THOMAS H. JACKSON and DONEEN JACKSON, Plaintiffs-Appellants,

v.

JILCO TRAILER LEASING CO., INC.[1] and UTILITY TRAILER MANUFACTURING CO., Defendants-Respondents.

No. A-4853-13T3.

Superior Court of New Jersey, Appellate Division.

Telephonically argued April 8, 2016.
Decided June 29, 2016.

Randolph H. Wolf argued the cause for appellants (Mr. Wolf, attorney; Mr. Wolf and Katherine A. North, on the briefs).

Kevin M. McKeon argued the cause for respondent Utility Trailer Manufacturing Co. (Marshall, Dennehey, Warner, Coleman & Goggin, attorneys; Mr. McKeon, on the brief).

Goldberg Segalla LLP, attorneys for respondent Jilco Trailer Leasing Co., Inc. (Matthew R. Shindell, on the brief).

Before Judges Sabatino, Accurso and Suter.

NOT FOR PUBLICATION WITHOUT THE APPROVAL OF THE APPELLATE DIVISION

PER CURIAM.

This products liability and negligence case arises out of an accident in which plaintiff Thomas Jackson was injured when a metal "grip handle" became detached while he was attempting to hoist himself up onto the rear of a tractor-trailer. Plaintiff and his wife[2] sued Utility Trailer Manufacturing Company ("Utility"), the maker of the trailer, alleging that the grip handle was improperly manufactured, installed, and or designed. Plaintiff also named as a co-defendant Jilco, the company that leased the trailer to his employer, alleging that Jilco failed to adequately inspect the equipment and allowed it to be in an unsafe condition.

Plaintiff retained an expert in metallurgical engineering to support his theories of product liability and negligence. Among other things, the metallurgist opined that the rivets used to attach the grip handle to the trailer failed because they were either not suitable for this particular use or they had been improperly installed.

Plaintiff's metallurgist based his conclusions as to Utility partly upon a microscopic examination of the rivets conducted by all of the parties' liability experts, and photographs taken of those items. The examination revealed that when the grip handle was installed on the trailer, the rivets were not fully "bent over" on the other side of the holes, which should have been done to make them sufficiently secure. The metallurgist's opinions spotlighting this defect were substantially echoed by Jilco's expert, who similarly concluded that the grip handle had been loosened from the trailer due to "inadequate riveting."

Before trial, Utility and Jilco moved to bar the opinions of plaintiff's liability expert under N.J.R.E. 702 and N.J.R.E. 703. They also moved for summary judgment. After considering the various expert reports, deposition transcripts, briefs, and oral argument, the trial court concluded that all of the conclusions of plaintiff's expert were inadmissible net opinion. The court further reasoned that, without a proper supporting opinion from a qualified liability expert, plaintiff's claims could not get to a jury. The court therefore entered summary judgment in favor of both defendants. Plaintiff appealed these determinations.

For the reasons that follow, we affirm the trial court's exclusion of the metallurgist's opinions concerning plaintiff's design defect claim against Utility and the court's related dismissal of that particular claim. However, we reverse the court's

rejection of the expert's proposed testimony on the issues of manufacturing defect and negligent installation. Likewise, affording plaintiff all favorable inferences from the record in its present state, we vacate the entry of summary judgment in favor of Utility and remand the matter for trial on those discrete issues.

I.

We glean the following relevant facts and contentions from the record, mindful that this case has not been tried.

The accident occurred on August 18, 2009. Plaintiff was the operator of the refrigerated tractor-trailer, driving it to its destination for his employer, K.E.B. Delivery Services ("K.E.B."). Jilco owned the trailer at the time and leased it to K.E.B., which is not a party in this litigation. The trailer was manufactured by Utility in 1998. It was sold to three different owners before being purchased by Jilco in 2006.

As the tractor was being unloaded on the day of the accident, plaintiff pulled himself up with the grip handle affixed to the side of the trailer. The handle gave way, causing him to fall backwards and fracture his right wrist.

