

## United States Court of Appeals for the Federal Circuit

02-1218, -1262

DURO-LAST, INC.,

Plaintiff-Cross Appellant,

v.

CUSTOM SEAL, INC.,

Defendant -Appellant.

Richard W. Hoffmann, Warn, Burgess & Hoffmann, PC, of Auburn Hills, Michigan, argued for plaintiff-cross appellant. Of counsel on the brief was Andrew M. Grove, Reising, Ethington, Barnes, Kisselle, Learman & McCulloch, PC, of Troy, Michigan.

Jeffrey S. Standley, Standley & Gilcrest LLP, of Dublin, Ohio, argued for defendant-appellant. Of counsel on the brief was James L. Kwak.

On appeal from: United States District Court for the Eastern District of Michigan

Judge Robert H. Cleland

# United States Court of Appeals for the Federal Circuit

02-1218, -1262

DURO-LAST, INC.,

Plaintiff-Cross Appellant,

v.

CUSTOM SEAL, INC.,

Defendant -Appellant.

---

DECIDED: February 28, 2003

---

Before MICHEL, Circuit Judge, PLAGER, Senior Circuit Judge, and LOURIE, Circuit Judge.

PLAGER, Senior Circuit Judge.

This case requires us to decide whether, under nascent Federal Circuit law, the plaintiff's pre-verdict motion for judgment as a matter of law (JMOL) was sufficiently specific with regard to the defense of obviousness to support the trial judge's grant of the post-verdict JMOL in plaintiff's favor.

Duro-Last, Inc. sued Custom Seal, Inc. for infringement of U.S. Patent Nos. 4,652,321 and 4,872,296. A jury found that Custom Seal infringed both patents, but, in response to Custom Seal's invalidity defense, found both patents invalid for obviousness. With regard to Custom Seal's defense of inequitable conduct, the jury found in special verdicts that Duro-Last failed to disclose material prior art to the United States Patent and Trademark Office (PTO) during prosecution of the '296 patent and intended to mislead or deceive the PTO.

The district court, however, granted Duro-Last's motion for JMOL that the patents were not invalid for obviousness. The district court also held that, regardless of the jury's findings, Duro-Last did not commit inequitable conduct during prosecution of the '296 patent. Judgment was rendered in Duro-Last's favor; Custom Seal timely appeals.

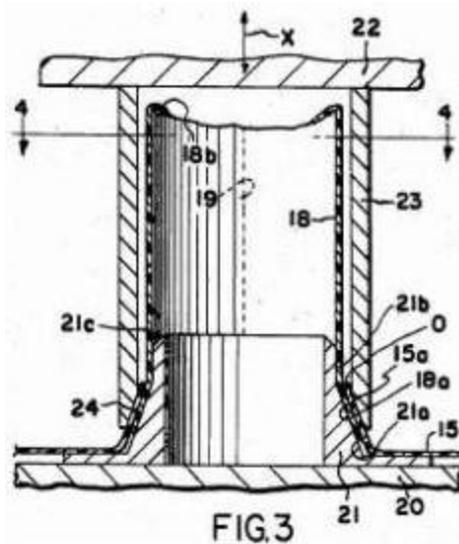
Because Duro-Last did not properly raise the obviousness issue in a JMOL motion before the cause was submitted to the jury, the district court's subsequent review of the jury's findings of fact underlying its obviousness determination in

response to the later JMOL motion was improper; the district court's grant of JMOL cannot be sustained. We reverse the grant of JMOL, and reinstate the jury verdict that the patents are invalid for obviousness and the district court's initial judgment thereon. We affirm the district court's judgment that there was no inequitable conduct.

## BACKGROUND

The two patents at issue in this case relate to roofing products used to cover roof protrusions such as vent pipes and air-conditioning units. The products are made of pieces of a flexible, thermoplastic material heat-welded together to form a water-tight seal around the protrusions. The '321 patent discloses a cylindrical enclosure, referred to as a 'stack' or 'stack flashing,' that fits around a vent pipe. The '296 patent discloses a corner piece that covers the corner of an air-conditioning unit or similar protrusion.

