

# United States Court of Appeals For the First Circuit

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Nos. 18-1088,  
18-1121

ACBEL POLYTECH, INC., individually and as  
assignee of EMC CORPORATION,

Plaintiff-Appellant/Cross-Appellee,

v.

FAIRCHILD SEMICONDUCTOR INTERNATIONAL, INC.,  
FAIRCHILD SEMICONDUCTOR CORPORATION,

Defendants-Third Party Plaintiffs-Appellees/Cross-Appellants,

SYNNEX ELECTRONICS HONG KONG LTD.,  
SYNNEX TECHNOLOGY INTERNATIONAL CORP.,

Third Party Defendants.

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APPEALS FROM THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS

[Hon. Denise J. Casper, U.S. District Judge]

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Before

Torruella, Kayatta, and Barron,  
Circuit Judges.

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Zeb Landsman, with whom Richard Chassin, Jesse Travis Conan,  
and Becker Glynn Muffly Chassin & Hosinski LLP were on brief, for  
appellant/cross-appellee.

Matthew Iverson, with whom Daniel E. Rosenfeld, Stephen W.  
Hassink, Yasmin Ghassab, DLA Piper LLP, Jeffrey A. Rosenfeld, and  
Alston & Bird LLP were on brief, for defendants-third party  
appellees/cross-appellants.

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June 20, 2019

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**TORRUELLA, Circuit Judge.** We often fail to notice the complex interplay between the numerous components that make up electronic equipment. This is a case about one of these components -- a miniscule microcircuit that serves as a voltage regulator, the KA7805ERTM ("KA7805").

Defendant-Appellee Fairchild Semiconductor Corporation's ("Fairchild US") subsidiaries manufactured the KA7805. Plaintiff-Appellant AcBel Polytech, Inc. ("AcBel") purchased KA7805s from Fairchild's agent and installed them into power supply units ("PSUs") it then sold to EMC Corporation ("EMC"). EMC used the PSUs for its data storage devices. In 2010, one of Fairchild US's subsidiaries began to manufacture a new "shrunk-die"<sup>1</sup> version of the KA7805 ("shrunk-die KA7805"). After Fairchild transitioned to the shrunk-die KA7805, EMC began to experience problems with AcBel's PSUs. The shrunk-die KA7805s were failing.

AcBel attributed EMC's problems with its PSUs to the design of Fairchild's shrunk-die KA7805. As a result, it filed a diversity suit against Fairchild US and its holding company, Fairchild Semiconductor International, Inc. ("Fairchild

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<sup>1</sup> A die is a miniaturized electronic circuit manufactured in, and on, the surface of a thin substrate of semiconducting material (e.g., silicon). The components of voltage regulators, like the KA7805, are installed on a die.

International") (collectively, "Fairchild"), asserting claims of breach of warranty (Counts I, II, XII and XIII); fraud and negligent misrepresentation (Counts III, IV and V); "design defect -- implied warranty/strict liability" (Counts VI and XIV); "design defect -- negligence" (Counts VII and XV); "failure to warn -- implied warranty/strict liability" (Counts VIII and XVI); "failure to warn -- negligence" (Counts IX and XVII); and violation of Mass. Gen. Laws ch. 93A (Counts X and XVIII).<sup>2</sup> AcBel asserted all claims on its own behalf and on behalf of EMC, as its assignee, except for its fraud and misrepresentation claims (Counts III, IV, and V).

At the summary judgment stage, the district court dismissed all claims except those involving breach of implied warranty (Counts I, II, XII, and XIII). After a nine-day bench trial, the district court dismissed AcBel's remaining breach of implied warranty claims. AcBel appeals from the dismissal of its implied warranty of merchantability (Count I), fraud (Counts III and IV) and negligent misrepresentation (Count V) claims. Fairchild cross-appeals, contending that, even if the district

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<sup>2</sup> In its complaint, AcBel also presented two claims for punitive damages (Counts XI and XIX), but these were dismissed by the district court at the early stages of litigation pursuant to a motion to dismiss filed by Fairchild and are not subject to the present appeal.

court's grounds for dismissal were improper, it is still not liable to AcBel because the district court erred in determining that Fairchild's subsidiaries were its agents for liability purposes. Additionally, Fairchild avers in its cross-appeal that, in the event of reversal, this court should order discovery regarding certain documents produced by AcBel after discovery had closed (the "late-produced documents").

After careful review, we affirm the district court's finding of Fairchild's liability for the actions of its subsidiaries, vacate the district court's judgment dismissing AcBel's implied warranty of merchantability, fraud, fraud by omission, and negligent misrepresentation claims, and remand for further proceedings consistent with this opinion. Because it will likely help develop the record for trial on the remanded claims, we also grant Fairchild's request for additional discovery in relation to the late-produced documents.

#### **I. BACKGROUND**

AcBel is a Taiwanese company that manufactures and sells PSUs, including Katina, a second-generation PSU used by its customer, EMC, in its data storage devices. The Katina PSU was custom-made for EMC and specifically required the KA7805 voltage regulator, which was designed to emit a constant output of voltage, as one of its approximately 400 components.

Fairchild US is a Delaware corporation. Its wholly-owned international subsidiaries (the "Asian subsidiaries") manufactured, assembled, and distributed the KA7805s. Specifically, the KA7805s were manufactured by Fairchild Korea Semiconductor Ltd. ("FSC Korea"), assembled by Fairchild Semiconductor Shuzhou Company, Ltd. ("FSC Shuzhou"), and distributed by Fairchild Semiconductor PTE, Ltd. ("FSC Singapore") and Fairchild Semiconductor Hong Kong Ltd. ("FSC Hong Kong"). Although the KA7805 voltage regulators were ultimately utilized in the Katina PSU, Fairchild did not manufacture them specifically for AcBel.

In 2008, AcBel received a process change notice ("PCN") from Synnex,<sup>3</sup> a company that had apparent authority to act as Fairchild's agent, notifying it that the KA7805 voltage regulator would be redesigned. The new version required that some internal components be moved to accommodate the smaller die, including a part known as the zener diode. In January 2010, FSC Korea began to manufacture the new shrunk-die version of the KA7805. At the end of the design process, FSC Korea performed industry-standard testing on the shrunk-die KA7805, and there were zero failures

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<sup>3</sup> "Synnex" refers to Synnex Technology International and Synnex Electronics Hong Kong Ltd., third-party defendants that are not parties to this appeal. Synnex distributed Fairchild's KA7805 voltage regulators.

reported.<sup>4</sup> Fairchild did not assign a new part number to the redesigned shrunk-die KA7805.