Jilco made repairs to the trailer in December 2008 and again after the accident in July 2010, but these did not relate to the handle. The handle and the rivets that had been installed to attach it to the trailer were preserved and inspected by the parties' experts.

Plaintiff and his wife filed a five-count complaint in the Law Division against Utility and Jilco. With respect to Utility, plaintiff claimed it was liable for his injuries under the Products Liability Act, N.J.S.A. 2A:58C-1 to-11, under alternative theories of design defect and manufacturing defect. Plaintiff also pled common-law negligence against Utility, largely based on a claim that the grip handle had been negligently installed.

To support his liability claims, plaintiff retained a professional metallurgist,[3] Richard F. Lynch. Dr. Lynch holds a Master's degree and a Ph.D. in metallurgy and material sciences, both from Lehigh University. Additionally, he has a bachelor's degree in metallurgical engineering. He has published or co-authored several professional papers, including topics concerning "the application of substances to metals[.]" Dr. Lynch has worked and consulted in the field of metallurgy for approximately four decades, although he has no specific background in trucking or trailers. He has testified previously as an expert witness in metallurgy on multiple occasions for both plaintiffs and defendants.

In formulating his opinions in this case, Dr. Lynch considered a variety of sources, including, among other things, investigative records, the parties' discovery responses, photographs of the trailer, Utility's drawings of the trailer, and information on Utility's company website. Dr. Lynch, along with a defense expert, visually examined the grip handle that had detached from the trailer. Additionally, Dr. Lynch and all of the defense experts jointly conducted both destructive and non-destructive testing of the handle and its rivets, in accordance with an agreed-upon protocol. He did not, however, examine the trailer itself.

In his report, Dr. Lynch noted that the core issue to be explored was "[t]o determine the reason a grab hand[le] on a refrigerated trailer pulled out of the trailer body." He ultimately made the following conclusions pertinent to Utility: (1) plaintiff fell because the handle he held onto detached from the trailer; (2) the handle detached because the rivets, which he described as "pop rivets," failed to secure the handle to the body of the truck; (3) the handle is original equipment to the trailer; (4) nothing in the record suggests the handle is not an original part of the trailer; (5) the end of the rivets which penetrated the trailer wall failed to secure the handle to the trailer; (6) the rivets were "defectively installed as the interior ends were not upset (bent over) sufficiently on the interior surface to prevent them from pulling out of the holes[;]" (7) "[t]he handle installation design and installation itself was defective as it should have utilized bolts instead of rivets because of the blind space being riveted into[;]" (8) a proper inspection would have revealed the defect; and (9) the accident was "proximately caused by the design, manufacture, and installation defects and the negligence of Utility." Dr. Lynch expressed these opinions all to "a reasonable degree of metallurgical engineering certainty[.]"

Dr. Lynch opined that there were essentially two primary defects relating to the failure of the rivets and the detachment of the grip handle. First, he identified a manufacturing defect, largely based on the fact that the interior ends of the rivets were "not properly upset or bent over" on the interior side to prevent them from pulling out of the holes. He also found a design defect concerning the strength and suitability of the rivets chosen to affix the handle to the trailer. As a general

point relevant to both categories of product defect, Dr. Lynch noted that the record lacked any indication that the handle had been damaged in any way prior to the accident.

In discussing the manufacturing defect, Dr. Lynch's report noted "[r]ed rust corrosion of the steel" that had been observed on "the exterior rivet heads consistent with the consumption of the sacrificial zinc coating and the age of the trailer." He remarked that such corrosion was also present on the interior sides of the rivets and that "[w]hite rust corrosion was present on the interior ends of the inner rivet pieces." Additionally, after looking at the rivets under a stereomicroscope,[4] he observed that, among other things, "[f]issures or cracks were visible on the interior ends of the rivets" and "the cracks were only in the protective coating and did not extend into the rivet steel itself." Consequently, Dr. Lynch found that the rivets "appear[ed] to have been not properly upset or bent during installation and only bulged slightly[.]" In his subsequent deposition, Dr. Lynch explained that "the inner section of the rivet was not sufficiently deformed and, if you will, bent over the interior of the skin of the trailer such that as it was pulled over time, it reached a state where [plaintiff] pulled on it with the normal and expected load and it simply came out." These physical conditions were indicative of improper installation of the rivets and a corresponding manufacturing defect.