The stack described in the '321 patent comprises two pieces, an open-ended tube and a base piece, welded together, as illustrated in Figure 3 of the patent:



Claim 14, the only claim at issue in the '321 patent, reads (emphasis added to highlight the relevant claim limitations):

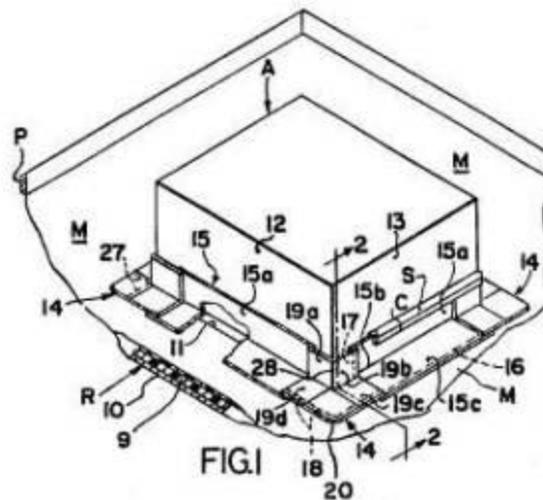
14. A roof vent pipe enclosure for uniting with flexible, roof covering synthetic plastic membranes comprising:
- a. a generally cylindrical, open ended tube of a flexible fabric material which has a thermoplastic

surface and is heat weldable, the one end of said tube being radially deformed to provide an axially tapering surface of increasing diameter;

b. a flexible base piece of like thermoplastic heat weldable material with an opening therein of a diameter to accommodate the base of the vent pipe, the marginal edge section of material surrounding said base piece opening being deformed generally in an axially tapered direction to form an axially tapered surface, and arranged so that it is in lapped engagement with said tapering surface of the tube; and

c. an annular weld created by melting the material of the tube and base pieces in lapped engagement under pressure, clamping them together, to secure them in watertight relationship.

The corner piece described in the '296 patent comprises two segments, a first generally rectangular segment with a slit formed partway through the middle of one side, and a second segment with a triangular corner, the sides of which are welded to the rectangular segment along the edges of the slit. Figure 1 of the '296 patent illustrates how the corner piece is installed on a roof protrusion. The sides of the second segment (20) are welded to the edges of the slit in the first segment (19a-d):



Claim 1, the only claim at issue in the '296 patent, reads (emphasis again added to highlight the relevant claim limitations):

1. A corner piece for the integrated enclosure provided on a single-ply, thermoplastic, polymer-coated, fabric for roof membranes to cover large vertical structures projecting vertically from the roof which have vertical walls forming corners; the corner piece comprising  
 a first generally rectangular membrane segment, a side being part-way split interjacent its ends and  
 a second membrane segment with a triangularly-shaped corner portion conformed to loop shape and having its marginal edges overlying portions of the first segment contiguous to the split and being welded thereto in a continuous weld seam, the said triangularly-shaped corner portion having edges extending relative to one another from a radiused corner portion at an angle slightly less than 90°.

Duro-Last filed a patent infringement suit against Custom Seal, alleging that roof vent pipe enclosures and corner pieces manufactured and sold by Custom Seal infringed the '321 and '296 patents, respectively. The case was tried before a jury in February 1999. At the close of evidence Duro-Last moved for judgment as a matter of law under Rule 50 of the Federal Rules of Civil Procedure, which was denied.

The jury found that Custom Seal infringed both patents under the doctrine of equivalents. The jury further found that neither patent was commercially used or sold or offered for sale more than one year before its date of invention, but the jury did find both patents invalid for obviousness. Finally, the jury answered special interrogatories concerning the factual questions underlying the issue of inequitable conduct. The jury found that Duro-Last failed to inform the PTO of material prior art during prosecution of the '296 patent and did so with intent to mislead or deceive the PTO. The jury, however, found that Duro-Last did not fail to disclose material prior art during prosecution of the '321 patent.

After the district court entered judgment on the jury verdict, Duro-Last filed a motion for JMOL that the patents were not invalid for obviousness. Custom Seal objected to the motion on the ground that the issue had not been properly raised in a JMOL motion at the close of evidence, as required by Rule 50. The district court disagreed with Custom Seal, stating that obviousness was a component of the timely JMOL motions made by Duro-Last before the case was submitted to the jury. On the merits, regarding the '321 patent the district court found that the prior art did not teach an "annular weld on a tapering surface created by melting the flexible fabric material of the tube and base pieces in lapped engagement." With respect to the '296 patent, the district court found that the prior art did not show a segment "conformed to loop shape" when welded to another segment or a segment with a "radiused corner portion." Accordingly, the district court granted JMOL in Duro-Last's favor, holding that Custom Seal had failed to prove obviousness of either patent.