Despite the shrunk-die KA7805's entry into the market in early 2010, its manufacture and shipment was halted sometime in July 2010 when FSC Korea reported a quality incident involving a product that used the same shrunk die. The root cause of the reported quality incident was not immediately known. Fairchild US recommended that FSC Korea permanently cease production of the shrunk-die version KA7805 and revert to the larger die, which was done by week 35 of 2010. No notification of the switch from the shrunk-die KA7805 model back to the large-die model was provided to AcBel and Fairchild's other customers.

Meanwhile, AcBel had purchased 195,000 shrunk-die KA7805s, all of which ended up in the second-generation Katina PSUs it manufactured for EMC. On or about December 3, 2010, while FSC Korea was still investigating the quality issue reported in July of that year, AcBel received notice from EMC that thousands of shrunk-die KA7805s had failed, causing the Katina PSUs in its data storage devices to fail as well. Eventually, it was

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<sup>4</sup> FSC Korea tested the shrunk-die KA7805 in accordance with the standards set by the Joint Electron Device Engineering Council ("JEDEC"), a body that establishes industry-accepted qualification standards for testing semiconductor reliability.

determined that 26,000 PSUs needed to be replaced for EMC customers.

No terms and conditions limiting liability in connection with the KA7805 sales were provided to AcBel prior to December 2010. At AcBel's request, a representative from FSC Hong Kong formed a task force to address the shrunk-die KA7805's failure issue. On December 22, 2010, Fairchild executed a letter guaranteeing AcBel that it would revert to the non-shrunk or large-die design of the KA7805.

The dispute over the cause of shrunk-die KA7805's failures eventually led to the current litigation. AcBel attributed the part's failures to the shrunk-die model's design, which it claimed made the product defective. During trial, Fairchild's expert testified that a certain sequence of events must occur to trigger the shrunk-die KA7805's failure: (1) moisture penetration; (2) a mechanism for the generation of hydrogen from moisture on the die surface; (3) a way for the hydrogen to get underneath the silicon nitride at the edge of the die and find its way to the zener diode; (4) a trigger for the molecular hydrogen to form atomic hydrogen; and (5) that all of these occurrences happen at relatively low temperatures. Evidence demonstrated that the failure symptoms could only be duplicated by creating extreme conditions designed to make devices fail, such as a Highly

Accelerated Stress Test ("HAST"), with bias, followed by a Low Temperature Operating Life test ("LTOL"). HAST and LTOL testing are not part of the JEDEC standards, so standard industry testing would not uncover the shrunk-die KA7805's failure systems. Additionally, evidence presented at trial suggested that EMC's problems with the KA7805s may have resulted from the extreme heat produced by AcBel's soldering of the microcircuits to the PSU circuit boards.

AcBel's expert, on the other hand, concluded the KA7805s had a defective design, and claimed AcBel's soldering process was within industry standards. AcBel's expert believed the new placement of the zener diode in the shrunk-die KA7805 made it susceptible to moisture exposure, thereby impairing the voltage regulator's electrical function. The expert, however, could not identify the specific mechanism that caused the KA7805s to fail and did not perform independent testing.

## **II. DISCUSSION**

### **A. AcBel's Implied Warranty of Merchantability Claim (Count I)**

The district court held that Fairchild did not breach the KA7805's implied warranty of merchantability. It based its holding on AcBel's failure to establish that the design defect of Fairchild's shrunk-die KA7805 was foreseeable. AcBel contends that the district court's analysis was legally flawed, inasmuch as

it held that AcBel was required to establish that the design defect of Fairchild's shrunk-die KA7805 was foreseeable in order to prevail in its implied warranty of merchantability claim. Because AcBel challenges a legal determination made by the district court during the course of the bench trial, our review is de novo. United States v. 15 Bosworth St., 236 F.3d 50, 53 (1st Cir. 2001).

Under Massachusetts law, with certain exceptions not applicable here, "a warranty that the goods shall be merchantable is implied in a contract for their sale if the seller is a merchant with respect to goods of that kind." Mass. Gen. Laws ch. 106, § 2-314(1) (adopted by Massachusetts from the Uniform Commercial Code ("UCC") § 2-314(1)). Thus, manufacturers impliedly warrant that their products will be "fit for the ordinary purposes for which such goods are used." Back v. Wickes Corp., 378 N.E.2d 964, 969 (Mass. 1978) (quoting Mass. Gen. Laws ch. 106, § 2-314(2)(C)). The cornerstone of the duty of warranty of merchantability "is the anticipation of foreseeable uses." Cigna Ins. Co. v. Oy Saunatec, Ltd., 241 F.3d 1, 16 (1st Cir. 2001).

In its complaint, AcBel alleged that Fairchild breached the implied warranty of merchantability by selling to AcBel defective shrunk-die KA7805s that were unfit for their ordinary purpose. As correctly noted by the district court, for AcBel to succeed on its breach of the implied warranty of merchantability

claim presented on its behalf and on behalf of EMC, it must have demonstrated at trial that: (1) Fairchild manufactured or sold the shrunk-die KA7805s; (2) a defect or unreasonably dangerous condition existed that rendered the shrunk-die KA7805s not suitable for the ordinary uses for which voltage regulators were sold; (3) AcBel and EMC were using the shrunk-die KA7805s in a manner that Fairchild intended or could have reasonably foreseen; and (4) the defect or unreasonably dangerous condition was a legal cause of AcBel's and EMC's injuries. See Provanzano v. MTD Prods. Co., 215 F. Supp. 3d 134, 138 (D. Mass. 2016) (citing Lally v. Volkswagen Aktiengesellschaft, 698 N.E.2d 28, 43 (Mass. App. Ct. 1998)).