With regard to his separate finding of a design defect, Dr. Lynch concluded that "[e]ven if the rivets had been adequately upset during installation, then they were too weak and/or too short to secure the handle in place during its normal and expected usage, which is a design defect." In his deposition, he asserted that rivets, as opposed to welding, are "less effective in direct pulling loads, such as the one we have in this instance" than they are when used "in shearing type or sideways loads."

To counter Dr. Lynch's views, Utility retained an engineering consultant, George H. Pfreundschuh, P.E., who likewise examined the grip handle and the rivets.[5] Pfreundschuh concluded in his report that there was "no reasonable engineering basis to opine that the use of rivets to attach the grip handle to the trailer body was defective and [that] bolts or other types of stronger fasteners should have been used instead of the subject rivets." He stressed that the particular brand of rivets used here, known as "Huck Magna-Lok" rivets, are "substantially stronger than typical `pop rivets' found in a hardware store."

Pfreundschuh pointed out that at least 28,000 trailers had been manufactured with the same grip handles and none of them apparently had resulted in a similar accident in which the grip handle detached from the trailer. He opined that no manufacturing or design defect existed here. Instead, he attributed the most likely reason for the accident was that the handle had been subjected to excessive forces, and that proper inspections by Jilco or plaintiff's employer should have prevented the accident.

In the course of his analysis, Pfreundschuh admitted that Utility's application of the rivets fell "just slightly outside the manufacturer's currently recommended grip range" for those rivets. Specifically, he noted that the product brochure for the rivets showed that they were suitable for a grip range of 0.350 to 0.625 inches. However, "the overall thickness of the grab handle, outer wall skin and corner post flange [in this instance] is 0.640 inches[.]"

Co-defendant Jilco also retained a liability expert, Peter Elliot, Ph.D., a metallurgical consultant and corrosion specialist. Dr. Elliot participated in the experts' joint observation and testing of the rivets. He submitted two reports, including color photographs and diagrams of the rivets. On the whole, Dr. Elliot concluded that Jilco had not been at fault in failing to inspect the grip handle installation. However, he agreed with Dr. Lynch that the rivets had been defectively installed, and that this defect, along with the processes of corrosion, had weakened the shanks and was a causal factor in producing plaintiff's accident.

Notably, in his supplemental report, Dr. Elliot provided several findings that were consistent with key opinions of Dr. Lynch. Specifically, Dr. Elliot found that "[t]he [grab] handle was loosened because of inadequate riveting for several reasons that were apparent from the metallurgical testing[.]" "First, the rivet sleeves were not fully expanded in the support post.... Second, the grip range length for the rivets was below the ideal length, i.e., the fasteners were non-compliant with expected standards.... Third, a single failure in 28,000 installed grab handles evokes a material or installation defect. (Emphasis added).

As part of his analysis, Dr. Elliot specifically agreed with Pfreundschuh's concession that the "riveted assembly was not compliant with recommended fastening requirements[,]" and that "the grip range length for the rivets was below the ideal

length."

Utility moved to strike the report and testimony of plaintiff's expert Dr. Lynch, contending that he lacked the proper qualifications to evaluate the design and manufacture of the trailer and its grip handle. Utility further argued that the conclusions presented by Dr. Lynch were inadmissible net opinion. Jilco similarly moved to strike Dr. Lynch's opinions with respect to his contentions that Jilco had failed to properly inspect the grip handle. Both defendants also moved for summary judgment.