In a separate decision, the district court addressed the issue of inequitable conduct during prosecution of the '296 patent. The only theory Custom Seal pursued in its post-trial brief in support of its inequitable conduct defense related to the activity of Monte Sharp, a former Duro-Last contractor who had developed techniques for making corner pieces. The court agreed with Duro-Last that this theory was not properly before the court because Custom Seal did not adequately plead this theory in its answer or the joint final pre-trial order. The district court went on to hold that even if the issue had been before the court, Custom Seal had failed to prove inequitable conduct. While the jury had found that Duro-Last withheld material prior art with an intent to deceive, the district court concluded that the prior art was "only marginally material" and there was "little or no intent to deceive." On this basis, the court determined that a judgment finding inequitable conduct was not warranted.

Custom Seal appeals the district court's decision granting Duro-Last's motion for JMOL that both patents are not invalid for obviousness. Custom Seal argues that Duro-Last did not properly raise the obviousness issue in a pre-verdict

JMOL motion, or, alternatively, that substantial evidence supported the jury verdict of obviousness. Custom Seal also appeals the district court's decision that Duro-Last did not commit inequitable conduct during prosecution of the '296 patent, and the jury verdict of infringement of the '296 patent under the doctrine of equivalents. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### I.

The first issue before us is whether Duro-Last's pre-verdict JMOL motion, made at the close of evidence, raised the obviousness issue with enough specificity to meet the requirements of Rule 50. Rule 50(a) of the Federal Rules of Civil Procedure states that a JMOL motion made before submission of the case to the jury "shall specify the judgment sought and the law and the facts on which the moving party is entitled to the judgment." The purpose of the requirement is to afford the opposing party an opportunity to cure the defects in proof that might otherwise preclude the party from taking the case to the jury. If the court does not grant the motion, Rule 50(b) allows the party to renew the motion after the verdict. A post-verdict JMOL motion may not be made on grounds not included in the earlier motion, and therefore an issue may arise, as it does in this case, regarding whether the ground asserted in the later motion was sufficiently raised in the pre-verdict motion. See generally 9A Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure § 2537 (3d ed. 1998).

Custom Seal asserts that Duro-Last waived its right to file a post-verdict JMOL motion on obviousness because its pre-verdict JMOL motion raised only the issues of inequitable conduct and the on-sale bar. Duro-Last responds that Custom Seal waived the right to challenge Duro-Last's JMOL motion on appeal by not properly objecting in the trial court. In any event, Duro-Last argues, its pre-verdict motion sufficiently raised the obviousness issue.

The parties initially disagree over whether Federal Circuit law or regional circuit law applies to our review of whether Duro-Last satisfied the requirements of Rule 50. This court defers to the law of the regional circuits on matters of procedural law that do not implicate issues of patent law. Midwest Indus., Inc. v. Karavan Trailers, Inc., 175 F.3d 1356, 1359, 50 USPQ2d 1672, 1675 (Fed. Cir. 1999) (en banc in relevant part). Thus for questions relating to Rule 50 motions generally, this court has applied regional circuit law. See, e.g., Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc., 206 F.3d 1408, 1416, 54 USPQ2d 1141, 1147 (Fed. Cir. 2000) (sufficiency of renewal of JMOL motion at close of evidence); Wilson Sporting Goods Co. v. David Geoffrey & Assocs., 904 F.2d 677, 682-83, 14 USPQ2d 1942, 1947 (Fed. Cir. 1990) (level of detail required in JMOL motion).

This case, however, involves the specific question of whether a pre-verdict JMOL motion directed to inequitable conduct and the on-sale bar is sufficient to preserve the right to a post-verdict JMOL motion directed to obviousness.

Because that precise issue pertains uniquely to patent law, this court reviews the district court's determination under Federal Circuit law. Cf. *Tex. Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1566 n.6, 39 USPQ2d 1492, 1498-99 n.6 (Fed. Cir. 1996) (deciding as a matter of Federal Circuit law that a pre-verdict JMOL motion on infringement is sufficient to support a post-verdict JMOL motion on infringement under the doctrine of equivalents); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1324-25, 21 USPQ2d 1161, 1164 (Fed. Cir. 1991) (same); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1579-80, 1 USPQ2d 1081, 1091 (Fed. Cir. 1986) (deciding as a matter of Federal Circuit law that a pre-verdict JMOL motion on infringement does not support a post-verdict JMOL motion relating to willful infringement).