As to the first prong, Fairchild challenges on appeal the district court's determination that it is liable for the acts of its subsidiaries. Specifically, the district court found that, because Fairchild was so intermingled with the conduct of its subsidiaries, they were its agents for liability purposes.<sup>5</sup> This is relevant for our implied warranty of merchantability analysis

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<sup>5</sup> Given that the district court correctly decided this issue, and persuasively explained its reasoning in detailed fashion, see AcBel Polytech, Inc. v. Fairchild Semiconductor Int'l, Inc., No. CV 13-13046-DJC, 2017 WL 6625036, at \*9-10 (D. Mass. Dec. 27, 2017), we see no reason to write at length to place our seal of approval on its decision. See In re Fin. Oversight & Mgmt. Bd. for P.R., No. 18-1165, 2019 WL 1349223, at \*3 n.6 (1st Cir. Mar. 26, 2019).

because the shrunk-die KA7805s were manufactured by FSC Korea and sold to AcBel by Synnex, which acted as FSC Hong Kong's agent.<sup>6</sup> Thus, if Fairchild is not liable for its subsidiaries' actions, AcBel is unable to meet the first element of this implied warranty of merchantability inquiry. See Provanzano, 215 F. Supp. 3d at 138.

Fairchild accepts the district court's factual findings regarding its relationship with its Asian subsidiaries, but on appeal makes three strictly legal arguments in support of its contention that the district court improperly held it liable for its subsidiaries' conduct.

First, Fairchild sustains that the district court based its agency determination on the "pervasive control" theory but did not make the requisite finding that Fairchild also used the corporate form to engage in improper conduct. Fairchild contends that the absence of improper conduct is dispositive because "control, even pervasive control, without more, is not a sufficient basis for a court to ignore corporate formalities . . . without a showing of improper conduct." (quoting Scott v. NG U.S. 1, Inc., 881 N.E.2d 1125, 1132 (Mass. 2008)).

Second, Fairchild argues that, even in the absence of

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<sup>6</sup> Fairchild does not challenge the FSC Hong Kong-Synnex agency relationship.

improper conduct, the district court's agency determination was erroneous because the facts it found do not establish its pervasive control over its subsidiaries, as required to create liability.

And third, Fairchild asserts it would not be liable for the Asian subsidiaries' conduct under the apparent manufacturer doctrine, as suggested by the district court in dicta, because for the doctrine to apply, Fairchild must have "participate[d] substantially in the design, manufacture, or distribution of the [KA7805s]" and the district court made no finding to such effect. (quoting Lou v. Otis Elevator Co., 933 N.E.2d 140, 148 (Mass. App. Ct. 2010)).

We are not persuaded. A simple reading of the district court's judgment reveals that its decision was made on the basis of an agency theory, not a pervasive control theory, despite its citing of cases addressing the piercing of the corporate veil in support of its agency conclusion. See AcBel Polytech, 2017 WL 6625036, at \*9-10. The district court cited those cases to highlight the level of control FSC had over its subsidiaries. Id. Fairchild's level of control over its subsidiaries is not exclusive of agency but rather supportive of the district court's finding that such relationship exists. Id. (citing RFF Family P'ship, LP v. Link Dev., LLC, 907 F. Supp. 2d 155, 161 (D. Mass. 2012) ("An agency relationship is created when there is mutual consent,

express or implied, that the agent is authorized to act on behalf and for the benefit of the principal, subject to the principal's control." (emphasis added)).

Moreover, the intermingling between two entities can also provide an independent basis for the conclusion that an agency relationship existed. To this point, in My Bread Baking Co. v. Cumberland Farms, Inc., the Supreme Judicial Court of Massachusetts ("SJC") held that:

Although common ownership of the stock of two or more corporations together with common management, standing alone, will not give rise to liability on the part of one corporation for the acts of another corporation or its employees, additional facts may be such as to permit the conclusion that an agency or similar relationship exists between the entities. Particularly is this true (a) when there is active and direct participation by the representatives of one corporation, apparently exercising some form of pervasive control, in the activities of another and there is some fraudulent or injurious consequence of the intercorporate relationship, or (b) when there is a confused intermingling of activity of two or more corporations engaged in a common enterprise with substantial disregard of the separate nature of the corporate entities . . . .

233 N.E.2d 748, 751-52 (Mass. 1968) (emphasis added).

Based on the foregoing and the fact that Fairchild accepts the district court's factual findings, which reveal the high degree of control Fairchild actually exercised over its subsidiaries, we cannot find any error in the district court's determination that an agency relationship existed between

Fairchild and its Asian subsidiaries. The district court was not required to make any additional findings, as Fairchild contends, to impose liability. Accordingly, we conclude that AcBel met the first element of the implied warranty of merchantability test by establishing that, for purposes of liability, Fairchild manufactured and sold the shrunk-die KA7805s.

The second element of the test required AcBel to show that the shrunk-die KA7805 had a defect or unreasonably dangerous condition<sup>7</sup> that made it unsuitable for its ordinary use, while the third element required AcBel to show it was, along with EMC, using the shrunk-die KA7805s in a manner that Fairchild intended or could have reasonably foreseen. Here, things start to get complicated. The district court conflated its analysis of these two elements. Thus, the specific basis for its conclusion that Fairchild did not violate the shrunk-die KA7805's implied warranty of merchantability is not completely clear. What is clear, however,

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<sup>7</sup> In the context of the present case, where no person was physically injured, we interpret "dangerous condition" to mean a condition that presents a danger of injury to the product itself -- the shrunk-die KA7805 -- and thus to its fitness for its ordinary purposes. See generally East River Steamship Corp. v. Transamerica Delaval, Inc., 476 U.S. 858, 871-72 (1986) (explaining, in the context of interpreting UCC § 2-314, that "[d]amage to a product itself is most naturally understood as a warranty claim"); see also Mass. Gen. Laws ch. 106, § 2-314 (adopting UCC § 2-314 for purposes of Massachusetts implied warranty claims).

is that the district court relied on a tort-based design defect theory and, in doing so, erroneously added an inapplicable "foreseeability by reasonable testing requirement" to AcBel's contract-based implied warranty of merchantability claim.