The trial court granted defendants' motions to bar Dr. Lynch's expert opinions. The court found the metallurgist lacked the necessary expertise in trailer manufacturing and design to render opinions relating to the failure of the grip handle in this case. The motion judge noted Dr. Lynch had not pointed to any industry standards for the design or manufacture of handles used on trailers, and that he had not inspected the trailer in this case. The judge also found Dr. Lynch had not demonstrated that any defect existed when the trailer was sold by Utility, or that Jilco, as the ultimate purchaser of the trailer many years later, was ever placed on notice of any need to repair the handle. In sum, the judge found Dr. Lynch's conclusions of product defect and improper installation to be speculative, and that they amounted to inadmissible net opinion.

Given his conclusion that Dr. Lynch's expert opinions were inadmissible, the judge granted summary judgment to defendants, finding plaintiff's claims could not proceed in the absence of competent expert support.

Plaintiff appealed the trial court's rulings. As we have already indicated, the appeal as to Jilco has been resolved amicably, so we need focus only on the issues concerning Utility.

II.

We apply well-established principles of evidence, procedure, and substantive law to the issues before us.

In situations, as in this case, where "a trial court is `confronted with an evidence determination precedent to ruling on a summary judgment motion,' it `squarely must address the evidence decision first.'" Townsend v. Pierre, 221 N.J. 36, 53 (2015) (quoting Estate of Hanges v. Metro. Prop. & Cas. Ins., 202 N.J. 369, 384-85 (2010)). This court's review "of the trial court's decisions proceeds in the same sequence, with the evidentiary issue resolved first, followed by the summary judgment determination of the trial court." Ibid.

"When a trial court determines the admissibility of expert testimony, N.J.R.E. 702 and N.J.R.E. 703 frame its analysis." Ibid. N.J.R.E. 702 has been repeatedly construed by our case law to require three standards be met for the admission of expert testimony:

> (1) the intended testimony must concern a subject matter that is beyond the ken of the average juror; (2) the field testified to must be at a state of the art such that an expert's testimony could be sufficiently reliable; and (3) the witness must have sufficient expertise to offer the intended testimony.
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> [Ibid. (quoting Creanga v. Jardal, 185 N.J. 345 (2005)).]

Meanwhile, N.J.R.E. 703 instructs that expert opinions are to be "grounded in `facts or data derived from (1) the expert's personal observations, or (2) evidence admitted at the trial, or (3) data relied upon by the expert which is not necessarily admissible in evidence but which is the type of data normally relied upon by experts.'" Ibid. (quoting Polzo v. Cty. of Essex, 196 N.J. 569, 583 (2008)).

The doctrine barring the admission at trial of net opinions is a "corollary of [N.J.R.E. 703] ... which forbids the admission into evidence of an expert's conclusions that are not supported by factual evidence or other data." Id. at 53-54 (alterations in original) (quoting Polzo, supra, 196 N.J. at 583). The net opinion principle mandates that experts "give the why and wherefore" supporting their opinions, "rather than ... mere conclusion[s]." Id. at 54 (quoting Borough of Saddle River v. 66 E. Allendale, LLC, 216 N.J. 115, 144 (2013)).

"The net opinion rule is not a standard of perfection." Ibid. It does not require that experts organize or support their opinions in a specific manner "that opposing counsel deems preferable." Ibid. Consequently, "[a]n expert's proposed

testimony should not be excluded merely `because it fails to account for some particular condition or fact which the adversary considers relevant.'" Ibid. (quoting Creanga, supra, 185 N.J. at 360). An expert's failure "to give weight to a factor thought important by an adverse party does not reduce his testimony to an inadmissible net opinion if he otherwise offers sufficient reasons which logically support his opinion." Ibid. (quoting Rosenberg v. Tavorath, 352 N.J. Super. 385, 402 (App. Div. 2002)). "Such omissions may be `a proper "subject of exploration and cross-examination at a trial."'" Id. at 54-55 (quoting Rosenberg, supra, 352 N.J. Super. at 402).

