisan would use linear extrapolation to convert the scored flexural strengths between different thicknesses of drywall such as between the 1/2-inch thickness recited in the patent to the 5/8-inch thickness of CertainTeed's allegedly infringing product.

The district court determined that the plain language of the claim and specification did not specifically explain how to measure a drywall's scored flexural strength. *Pacific Coast Building Prods., Inc. v. CertainTeed Gypsum, Inc.*, No. 5:18-CV-00346-LHK, 2018 WL 6268880, at *8 (N.D. Cal. Nov. 29, 2018) **[J.A. 20–21]**. Even assuming

that "scored flexural strength" can be found through application of the ASTM standard to a drywall board that has been scored, the district court observed that the ASTM standard disclosed multiple tests, not a single test, to measure the scored flexural strength. *Id.* **[J.A. 21]**. Turning to the prosecution history, the district court interpreted the applicant's statement that "the prior art is silent with respect to a 'scored flexural strength'" as further supporting that a skilled artisan would not know how to measure the newly coined scored flexural strength. *Id.* at *8–9 **[J.A. 22]**. In addition, the district court turned to the extrinsic evidence and determined that CertainTeed's expert, Dr. Paul Miller, provided three bases for indefiniteness, which Pacific Coast's expert did not rebut. The district court found that it was unclear (1) how deep the scoring cut must be for the testing, (2) which of the ASTM measurements corresponded to the claimed scored flexural strength, and (3) which calculation methodology would be used to convert the scored flexural strength between different thicknesses of drywall. *Id.* at *7–8 **[J.A. 19–20]**. The district court found that Dr. Miller's testing demonstrated that this lack of clarity created "major sources of imprecision" in the claim. *Id.* at *12–13.

Pacific Coast appeals the district court's finding of indefiniteness. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a finding of indefiniteness de novo. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017). However, a district court's finding of indefiniteness may be subject to underlying factual findings regarding the extrinsic evidence, and we review those findings of fact for clear error. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1340 (Fed. Cir. 2015).

A patent's specification must "conclude with one or more claims particularly pointing out and distinctly

claiming the subject matter which the inventor . . . regards as the invention." 35 U.S.C. § 112(b). The Supreme Court in *Nautilus, Inc. v. Biosig Instruments, Inc.* held that a patent claim is indefinite if, when "read in light of the specification delineating the patent, and the prosecution history, [the claim] fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." 572 U.S. 898, 901 (2014). "Reasonable certainty" does not require "absolute or mathematical precision." *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1381 (Fed. Cir. 2015) (internal quotation marks omitted). CertainTeed had the burden of proving indefiniteness by clear and convincing evidence. *Id.* at 1377.

We have previously found claims indefinite where the claim requires a specific measurement or calculation, more than one measurement method may be used and no guidance has been provided. *See Teva*, 789 F.3d at 1345; *Honeywell Int'l, Inc. v. ITC*, 341 F.3d 1332, 1339–40 (Fed. Cir. 2003). *Teva* is representative in this instance. In *Teva*, we determined that where the claim included a specific measurement of a "molecular weight" of a claimed copolymer and the specification did not indicate which of three measurement methods used in the industry was used (M_p, M_w, or M_n), the claim was indefinite. *Teva*, 789 F.3d at 1345. Because it was unclear which measurement to use for the claimed molecular weight and those different measurements would yield different results, the claim "failed to inform with *reasonable certainty* those skilled in the art about the scope of the invention." *Id.*

On the other hand, we have also refused to require that a patent disclose details as to every possible variable that may affect the calculation of a measured value or range of values recited in a patent claim. *See Koninklijke Philips N.V. v. Zoll Med. Corp.*, 656 F. App'x 504 (Fed. Cir. 2016). In *Zoll*, for example, we did not find error in a jury's verdict that a claim was definite even though the specification did not provide details about some parameters for the testing

conditions and equipment, which allegedly introduced some imprecision into the measurement of an attribute recited in the claims. *Id.* at 526. We found that the jury could have reasonably "viewed the evidence on" those parameters as creating only a relatively minor, inconsequential source of imprecision in the claims. *Id.* Further, there was expert testimony to support the view that a skilled artisan would have understood how to handle those parameters when reading the claim. *Id.*

We agree with the district court that the '568 patent fails to provide guidance to a skilled artisan for how to measure the newly coined characteristic "scored flexural strength" with reasonable certainty. While the claims recite a particular value for "scored flexural strength," i.e., "about 22 pounds per 1/2 inch thickness," the claims and specification fail to explain what the value represents or how to consistently and reproducibly measure this new characteristic.