After recounting the correct four-element test for an implied warranty of merchantability claim, the district court cited to Town of Westport v. Monsanto Co., a tort case involving a dangerous product,<sup>8</sup> in support of its conclusion that Fairchild did not breach the implied warranty of merchantability. AcBel Polytech, 2017 WL 6625036, at \*12 (citing Town of Westport, No. 14 -cv-12041, 2017 WL 1347671, at \*4 (D. Mass. Apr. 7, 2017), aff'd, 877 F.3d 58 (1st Cir. 2017)). Specifically, the district court held that "[a] manufacturer may only be held liable for a defective design if it fails to design against the reasonably foreseeable risks attending the product's use in that setting." Id. (quoting Town of Westport, 2017 WL 1347671, at \*4 (internal citations and quotations omitted)). The court explained that "[t]he expert testimony and other evidence concerning the design and testing of the shrunk-die KA7805 shows that, to the extent

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<sup>8</sup> Specifically, in Town of Westport, plaintiffs filed suit alleging tort liability against the manufacturer of a dangerous product, polychlorinated biphenyls ("PCBs") -- chemicals that are hazardous above certain concentrations. See Town of Westport v. Monsanto Co., 877 F.3d 58, 61-62 (1st Cir. 2017).

moving the zener diode was a risk, there was no reasonably foreseeable risk in its design" and, furthermore, that "[d]espite the shrunk-die KA7805's rate of failure . . . AcBel failed to show that any reasonable testing regimen would have revealed any such defect." Id.<sup>9</sup>

The district court also seems to have focused on the shrunk-die KA7805's testing for purposes of its analysis of the second element of the implied warranty of merchantability test. After noting that Fairchild and its subsidiaries tested the shrunk-die KA7805 in accordance with industry standards<sup>10</sup> but could only recreate its failure by running non-industry standard consecutive HAST and LTOL tests, the court held that "even with the benefit of expert testimony, AcBel did not show that the shrunk-die [KA7805] was defective or had an unreasonably dangerous condition." Id. Doubling down on its focus on testing, the district court finalized its implied warranty of merchantability analysis relying on Vassallo v. Baxter Healthcare Corp., 696 N.E.2d 909 (Mass. 1998),

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<sup>9</sup> Because these expressions address foreseeability, albeit incorrectly, we read them to be related to the district court's analysis of the third element of the implied warranty of merchantability test, which will be discussed in turn.

<sup>10</sup> As mentioned above, supra n.4, JEDEC establishes industry-accepted standards for assessing reliability in the semiconductor component industry.

another tort case involving a dangerous product.<sup>11</sup> The court concluded that "[a]pplying 'the standard of knowledge of an expert in the appropriate field,' [Fairchild] 'could not have [] discovered by way of reasonable testing' [the shrunk-die KA7805's] risk of failure under the[] extreme circumstances" created by consecutively running the HAST and LTOL tests. AcBel Polytech, 2017 WL 6625036, at \*12 (quoting Vassallo, 696 N.E.2d at 923) (some alterations in the original).

The link between a reasonable testing regime, which generally goes towards foreseeability, see Vassallo, 696 N.E.2d at 923 (applying the reasonable testing standard in the context of a failure to warn or provide instructions about risks context), and the district court's conclusion that the KA7805 was not defective or had an unreasonably dangerous condition is not totally clear. Notwithstanding, because this conclusion was only supported by an inapplicable tort-based theory, we need not unravel this mystery to conclude that the district court erred.

By considering foreseeability by reasonable testing for its analysis of the second and third elements of the implied

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<sup>11</sup> In Vassallo, the plaintiff sued the successor of a company that manufactured silicone breast implants she had implanted in her, claiming that they were negligently designed, accompanied by negligent product warnings, and breached the implied warranty of merchantability, with the consequence of causing injuries to her person. 696 N.E.2d at 912.

warranty of merchantability test, the district court improperly commingled contract-based and tort-based theories of implied warranty. See Rule v. Fort Dodge Animal Health, Inc., 607 F.3d 250, 252 (1st Cir. 2010) (warning that "[g]eneraliz[ations] about warranty law should be [made] with care; there are variations in state law, changes over time, modification by statutes like the Uniform Commercial Code, [and] a mingling of tort and contract concepts"). When economic loss is the only injury that is claimed, recovery for breach of an implied warranty should be construed as contract-based, not tort-based, under Massachusetts law. Jacobs v. Yamaha Motor Corp., U.S.A., 649 N.E.2d 758, 762 (Mass. 1995) (recognizing a contract-based warranty claim "to recover against a manufacturer or remote seller for breach of warranty causing damage other than personal injury"); Bay State-Spray & Provincetown S.S., Inc. v. Caterpillar Tractor Co., 533 N.E.2d 1350, 1352 (Mass. 1989). We have made the same distinction, see Wilson v. Hammer Holdings, Inc., 850 F.2d 3, 7-8 (1st Cir. 1988) (noting a difference between "products liability actions" and "contractually based warranty claims"), and the Supreme Court has said as much in the context of an admiralty case, see East River Steamship Corp. v. Transamerica Delaval, Inc., 476 U.S. 858, 871-75 (1986) ("When a product injures only itself the reasons for imposing a tort duty are weak and those for leaving the party to

its contractual remedies are strong."); see also 18 Williston on Contracts § 52:67 (4th ed.) ("An implied warranty may be breached whether or not the seller is aware of a defect in the goods . . . .").

Because the injury here was to the shrunk-die KA7805s -- the product itself -- it sounds in contract, not tort. As a result, the reasonableness of the testing of the shrunk-die KA7805 was inconsequential. Instead, the district court's analysis should have been circumscribed to the foreseeability of the shrunk-die KA7805's use. See Mass. Gen. Laws ch. 106, § 2-314(2)(c) ("Goods to be merchantable must at least be . . . fit for the ordinary purposes for which such goods are used . . . ."); see also Cigna Ins. Co., 241 F.3d at 16.

Thus, to conduct the proper contractual implied warranty of merchantability inquiry, we must turn to the question of whether AcBel's use of the shrunk-die KA7805's was foreseeable. The shrunk-die KA7805's functionality was contingent on it being soldered into a circuit board, as AcBel did to install the KA7805s onto its PSUs. The act of soldering the KA7805 into a circuit implicates exposure to high heat. Furthermore, the tests employed by Fairchild to verify the KA7805's reliability in accordance with the industry standard and later to determine its failure mechanism

all involved exposure to high heat.<sup>12</sup> Finally, testimony at trial revealed that Fairchild was aware of the multiple uses given to the shrunk-die KA7805. Fairchild US's vice-president, Eric Hertz, described the KA7805 as a "jelly bean product" -- "a product that . . . is sold to a lot of different customers[] [for] a lot of different applications." Taking these facts into account, we cannot conclude that AcBel was unable to meet the implied warranty of merchantability test's burden of establishing that its use of the shrunk-die KA7805 was foreseeable.