That said, the net opinion doctrine does require experts to "be able to identify the factual bases for their conclusions, explain their methodology, and demonstrate that both the factual bases and the methodology are reliable." Id. at 55 (quoting Landrigan v. Celotex Corp., 127 N.J. 404, 417 (1992)). An expert's conclusion should be excluded "if it is `based merely on unfounded speculation and unquantified possibilities.'" Ibid. (quoting Grzanka v. Pfeifer, 301 N.J. Super. 563, 580 (App. Div. 1997), certif. denied, 154 N.J. 607 (1998)).

Because of "the weight that a jury may accord to expert testimony, a trial court must ensure that an expert is not permitted to express speculative opinions or personal views that are unfounded in the record." Ibid.; See also Davis v. Brickman Landscaping, Ltd., 219 N.J. 395, 401 (2014) ("[T]he standard of care [the expert] set forth represented only his personal view and was not founded upon any objective support. His opinion as to the applicable standard of care thus constituted an inadmissible net opinion."); Pomerantz Paper Corp. v. New Cmty. Corp., 207 N.J. 344, 373 (2011) ("[I]f an expert cannot offer objective support for his or her opinions, but testifies only to a view about a standard that is `personal,' it fails because it is a mere net opinion.").

Nevertheless, experts may base their opinions upon unwritten industry standards without violating the net opinion doctrine. See, e.g., Davis, supra, 219 N.J. at 413 (quoting Kaplan v. Skoloff & Wolfe, P.C., 339 N.J. Super. 97, 103 (App. Div. 2001)) (recognizing that the expert's conclusions might not have been inadmissible net opinion if he had referenced an "unwritten custom" of the industry). In addition, an expert's opinions should not be automatically barred in their entirety merely because the expert hails from a different professional field than the primary field of licensure or expertise that deals with the subjects at hand. See, e.g., Garden Howe Urban Renewal Assocs. v. HACBM Architects Eng'rs Planners, LLC, 439 N.J. Super. 446, 456 (App. Div. 2015) (holding that the motion judge "mistakenly barred substantially all of the [expert engineer's] report merely because it was not signed by an architect"). We observed in Garden Howe that "not all experts must possess a professional license, and whether an expert witness may testify in a case involving a claim [involving a given field] will depend on the claim involved, the specific allegations made, and the opinions that the expert proposes to offer at trial." Ibid.

At times a trial court addressing a motion or objection to bar or limit an expert's testimony should conduct an evidentiary hearing under N.J.R.E. 104, including the opportunity for the expert to explain to the court first-hand the analysis set forth in his or her written report and any deposition testimony taken from the expert in discovery. The Supreme Court has advised that such Rule 104 hearings are the "sounder practice," at least in cases where the admissibility of an expert's scientific methodology is contested. Kemp v. State, 174 N.J. 412, 433 (2002). However, such hearings are not always required, depending on the nature of the admissibility issues posed and the sufficiency of the written submissions. See, e.g., Creanga, supra, 185 N.J. at 362-63 (reversing trial court's finding that medical expert's opinion was a net opinion and finding the opinion admissible for eventual trial without requiring a Rule 104 hearing).

Apart from these evidentiary principles relative to admissibility and the net opinion doctrine, we are also guided here by well-settled standards that govern summary judgment practice and related appellate review. Courts reviewing summary judgment motions must "consider whether the competent evidential materials presented, when viewed in the light most favorable to the non-moving party, are sufficient to permit a rational factfinder to resolve the alleged disputed issue in favor of the non-moving party." Brill v. Guardian Life Ins. Co. of Am., 142 N.J. 520, 540 (1995); see also R. 4:46-2(c). If there are materially disputed facts, the motion for summary judgment should be denied. Parks v. Rogers, 176 N.J. 491, 502 (2003); Brill, supra, 142 N.J. at 540. To grant the motion, the court must find that the evidence in the record "is so one-sided that one party must prevail as a matter of law[.]" Brill, supra, 142 N.J. at 540 (quoting Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 252, 106 S. Ct. 2505, 2512, 91 L. Ed. 2d 202, 214 (1986)).