The specification's reference to ASTM 473-06a does not adequately fill the void. First of all, this standard is for measuring multiple flexural strength values with a given board positioned at different orientations; it is not directed to "scored flexural strength." Moreover, even assuming that the patent discloses using the ASTM standard for measuring scored flexural strength of a scored board, the ASTM provides four different test conditions of measuring flexural strength of a board. The ASTM describes the standard as four separate measurements and specifically instructs a tester to "calculate and report the average breaking load in pounds-force or newtons for each test condition, rounded to the nearest 1 lbf (N). The test conditions are: (1) parallel, face up; (2) parallel, face down; (3) perpendicular, face up; and, (4) perpendicular, face down." ASTM 473-06a at § 11.7 **[J.A. 701]**. Contrary to Pacific Coast's contention, the ASTM does not suggest that flexural strength can be represented by any one of the measurements alone or that all four can be averaged together. The

specification's bare reference to the standard thus does not inform a skilled artisan how to arrive at a *single* scored flexural strength measurement.

Figure 3 of the patent does not counsel otherwise. Even assuming Figure 3 presents data for the *scored* flexural strength,[1] the table is not clear as to what the different samples (H1–H4) represent. The specification does not indicate whether these samples are measurements in different board orientations, if the measurements are all in the same configuration, or if each sample is an average of several measurements in different orientations. *See* '568 patent col. 6 ll. 35–38, col. 6 l. 66–col. 7 l. 2. Such ambiguity fails to provide reasonable certainty to a skilled artisan as to how to assess whether a given drywall board has a scored flexural strength of about 22 pounds per 1/2-inch thickness.

In addition to showing that a skilled artisan would not know by what means to measure the claimed "scored flexural strength," the extrinsic evidence shows that this ambiguity in addition to others the district court found create significant problems for measuring scored flexural strength with any reasonable certainty. The extrinsic evidence in this case consists of detailed testing and analysis from CertainTeed's expert, Dr. Miller, and a declaration from Pacific Coast's expert, Mr. Matthew Risinger. But the record does not reflect that Mr. Risinger ever conducted any tests of his own, and his testimony, apart from two paragraphs, is largely irrelevant to the question in this appeal.

Dr. Miller testified that the score depth affects the result of the scored flexural tests, that the configuration of

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[1] The specification is inconsistent as to whether Figure 3 reports the flexural strength or the scored flexural strength, thus compounding the lack of certainty. '568 patent col. 6 ll. 35–38, col. 6 l. 66–col. 7 l. 2.

the test and whether the results were averaged together significantly affected the value of the measurement, and that there are at least two methods of converting the measurement between board thicknesses that produce significantly differing results. In addition, Dr. Miller provided thorough test results supporting his conclusions. We agree with the district court that "Dr. Miller's testing demonstrates that there are major sources of imprecision resulting from the lack of clarity about the score depth and the applicable testing methodology." *Pacific Coast*, 2018 WL 6268880 at *12–13 (citing *Zoll*, 656 F. App'x 504 (Fed. Cir. 2016)) **[J.A. 28–29]**.

In comparison, Pacific Coast has not pointed to any extrinsic evidence that supports its claim that a skilled artisan would either know which of the ASTM's configurations to choose or to average the tests together. Nor does Pacific Coast identify any evidence, apart from Mr. Risinger's conclusory testimony, that the scoring depth does not matter.

Regarding the conversion between board thicknesses, Dr. Miller explained that a skilled artisan could have used either a linear extrapolation or the pound per square inch (psi) calculation. As the district court properly found, "Dr. Miller's results show that the psi method and the linear extrapolation method lead to different scored flexural strength results such that a panel might infringe under one conversion technique but not the other." *Id.* at 20. Pacific Coast does not present any evidence that at the time of the invention, a skilled artisan would have known to use linear extrapolation rather than the psi calculation. At best, Pacific Coast asserts that a later version of the ASTM published in 2017, several years after the patent's filing date, memorializes the understanding of a skilled artisan. Nothing in the ASTM or any evidence identified by Pacific Coast supports this conclusion. Even if the standard does memorialize the industry understanding in 2017, nothing suggests this was the understanding when the '568 patent was filed in 2007.

The evidence taken together clearly indicates that the various choices that could be made for determining the scored flexural strength of a board are material, contrary to Pacific Coast's arguments. Pacific Coast has provided insufficient evidence of its own to rebut this evidence, and instead attempts to take Dr. Miller's testimony out of context and cast it in a light that supposedly creates claim clarity. Pacific Coast's recharacterizations are unpersuasive. Accordingly, we agree with the district court that the facts of this case are similar to *Teva* and distinguishable from *Zoll*, and that a skilled artisan would have had no reasonable certainty in trying to figure out how to calculate a single value for the scored flexural strength of a drywall board.

CONCLUSION

We have considered Pacific Coast's remaining arguments and find them unpersuasive. We see no clear error in the district court's factual findings, and based on this evidence affirm the district court's finding that claim 21 of the '568 patent is invalid as indefinite because it does not inform a skilled artisan how to measure or calculate the scored flexural strength.

AFFIRMED