Our inquiry, however, does not end here. Even assuming that its use of the shrunk-die KA7805s was foreseeable, AcBel was still required to meet the fourth and last element of the implied warranty of merchantability test: establishing that a defect or unreasonably dangerous condition of the shrunk-die KA7805 constituted the legal cause of the injuries sustained by itself and EMC. See Provanzano, 215 F. Supp. 3d at 138. The district court found that the root cause of the failures experienced by EMC with the shrunk-die KA7805 was the sequence of events recreated by running the HAST, with bias, followed by a LTOL, but that is of little help to establish legal or proximate causation.<sup>13</sup> See

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<sup>12</sup> These tests exposed the shrunk-die KA7805 to temperatures as high as 150 degrees Celsius. For context, water's boiling point is 100 degrees Celsius.

<sup>13</sup> The terms "legal cause" and "proximate cause" are

Restatement (Second) of Torts § 9 cmt. a (Am. Law. Ins. 1965) (establishing that legal causation traces liability to a person). Legal cause must be sufficient to result in liability. Restatement (Second) of Torts § 9 (Am. Law. Ins. 1965). Be it the result of an act or omission, legal causation leads to a consequence for which liability may be imposed on a party. Id.

Given its finding on foreseeability, the district court had no need to reach a finding on legal causation. The evidence on this issue was conflicting. As the district court observed, the problems EMC experienced with the shrunk-die KA7805s may have originated when AcBel soldered them to its PSU circuit boards<sup>14</sup> and other users reported a rate of 0.012%, while AcBel reported a failure rate of 7.5% for the same relevant time period (third and fourth quarters of 2010).<sup>15</sup> In conflict with these observations,

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interchangeable. See CSX Transp., Inc. v. McBride, 564 U.S. 685, 701 (2011); Cause, Black's Law Dictionary (10th ed. 2014).

<sup>14</sup> Specifically, the district court found that "the problem with the shrunk-die KA7805 may have resulted from delamination caused by extreme heat during AcBel's wave soldering process." AcBel Polytech, 2017 WL 6625036, at \*8. In further support of this conclusion, it noted that "[d]elamination was not present when the KA7805s were originally shipped [by Fairchild]. It occurred when the KA7805s were in the care of AcBel." Id.

<sup>15</sup> Furthermore, our own review of the record reveals that AcBel's internal documents reflect that 80% of its employees, including engineers, failed their soldering skill performance examinations in 2008. This, considered in tandem with EMC's heightened failure rates in comparison with other sources, raises serious questions as to whether AcBel's soldering practices caused the KA7805

the court also noted -- without making any statements as to credibility -- that AcBel's expert testified that AcBel's soldering process was within industry standards.

The inconclusive nature of the district court's findings coupled with the absence of a causation analysis -- considered in conjunction with its application of an erred foreseeability analysis -- counsels us against making a final determination as to whether Fairchild actually breached the shrunk-die KA7805's warranty of merchantability. With the benefit of the guidance set out above as to the proper inquiry to be performed in adjudicating a contract-based implied warranty of merchantability claim, we believe the district court is in an improved position to evaluate the parties' arguments and evidence in this all but simple case. Accordingly, we vacate the district court's dismissal of AcBel's implied warranty of merchantability claim and remand for trial where the district court shall determine: whether the shrunk-die KA7805 had a defect or unreasonably dangerous condition that rendered it not suitable for the ordinary use for which it was sold; whether AcBel and EMC were using the shrunk-die KA7805 in a manner that Fairchild intended or could have reasonably foreseen; and whether a defect or unreasonably defective condition of the

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failures.

shrunk-die KA 7805 constituted the legal cause of AcBel's and EMC's injury.<sup>16</sup>

**B. AcBel's Fraud and Misrepresentation Claims (Counts III, IV, and V)**

AcBel also challenges the district court's entry of summary judgment dismissing its fraud (Count III), fraud by omission (Count IV), and negligent misrepresentation (Count V) claims. Our review is de novo. See Scholz v. Goudreau, 901 F.3d 37, 44 (1st Cir. 2018). "In so reviewing, we must 'tak[e] the facts and all reasonable inferences therefrom in the light most favorable to [the non-moving party]," in this case AcBel. Id. (quoting Aponte-Rosario v. Acevedo-Vilá, 617 F.3d 1, 6 (1st Cir. 2010)). We will affirm a district court's grant of summary judgment only "when there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Rivera-Rivera v. Medina & Medina, Inc., 898 F.3d 77, 87 (1st Cir. 2018) (citation and internal quotation marks omitted).

The core of AcBel's fraud and negligent misrepresentation claims rests on the following factual allegation: despite being required by industry custom, Fairchild

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<sup>16</sup> We assume, without concluding, that as part of trial proceedings the district court will also have to evaluate the misuse, unreasonable use, and unforeseeable use defenses raised by Fairchild. See generally Cigna Ins. Co., 241 F.3d at 14-19; Allen v. Chance Mfg. Co., 494 N.E.2d 1324 (Mass. 1986).

did not notify AcBel that it abandoned the shrunk-die KA7805 and reverted back to the large-die model in week 35 of 2010, either through a change in part number or issuance of a PCN. The district court based its dismissal of all three of AcBel's fraud and misrepresentation claims primarily on its conclusion that AcBel's reliance on Fairchild's failure to change the KA7805's part number when the part was switched from the large-die to the shrunk-die model was, as a matter of law, unreasonable. We disagree and therefore vacate the district court's dismissal of AcBel's fraud and misrepresentation claims and remand for adjudication of these claims at trial. For clarity, we discuss each of AcBel's fraud and misrepresentation claims in turn.