This court's appellate review of an order granting summary judgment must observe the same standards, including the obligation to view the record in a light most favorable to the non-moving party, here, plaintiff. See W.J.A. v. D.A., 210 N.J. 229, 238 (2012). We accord no special deference to the motion judge's assessment of the documentary record.

The decision to grant or withhold summary judgment does not hinge upon a judge's determinations of the credibility of testimony rendered in court, but instead amounts to a ruling on a question of law, which we review on appeal de novo. See Manalapan Realty, L.P. v. Manalapan Twp. Comm., 140 N.J. 366, 378 (1995) (noting that no "special deference" applies to a trial court's legal determinations).

We must apply these well-settled precepts of evidence and procedure to the substance of this case, which involves the Products Liability Act and common-law negligence principles. To prevail on a product liability claim in this state governed by the statute, a plaintiff must demonstrate, among other things, that: "[1] the product was defective, [2] that the defect existed when the product left the manufacturer's control, and that [3] the defect proximately caused injuries to the plaintiff, a reasonably foreseeable or intended user." Myrlak v. Port Auth. of N.Y. & N.J., 157 N.J. 84, 97 (1999) (construing and applying the elements of the Products Liability Act).

The Act defines a manufacturing defect as "a deviation `from the design specifications, formulae, or performance standards of the manufacturer or from otherwise identical units manufactured to the same manufacturing specifications or formulae.'" Id. at 96 (quoting N.J.S.A. 2A:58C-2(a)). Where, as here, a complaint alleges a manufacturing defect, "the plaintiff has the burden to prove `the product causing the harm was not reasonably fit, suitable or safe for its intended purpose.'" Id. at 96 (quoting N.J.S.A. 2A:58C-2). A "manufacturing defect under the Act occurs when the product comes off the production line in a substandard condition based on the manufacturer's own standards or identical units that were made in accordance with the manufacturing specifications." Id. at 97-98.

Typically, in a manufacturing defect case governed by strict liability principles, "a plaintiff is not required to establish negligence." Id. at 96. Thus, "a plaintiff must impugn the product but not the conduct of the manufacturer of the product." Ibid.

Separately, in order to prove a design defect under the Act, a plaintiff must prove that the product was "designed in a defective manner." N.J.S.A. 2A:58C-2(c). As with manufacturing defect claims, under this cause of action plaintiffs must also demonstrate that the product was not "reasonably fit, suitable or safe for its intended purpose." Dewey v. R.J. Reynolds Tobacco Co., 121 N.J. 69, 95 (1990). In a products liability action against a product seller for damage allegedly caused by a product that was defectively designed, the product seller shall not be liable if:

> (1) At the time the product left the control of the manufacturer, there was not a practical and technically feasible alternative design that would have prevented the harm without substantially impairing the reasonably anticipated or intended function of the product; or
>
> (2) The characteristics of the product are known to the ordinary consumer or user, and the harm was caused by an unsafe aspect of the product that is an inherent characteristic of the product and that would be recognized by the ordinary person who uses or consumes the product with the ordinary knowledge common to the class of persons for whom the product is intended, except that this paragraph shall not apply to industrial machinery or other equipment used in the workplace and it is not intended to apply to dangers posed by products such as machinery or equipment that can feasibly be eliminated without impairing the usefulness of the product; or
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> (3) The harm was caused by an unavoidably unsafe aspect of the product and the product was accompanied by an adequate warning or instruction as defined in section 4 ... of this act.
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> [N.J.S.A. 2A:58C-3(a)(1)-(3); see also, Cavanaugh v. Skil Corp., 164 N.J. 1, 4-10 (2000).]