Duro-Last urges us to follow the approach some other circuits have taken, adopting a liberal view of what constitutes a sufficient predicate for a Rule 50(b) motion. See 9 James Wm. Moore et al., *Moore's Federal Practice* § 50.40 [2] (3d ed. 1997). A liberal reading of the rule may be appropriate in some circumstances, such as when the failure is largely a technical one, and no prejudice results. For example, courts may excuse a party's failure to comply with the technical requirements of Rule 50 if the party clearly challenged the sufficiency of the evidence on the disputed issue at some point during trial, thereby alerting the opposing party as to the grounds on which the evidence is allegedly insufficient. See id.; *Boynton v. TRW, Inc.*, 858 F.2d 1178, 1185 -86 (6th Cir. 1988) (allowing post-verdict JMOL motion on issue raised in directed verdict motion at close of plaintiff's case but not at close of all evidence). In this case, however, there is no question that Duro-Last made a timely JMOL motion at the close of evidence; the question is whether that JMOL motion sufficiently raised the obviousness issue.

The requirement for specificity is not simply the rule-drafter's choice of phrasing. In view of a litigant's Seventh Amendment rights, it would be constitutionally impermissible for the district court to re-examine the jury's verdict and to enter JMOL on grounds not raised in the pre-verdict JMOL. See, e.g., *Morante v. Am. Gen. Fin. Ctr.*, 157 F.3d 1006, 1010 (5th Cir. 1998) (citing *Sulmeyer v. Coca Cola Co.*, 515 F.2d 835, 846 n.17 (5th Cir. 1975)).

Duro-Last contends that its JMOL motion at the close of evidence on inequitable conduct somehow subsumed a challenge to Custom Seal's obviousness defense. We disagree. The trial record shows that Duro-Last focused its argument on whether Custom Seal had proffered any evidence regarding the materiality of Duro-Last's own prior art products that were not disclosed to the PTO. This court has long held that whether a prior reference is material, i.e., whether there is a substantial likelihood that a reasonable examiner would have considered the reference important in deciding whether to allow the application to issue as a patent,<sup>[1]</sup> is not controlled by whether that reference actually anticipates the claimed invention or would have rendered it obvious. See *A.B. Dick Co. v. Burroughs Corp.*, 798 F.2d 1392, 1397, 230 USPQ 849, 853 (Fed. Cir. 1986). Furthermore, while Duro-Last's pre-verdict motion on inequitable conduct alleged that specific prior art products lacked certain limitations present in the claims, the motion failed to address other issues that Duro-Last raised in its post-

verdict Rule 50(b) motion on obviousness, including whether there was a motivation to combine prior art references. Duro-Last's post-verdict motion also addressed for the first time the activity of Monte Sharp, which was additional prior art presented by Custom Seal as part of its obviousness defense with respect to the '296 patent. Thus Duro-Last's Rule 50(a) motion on inequitable conduct was not sufficient to alert Custom Seal to all the alleged deficiencies in its obviousness defense.

We also reject Duro-Last's argument that its pre-verdict JMOL motion with respect to the on-sale bar encompassed a motion for JMOL that its patents were not invalid for obviousness. First of all, Duro-Last mischaracterizes its motion as relating

generally to “anticipation.” The motion raised the specific issue of whether Duro-Last’s own prior art products were sold prior to the critical date of each patent. Furthermore, even if Duro-Last’s JMOL motion covered forms of anticipation other than the on-sale bar, a pre-verdict JMOL motion on anticipation is not sufficient to support a post-verdict JMOL on obviousness; obviousness and anticipation are related, but are legally distinct and separate challenges to a patent’s validity. See Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1188, 64 USPQ2d 1545, 1559 -60 (Fed. Cir. 2002) (holding that pre-verdict JMOL regarding anticipation by prior public knowledge did not support post-verdict JMOL motion on obviousness).

Succinctly put, the various unenforceability and invalidity defenses that may be raised by a defendant—inequitable conduct, the several forms of anticipation and loss of right under § 102, and obviousness under § 103—require different elements of proof. Duro-Last’s JMOL at the close of evidence clearly raised only the inequitable conduct and on-sale bar issues. Since a post-trial motion for JMOL can be granted only on grounds advanced in the pre-verdict motion, Duro-Last was precluded from making a post-trial motion under Rule 50(b) for JMOL that its patents were not invalid for obviousness, and it was improper for the district court to rule on Duro-Last’s motion challenging the sufficiency of Custom Seal’s evidence on the issue.