Under Massachusetts law, to recover on fraudulent misrepresentation claims, a plaintiff must establish that defendants: (1) "made a false representation of material fact"; (2) "with knowledge of its falsity"; (3) "for the purpose of inducing the plaintiff[] to act on this representation"; (4) "that the plaintiff[] reasonably relied on the representation as true"; and (5) "that [the plaintiff] acted upon it to their damage." Cumis Ins. Soc'y, Inc. v. BJ's Wholesale Club, Inc., 918 N.E.2d 36, 47 (Mass. 2009) (emphasis added); see also Rodi v. S. New England Sch. of Law, 532 F.3d 11, 15 (1st Cir. 2008) (pursuant to Massachusetts law, reliance upon the alleged misstatement must be

"reasonable under the circumstances").

The standard for a fraudulent omission claim retains the above-cited elements but the "false representation" element takes the form of an omission. See Sahin v. Sahin, 758 N.E.2d 132, 138 n.9 (Mass. 2001). Additionally, to establish a fraud by omission claim, a plaintiff must establish defendants' "concealment of material information" and "duty requiring disclosure." Id.

The standard for a negligent misrepresentation claim, however, differs to a larger extent. "Unlike fraud, negligent misrepresentation does not require an intent to deceive or actual knowledge that a statement is false." Cumis Ins. Soc'y, 918 N.E.2d at 47. To succeed on a negligent misrepresentation claim, a plaintiff must establish that:

[T]he defendants, "in the course of [their] business, profession or employment, or in any other transaction in which [they had] a pecuniary interest, suppli[ed] false information for the guidance of others in their business transactions" without exercising "reasonable care or competence in obtaining or communicating the information," that those others justifiably relied on the information, and that they suffered pecuniary loss caused by their justifiable reliance upon the information.

Id. at 47-48 (citation omitted) (some alterations in original) (emphasis added).

As may be noted, and most importantly for purposes of our current analysis, all three of AcBel's fraud and misrepresentation claims have a reliance requirement.

The district court addressed two elements of AcBel's fraud claims: Fairchild's alleged false representation and omission, and AcBel's reasonable reliance on the alleged misrepresentation and omission. Its decision to grant summary judgment in favor of Fairchild, however, rested exclusively on the latter.<sup>17</sup>

As to the first switch from the large-die to shrunk-die model, the district court found that Fairchild did not make a misrepresentation by failing to change the KA7805's part number because, in 2008, it provided AcBel "adequate notice of the design change" through the delivery of a PCN.<sup>18</sup> The PCN described the changes that were going to be made to the KA7805 and stated that the first shipment of shrunk-die model was expected to take place in approximately three months. As to the switch back to the large-die model in week 35 of 2010, the district court concluded that,

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<sup>17</sup> A finding of a misrepresentation hinges on whether Fairchild had an obligation to change the KA7805's part number when it switched the microcircuit from the large-die to the shrunk-die model. Because the parties dispute the requirement of a change in part number, this raises an issue of material fact. Specifically, AcBel contends that industry custom and standards required Fairchild to add a suffix to the part number, while Fairchild sustains that no change was required. Notwithstanding, for purposes of its summary judgment disposition, the district court assumed the change was required and rested its conclusion on the supposed unreasonableness of AcBel's reliance on the KA7805's part number.

<sup>18</sup> The PCN was delivered to AcBel by Fairchild's agent, Synnex.

inasmuch as "the [KA7805s] were returned to their original design[,] . . . labeling them with the original part number was not a false statement even under AcBel's representation of the industry custom." Accordingly, it held that Fairchild's "failure to change the part number when 'the second change' was made [did] not amount to a misrepresentation."

Whether Fairchild's continued use of the same part number for the shrunk-die KA7805 constituted a misrepresentation is contingent on whether industry norm required a change -- an issue of material fact. On review, we must presume as much. See Scholz, 901 F.3d at 44. Assuming that the change was required, as we must, the district court's position in granting summary judgment that Fairchild's failure to change the KA7805's part number was somehow cured as a matter of law by the PCN in 2008, and then by the reassignment of the unchanged part number back to the large-die version in 2010, is unavailing. While it is true that Fairchild sent a PCN informing AcBel that a switch to a new shrunk-die model was going to take place, nowhere in the PCN does Fairchild affirm or deny that a new part number was going to be assigned. Under these circumstances was it not safe for AcBel to assume, at some point, that the shrunk-die model retained the large-die model's part number, despite this being contrary to the usual practice under industry custom? In such case, would changing the KA7805

back to a large-die design without informing such change not constitute a misrepresentation given that its original part number now constituted the shrunk-die's part number? We view these questions as too dependent on the idiosyncrasies of industry norms to be addressed with the record available to the district court at summary judgment.

Furthermore, the extent to which the PCN could have cured Fairchild's failure to change the part number when switching to the shrunk-die model is in itself an issue of material fact better left for trial. Likewise, whether Fairchild was required to issue a PCN in 2010 when switching back to the large-die model in 2010, as AcBel alleges was required by industry norm, is also an issue of material fact better left for trial.

That the KA7805's part number, after week 35 of 2010, once again coincided with the large-die model to which it was originally assigned does not preclude the existence of an affirmative misrepresentation. The thrust of AcBel's affirmative misrepresentation claim lies in that, by keeping the same part number for both the large-die and shrunk-die models, Fairchild misrepresented that the part had not undergone a material change. The factfinder could certainly find that a highly unusual switch back to the large-die model, which would have put AcBel on notice regarding issues with the shrunk-die model, is a material change.

In any case, we now turn to what we read as the district court's primary basis for dismissing AcBel's fraud and misrepresentation claims, regardless of whether Fairchild's failure to change the part number constituted a misrepresentation -- AcBel's allegedly unreasonable reliance on the unchanged part number.

In regard to AcBel's reliance on the unchanged part number, the district court held that, even assuming that the unchanged part number constituted a misrepresentation, AcBel's reliance upon it was unreasonable as a matter of law because the PCN placed AcBel on notice that the KA7805 was being switched to the shrunk-die model. For the district court, the PCN and the unchanged part number (to the extent that it represented that the KA7805 had not been altered) constituted "conflicting statements" that "engender[ed] doubt" and thus rendered AcBel's reliance on the part number unreasonable as a matter of law. Along the same vein, the court considered that AcBel's reliance was unreasonable because, at the very least, these "conflicting statements" triggered AcBel's duty to inquire as to whether "the information in the PCN was nullified by the allegedly unchanged part number," which the record reflects AcBel did not do. AcBel Polytech, Inc. v. Fairchild Semiconductor Int'l, Inc., No. CV 13-13046-DJC, 2016 WL 7197368, at \*12 (D. Mass. Dec. 9, 2016).