In most products liability cases involving complex instrumentalities and which pose technical or scientific issues of design or manufacturing standards not within the common knowledge of jurors, a plaintiff needs expert testimony to support his claims of defect and causation. Jerista v. Murray, 185 N.J. 175, 199 (2005); Johansen v. Makita U.S., Inc., 128 N.J. 86, 101 (1992). The court must decide if the case is sufficiently technical or esoteric in nature to require such expert proof. Macri v. Ames McDonough Co., 211 N.J. Super. 636, 642-43 (App. Div. 1986).

The Products Liability Act substantially codifies and displaces the common law governing claims of strict products liability. Section 1 of the Act broadly defines a "product liability action" under the statute to encompass "any claim or action brought by a claimant for harm caused by a product," N.J.S.A. 2A:58C-1 (emphasis added). Even so, N.J.S.A.

2A:58C-1(a) qualifies that broad principle, instructing that the Act "is not intended to codify all issues relating to product liability, but only to deal with matters that require clarification."

Certain common-law negligence claims have been allowed in a variety of different contexts involving injury by a product, despite the passage of the Act in 1992. For example, harm arising from a defendant's allegedly negligent conduct (rather than "harm caused by the product") can give rise to negligence actions, despite the presence of a product and related "harm" to a plaintiff as defined by the Act. See, e.g., Ramos v. Silent Hoist Crane Co., 256 N.J. Super. 467 (App. Div. 1992) (holding that a defendant-electrician, who had not manufactured or sold the electrical products he used, could be held liable for negligently providing a service, i.e., negligently designing and installing the electrical system that had injured the plaintiff). The federal courts have ruled similarly. See, e.g., Universal Underwriters Ins. v. PSE&G, F. Supp. 2d 744, 746-49 (D.N.J. 2000) (concluding that the plaintiff's claim related not to a defect in a product, but rather to the "maintenance and oversight of PSE&G's emergency response service," and was thus not cognizable under the Act); Thomas v. Ford Motor Co., 70 F. Supp. 2d 521, 530-31 (D.N.J. 1999) (permitting a plaintiff to maintain a negligent installation action against an automobile manufacturer based on its alleged improper installation of "otherwise well-functioning and non-defective airbag components"). Here, in this regard, plaintiff's claim of deficient installation and riveting of the grip handle is similar to the claims of negligent installation that were pled in Thomas, leaving room for a separate common-law negligence count on that discrete claim.

We now apply these intertwined principles, first, to plaintiff's claims and the expert proofs as to design defect and, second, to those relating to manufacturing defect and improper installation.

A.

The trial court correctly rejected the portion of Dr. Lynch's proffered opinions alleging that the trailer and its riveted grip handles were defectively designed. As Dr. Lynch admitted, he has no experience in the design of tractor-trailers or of the grip handles attached to trailers. He presented no alternative design other than his personal opinion that Utility should have used stronger or longer fasteners to attach the handle to the body of the trailer. His expert report and deposition testimony cite to no written or unwritten industry standards for the design of such components used in a tractor-trailer.

Even though to some extent, Dr. Lynch's submissions do offer several reasons that explain his design criticisms, he does not provide a sufficient foundation grounded in the norms of the trade for why Utility's decision to use these particular fasteners deviated from acceptable design standards. To be sure, Dr. Lynch's ability to make such an assessment was constrained by the fact that the manufacturer's drawings of the grip handle are not well detailed or readily decipherable. But that does not relieve the expert or plaintiff of the need to satisfy the requirements of law.

Dr. Lynch's expertise as a metallurgist is extensive and impressively credentialed. Neverthless, we agree with the trial court that his background is insufficient to allow him to comment before a jury on the design choices made here by the manufacturer, Utility. No evidentiary hearing under Rule 104 was necessary to confirm this manifest shortcoming. We concur with the motion judge that the expert's views on faulty design amount to inadmissible net opinion, and were appropriately excluded on that basis consistent with Townsend, supra, 221 N.J. at 57, and the long line of similar precedents.