Finally, Duro-Last’s argument, that Custom Seal waived its right to challenge Duro-Last’s post-verdict JMOL motion by failing to properly object in the trial court, is unpersuasive. In its response to Duro-Last’s post-verdict JMOL motion, in which Duro-Last raised obviousness for the first time, Custom Seal objected on the ground that Duro-Last had not previously moved for JMOL on “patent validity.” Despite Custom Seal’s use of the broad term “validity,” Custom Seal clearly intended to object to Duro-Last’s motion on obviousness, which was the only issue raised in its post-verdict JMOL motion. Moreover, Duro-Last understood Custom Seal’s objection to relate to obviousness, as Duro-Last specifically responded in its reply brief that its pre-verdict JMOL motion “raised issues essential to the obviousness defenses.”

## II.

Having concluded that Duro-Last waived its right to challenge the sufficiency of the evidence underlying the jury verdict of obviousness, we must determine whether and to what extent we may review that verdict. Obviousness is a question of law based on factual underpinnings. Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). When the parties dispute the underlying facts, the issue of obviousness typically is submitted to the jury, as it was in this case. See Jurgens v. McKasy, 927 F.2d 1552, 1557, 18 USPQ2d 1031, 1035 (Fed. Cir. 1991). When a party has preserved its right to appeal the jury verdict by filing a valid JMOL motion on obviousness, we first review the underlying factual findings, whether explicitly made by special verdict or presumed as necessary to support the jury verdict, to ascertain whether they are supported by substantial evidence. See Upjohn Co. v. Mova Pharm. Corp., 225 F.3d 1306, 1310, 56 USPQ2d 1286,

1289 (Fed. Cir. 2000). Then we independently review the legal conclusion on obviousness based on those factual findings. Id.

In this case, Duro-Last waived its right to challenge any factual findings underlying the jury's obviousness verdict since its post-verdict JMOL motion was not supported by the required pre-verdict Rule 50(a) motion on obviousness. Accordingly, the jury findings are not subject to further testing, i.e., to determine whether they provide a legally sufficient evidentiary basis for a reasonable jury to find for the verdict winner. Fed. R. Civ. P. 50(a); Jurgens, 927 F.2d at 1557, 18 USPQ2d at 1035. Because the jury did not make explicit factual findings, we must presume that the jury resolved the underlying factual disputes in Custom Seal's favor. Id. at 1558, 18 USPQ2d at 1036. Our review is limited to whether the district court's legal conclusion that the patents were not invalid for obviousness was correct based on the presumed factual findings. Id.

Custom Seal argued at trial that claim 14 of the '321 patent would have been obvious to a person of ordinary skill in the art in view of three prior art stacks, each of which included tube and base pieces with axially tapered surfaces. Mr. Cantor, Custom Seal's expert, testified that it would have been obvious to use a lap weld instead of a butt weld at the tapered area where the tube and base pieces meet. In order to conclude that claim 14 of the '321 patent would have been obvious, the jury must have believed Cantor's testimony that it was known in the art that butt welds and lap welds were interchangeable, and that such knowledge would have motivated a person skilled in the art to modify the prior art stacks to include a lap weld instead of a butt weld. See Sibia Neurosciences, Inc. v. Cadus Pharm. Corp., 225 F.3d 1349, 1356, 55 USPQ2d 1927, 1931 (Fed. Cir. 2000) (holding that motivation to modify a prior art reference may derive from the knowledge of one of ordinary skill in the art).

Whether a motivation exists to modify a prior art reference is a question of fact, id., and therefore Duro-Last cannot challenge the presumed finding that a person skilled in the art would have been motivated to replace the butt weld with a lap weld. Presented with that presumed factual finding, the record supports the jury's verdict of obviousness, and we must reverse the district court's judgment to the contrary.

Turning to the '296 corner piece patent, Custom Seal presented evidence at trial that two prior art corner pieces contained all limitations of claim 1 except the radiused corner of the second segment. Duro-Last disagrees, maintaining that the second segment of its own prior art corner piece was never conformed to loop shape during the welding process, and that Monte Sharp's alleged prior art method using a V-shaped welding bar did not produce a looped segment. Because we must presume the jury resolved disputed facts in Custom Seal's favor, however, we assume the jury believed that at least one of the prior art corner pieces included a segment conformed to loop shape.