In order to establish a claim for fraud, reliance upon the alleged misstatement must be "reasonable under the circumstances." Rodi, 532 F.3d at 15. While "[a] party may justifiably rely on a misrepresentation even if he could have ascertained its falsity by conducting an investigation," misrepresentations that could be discovered by a " cursory glance," and are known to be false or obviously false, may not be relied upon. Sanford Inst. for Sav. v. Gallo, 156 F.3d 71, 74-75 (1st Cir. 1998).<sup>19</sup> As the SJC has explained, a plaintiff may not rely "on a representation that [is] either preposterous or palpably false." Yorke v. Taylor, 124 N.E.2d 912, 916 (Mass. 1955); see also Damon v. Sun Co., Inc., 87 F.3d 1467, 1480 (1st Cir. 1996) ("Only reliance on 'preposterous or palpably false' representations vitiates a misrepresentation claim." (citation omitted)). "[I]f a mere cursory glance would have disclosed the falsity of the representation, its falsity is regarded as obvious . . . ." Kuwaiti Danish Comput. Co. v. Dig. Equip. Corp., 781 N.E.2d 787, 795 (Mass. 2003). Accordingly, if the plaintiff could

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<sup>19</sup> Although Sanford is a bankruptcy case, the cited expressions regarding reasonable reliance are guided by the same common law concepts adopted by Massachusetts law. Compare Sanford, 156 F.3d at 74-76 (citing Restatement (Second) of Torts §§ 540, 541 cmt. a (1976)) with Kuwaiti Danish Comput. Co. v. Dig. Equip. Corp., 781 N.E.2d 787, 795 (Mass. 2003) (citing Restatement (Second) of Torts §§ 540, 541).

have discovered the falsity of the defendant's representation, but failed to do so, plaintiff's reliance is reasonable unless there were "any warning signs . . . either in the documents, in the nature of [a] transaction, or in [defendant's] conduct or statements." Sanford, 156 F.3d at 75 (quoting Restatement (Second) of Torts § 540, cmt. a (1977)); see also Kenda Corp., Inc. v. Pot O'Gold Money Leagues, Inc., 329 F.3d 216, 227 (1st Cir. 2003) ("Certainly where a defendant has willfully made false representations with intent to deceive he ought not to be relieved of liability because of his victim's lack of diligence." (quoting Yorke, 124 N.E.2d at 916)).

Clearly conflicting statements, however, "should [place] petitioner on notice that he should not rely on either statement. Confronted by such a conflict a reasonable person investigates matters further; he receives assurances or clarification before relying." Trifiro v. N.Y. Life Ins. Co., 845 F.2d 30, 33 (1st Cir. 1988). "Explicit conflict engenders doubt, and to rely on a statement the veracity of which one should doubt is unreasonable." Id. at 34 (emphasis added).

The conflicting information that the district court found triggered AcBel's duty to inquire -- or otherwise make its reliance on either piece of information unreasonable -- was the content of the Fairchild's 2008 PCN and the unchanged part number

in the KA7805's label. The PCN represented that the KA7805 was undergoing a design change. The unchanged part number, on the other hand, could be perceived to represent that no change was made to the KA7805's design following the delivery of the PCN. In light of the fact that the PCN did not provide a specific date for the shipment of shrunk-die KA7805s, we cannot agree that there was no issue of material fact regarding the existence of a conflict between the representations, much less as to the existence of an "[e]xplicit conflict" that "engender[ed] doubt" and thus triggered AcBel's duty to inquire. Id. Given the uncertainty as to shipment date reflected in the PCN, and the lack of temporal proximity between the delivery of the PCN and the actual commencement of shipment of shrunk-die KA7805s to AcBel -- approximately one year and nine months later -- we conclude that the issues of AcBel's reasonable reliance (in general) and the existence of a conflict in information that triggered AcBel's duty to inquire (more specifically) would be more properly addressed at trial.<sup>20</sup> See Marram v. Kobrick Offshore Fund, Ltd., 809 N.E.2d 1017, 1031 (Mass.

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<sup>20</sup> The district court did not address AcBel's reliance on the unchanged part number in relation to Fairchild's switch back to the large-die model in week 35 of 2010, but rather only as to the first switch to the shrunk-die in week 1 of 2010. Fairchild's failure to differentiate between the two models based on part number permitted it to revert to the large-die model without explicitly revealing that this change had been made.

2004).

By the same token, we cannot agree that AcBel's reliance on the unchanged part number was unreasonable as a matter of law. A court's reasonable reliance analysis is based on the circumstances of the alleged reliance on a representation. Rodi, 532 F.3d at 15. The circumstances in the present case are clearly distinguishable from those presented in the cases cited by Fairchild, as well as other we have located, where the First Circuit or Massachusetts courts have found a plaintiff's reliance unreasonable due to the existence of conflicting information.

For example, in Trifiro, cited approvingly by the district court, the plaintiff claimed that he reasonably relied on a statement made by defendant's officer as to the formation of a contract which was directly contradicted by a letter sent by defendant shortly thereafter. 845 F.2d at 33. Specifically, during an initial conversation, defendant's officer expressed to plaintiff's agent that, despite his employer having a committee approval requirement, the transaction proposed by plaintiff "would be a small deal for [defendant] and . . . committee approval would be a mere formality." Id. Notwithstanding, a mere two days to a week later, the defendant sent the plaintiff a letter explicitly stating that "approval of any proposal would be at the sole discretion of the appropriate committee or authority" and,

furthermore, requesting that plaintiff "acknowledge [his] understanding of . . . [the requirement of committee approval] by signing and dating the enclosed copy of th[e] letter." Id. (some alterations in the original). Plaintiff signed the letter but, nonetheless, later asked this court to "hold that he acted reasonably in relying on the earlier oral statement made to [his agent] that committee approval would be a mere formality." Id. We rejected the plaintiff's request holding that "[w]hen a person acts in a way contrary to his own acknowledged understanding of the facts, his acts must be deemed unreasonable as a matter of law," and, furthermore, that the circumstances rendered the plaintiff's reliance unreasonable because he was the recipient of explicitly conflicting information -- one statement that approval of his proposal was certain versus a second representing that it was uncertain. Id.