In light of our affirmance of this component of the trial court's oral opinion, we likewise affirm the court's grant of summary judgment to Utility. The design of this trailer and its grip handle concern a complex instrumentality that is beyond the ken of a layperson. Without expert support, plaintiff's design defect claims are not viable, even viewing the factual record in a light most favorable to him.

B.

We reach a different conclusion as to plaintiff's separate claims of manufacturing defect and negligent installation. Dr. Lynch's report and deposition sufficiently and reasonably explain the physical deficiencies showing that the rivets were improperly installed on the grip handle and trailer in an unsafe manner. That deficiency is substantiated by the scientific examination of the markings on the rivets seen under the microscope, showing that they failed to open up on the opposite side of the drill holes and deviated from customary installation practices. Dr. Lynch also noted the absence of

scoring marks on the rivets and explained why they were significant in showing the failure of the rivets to be "bent over" once they were installed.

Dr. Lynch had sufficient professional expertise as a metallurgist to comment on these material-based physical characteristics of the rivets and their observed condition. He adequately tied his opinions in this regard to objective factors. Notably, his opinions were shared by Dr. Elliot, who likewise based his own findings of defective riveting on objective criteria. This is especially depicted in Photograph 39, an exhibit attached to Dr. Elliot's report, comparing the rivets used in this case to the markings that would be found on a properly-expanded installed rivet. Dr. Elliot's consistent findings confirm that Dr. Lynch's views are not idiosyncratic or personal to him. Cf. Davis, supra, 219 N.J. at 401. In addition, even Utility's own engineering expert conceded the rivets used were below, albeit slightly, the rivet manufacturer's recommended standard for this application expressed in objective numerical terms.

Although there surely are serious contested issues of proximate causation here — given the age and long use of the trailer and that the handle did not break off until eleven years after the trailer's manufacture — the trial court erred in excluding Dr. Lynch's expert opinions about manufacturing defect and negligent installation. The court also erred in granting summary judgment to Utility on these claims, if the record as a whole (including Dr. Elliot's corroborating report) is viewed in a light most favorable to plaintiff. The court's rulings on those discrete issues are accordingly reversed, and the matter is remanded for trial.

As a final point, we decline to address or endorse plaintiff's belated attempt on appeal to argue for the first time in this litigation a separate theory of liability under the so-called "indeterminate product defect" doctrine set forth in the Restatement (Third) of Torts: Products Liability and recognized by our Supreme Court in Myrlak. Myrlak, supra, 157 N.J. at 106 (citing Restatement (Third) of Torts: Products Liability, § 3 (1998)). Plaintiff failed to plead or raise that theory in the trial court, and it is unfair to defendant to present that new claim at this juncture, particularly after discovery has been completed. Nieder v. Royal Indem. Ins. Co., 62 N.J. 229, 234 (1973).

Affirmed in part, reversed in part, and remanded for trial on the issues of manufacturing defect and negligent installation.

[1] After this appeal was fully briefed, plaintiff settled with Jilco Equipment Leasing Co., Inc. ("Jilco"). Consequently, we will not discuss the claims and issues involving that former co-defendant.

[2] Since the spouse's derivative claim is solely for loss of consortium, we shall refer to Thomas Jackson as "plaintiff" for ease of discussion.

[3] Merriam Webster's dictionary defines metallurgy as "the science and technology of metals[.]" Metallurgy, Merriam-Webster.com, http://www.merriam-webster.com/dictionary/metallurgy (last visited June 16, 2016).

[4] Merriam Webster defines this device as "a microscope having a set of optics for each eye to make an object appear in three dimensions[.]" Stereomicroscope, Merriam-Webster.com, http://www.merriam-webster.com/dictionary/stereomicroscope (last visited June 16, 2016).

[5] Utility also retained a metallurgical engineering expert, although his report was apparently not furnished to the trial court as part of the motion record.