That leaves the radiused corner as the only limitation missing from either prior art corner piece. Duro-Last argues

that Custom Seal failed to show that the radiused corner was suggested anywhere in the prior art and that the conclusory statement of Custom Seal's expert is insufficient to support the jury verdict of obviousness. As discussed, however, Duro-Last may not challenge the jury verdict on disputed facts. Thus we must presume the jury found that a person skilled in the art would have been motivated to change the sharper corner of the prior art corner pieces to a more rounded, or radiused, corner. Therefore, presuming that the jury resolved the facts in Custom Seal's favor, we are compelled again to reverse the district court's judgment to the contrary.

## III.

Applicants for patents have a duty to prosecute patent applications in the PTO with candor, good faith, and honesty. Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178, 33 USPQ2d 1823, 1826 (Fed. Cir. 1995); see also 37 C.F.R. § 1.56. A breach of this duty, which breach can include affirmative misrepresentations of material facts, failure to disclose material information, or submission of false material information, coupled with an intent to deceive, constitutes inequitable conduct. See Molins, 48 F.3d at 1178, 33 USPQ2d at 1826. A party alleging that inequitable conduct arises from a failure to disclose prior art must offer clear and convincing proof that the patent applicant failed to disclose material prior art and acted with intent to deceive the PTO. Id. Once the threshold levels of materiality and intent are established, the trial court must weigh materiality and intent to determine whether the equities warrant a conclusion that inequitable conduct occurred. Id.

Inequitable conduct is equitable in nature and the trial court has the obligation to resolve the underlying facts of materiality and intent. Baxter Healthcare Corp. v. Spectramed, Inc., 49 F.3d 1575, 1584, 34 USPQ2d 1120, 1127 (Fed. Cir. 1995). A trial court has some discretion in choosing whether to submit special interrogatories to the jury regarding the underlying facts. Hebert v. Lisle Corp., 99 F.3d 1109, 1114, 40 USPQ2d 1611, 1614 (Fed. Cir. 1996). In this case, the district court submitted the underlying factual inquiries to the jury but then made its own findings of fact. While the jury instructions indicate the judge planned to base his inequitable conduct decision on the jury findings, both parties agree on appeal that the court intended the jury findings to be advisory, and we will treat them as such. Thus we review the district court's fact findings for clear error and the ultimate determination of whether inequitable conduct occurred for abuse of discretion. Baxter, 49 F.3d at 1584, 34 USPQ2d at 1127.

The jury found that Duro-Last failed to disclose material prior art to the PTO during prosecution of the '296 patent and intended to mislead or deceive the PTO. The trial court then performed its own analysis, finding that the activity of Monte Sharp was "marginally material" and that Duro-Last acted with "little or no intent to deceive." Custom Seal's main argument on appeal is that the trial judge ignored the jury's findings of materiality and intent. Even if the district court was required to accept the jury findings, which Custom Seal admits is not the case, the court's findings are not necessarily inconsistent with those made by the jury. The verdict form was general in that it did not specify which prior art the jury considered to be material, nor did it indicate the levels of materiality and intent found by the jury. The trial judge found low levels of materiality and intent, based partly on credibility findings. Given our standard of review, we cannot say the district court's findings of fact were clearly erroneous or that its conclusion that Duro-Last did not commit inequitable conduct was an abuse of discretion.[2]

## CONCLUSION

The trial court's grant of JMOL that the '321 and '296 patents are not invalid for obviousness is reversed; the verdict of the jury, and the trial court's judgment thereon in Custom Seal's favor, is reinstated. The trial court's judgment that the '296 patent is not unenforceable due to inequitable conduct is affirmed. In light of our disposition of the issue of obviousness, we need not address Custom Seal's arguments regarding infringement of the '296 patent.

AFFIRMED-IN-PART and REVERSED-IN-PART.

---

[1] This standard for materiality represents the PTO rule that was in effect at the time the patents at issue in this case were prosecuted. See Li Second Family Ltd. P' ship v. Toshiba Corp., 231 F.3d 1373, 1379 n.4, 56 USPQ2d 1681, 1686 n.4 (Fed. Cir. 2000).

[2] In view of our conclusion we need not address the district court's alternative holding that Custom Seal's post-trial theory of inequitable conduct was not adequately pleaded before trial.