These cases are very fact-dependent. Nevertheless, the circumstances in the present case lead us to conclude that the question of whether AcBel's reliance on the unchanged part number was reasonable is an issue of fact. First, while it is true that AcBel admitted it received the PCN informing that Fairchild would switch to a small-die model, nowhere in the PCN did Fairchild state that the part number would not be changed in contravention to industry norm. Second, the discrepancy between the PCN and

unchanged part number was not as explicit as, perhaps, conflicting statements such as being told "yes" and later "no." The statements here are more similar, at best, to a "yes" followed by "maybe no." That is, an unchanged part number does not provide the same level of certainty regarding contradiction as does an affirmative statement to the opposite. See id. 33-34. Third, the temporal proximity between the conflicting statements in Trifiro was significantly short, a week at most, while the supposed conflict between the PCN, representing that the KA7805 was to be redesigned, and the shrunk-die KA7805's labelling (i.e., with the same part number as the large-die model), representing that the part had not undergone a change, came into effect approximately one year and nine months later. With this amount of time before the KA7805's labelling could possibly constitute a false statement, a factfinder might find it hard to understand how its falsity could be obvious to AcBel. See Restatement (Second) of Torts § 541 (1977) ("The recipient of a fraudulent misrepresentation is not justified in relying upon its truth if he knows that it is false or its falsity is obvious to him.").

Similarly, in Kuwaiti Danish Computer Co., the plaintiff alleged that a contract had been formed based on his reliance on the conduct and statements made by one of the defendant's employees at the end of negotiations. 781 N.E.2d at 795. The SJC held that

plaintiff's reliance was unreasonable as a matter of law because "any statement or conduct" of defendant's employee "conflicted with the qualifying language of [his] quotation, which stated that it was only an invitation to offer, and that any contract required approval from someone with authority at [the defendant company]." Id. In reaching this conclusion, the SJC stressed that "[t]he qualifying language was presented essentially contemporaneously with [the defendant's employee's] statements." Id.

Again, the distinctions between these circumstances and those presented in the case at hand are clear. The conflict between the defendant employee's statement and the information in the quotation he provided was unequivocal. As the SJC noted, "[a]ll that was required of [plaintiff's representatives] was that they read the document to ascertain the obvious."<sup>21</sup> Id. As noted

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<sup>21</sup> Fairchild cites to this passage in support of its contention that AcBel's reliance on the KA7805's unchanged part number was unreasonable, despite the noted difference between the circumstances faced by the plaintiff in Kuwaiti Danish Computer Co. from those faced by AcBel. As mentioned above, the circumstances were also significantly different in the other cases cited by Fairchild. See, e.g., Rodi, 532 F.3d at 17 (information that conflicted with statement on which plaintiff relied regarding defendant law school's accreditation was contemporaneously available in the school's catalogue); Liberty Leather Corp. v. Callum, 653 F.2d 694, 696-99 (1st Cir. 1981) (reliance by plaintiff on representations by defendant regarding imminence of completion of sale of stock to him was unreasonable given that: (1) three to four days after representations were made, defendant called the plaintiff to request an increased offer for the stock; and, within a maximum of seventeen days after defendant's representations, plaintiff came to knowledge of shareholder's unanimous vote to

above, the supposed conflicting statements in the present case were not obviously contradictory nor presented within a short period of time, much less contemporaneously.

Based on the foregoing analysis, we conclude that the district court erred in dismissing AcBel's fraudulent misrepresentation claim summarily. Because the district court's basis for dismissal of AcBel's fraudulent omission and negligent misrepresentation<sup>22</sup> also rested on its erroneous holding that AcBel's reliance on the KA7805's unchanged part number was unreasonable as a matter of law, we conclude that the court erred in dismissing these two claims as well. Accordingly, we vacate the district court's entry of summary judgment dismissing AcBel's

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reject his offer).

<sup>22</sup> Inasmuch as the district court's dismissal of AcBel's negligent misrepresentation claim is based on AcBel's supposed failure to provide an affirmative misstatement or presentation of false information regarding the design changes made to the KA7805, we hold that the district court erred given that the evaluation of falsity regarding design changes in the present case's context is dependent on industry custom, which is at issue. See supra at 28-32. The same logic applies to the district court's dismissal of AcBel's fraud by omission and negligent misrepresentation claims on the grounds that Fairchild did not have a duty to disclose issues regarding the KA7805's design or that the part was switched back to the large-die version. See Restatement (Second) of Torts § 551(2)(e) (1977) (providing that duty to disclose may arise out of "the customs of the trade"); see also Greenery Rehab. Grp., Inc. v. Antaramian, 628 N.E.2d 1291, 1294 (Mass. App. Ct. 1994) (recognizing that a duty to disclose arises out of the situations described in § 551).

fraud (Count III), fraud by omission (Count IV), and negligent misrepresentation (Count V) claims, and remand for trial on the merits.

**C. Fairchild's Cross-Appeal**

Because we are remanding for further proceedings below, we now turn to Fairchild's cross-appeal. Fairchild asks us to order that it be permitted to conduct additional discovery in relation to documents produced by AcBel after the case's discovery deadline had elapsed.

Weighing the equities and in light of the possibility that discovery related to issues or leads suggested by the late-produced documents will lead to evidence relevant to the remanded claims, we instruct the district court to reopen discovery exclusively for purposes of Fairchild's discovery of evidence strictly related to AcBel's late-produced documents. See AngioDynamics, Inc. v. Biolitec AG, 780 F.3d 429, 435 (1st Cir. 2015); see also Vineberg v. Bissonnette, 548 F.3d 50, 55 (1st Cir. 2008) (recognizing that a party's proffer of relevant leads it might obtain through additional discovery "may be an important factor in deciding whether to reopen discovery"); Young v. Gordon, 330 F.3d 76, 82 (1st Cir. 2003) (implying that a party's failure to meet a case-management deadline should only be to his own peril).

**III. CONCLUSION**

For the reasons explained above, we vacate the district court's judgment dismissing AcBel's implied warranty of merchantability (Count I), fraud (Count III), fraudulent omission (Count IV), and negligent misrepresentation (Count V) claims, and remand for further proceedings consistent with this opinion.

**Vacated and Remanded.** Each party shall bear its own costs.