NOT FOR PUBLICATION WITHOUT THE
APPROVAL OF THE APPELLATE DIVISION

SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION
DOCKET NO. A-3520-13T4

ARTHUR G. WHELAN,

Plaintiff-Appellant,

v.

ARMSTRONG INTERNATIONAL INC.; BURNHAM LLC; CARRIER CORP., individually, d/b/a and as successor to Bryant Heating & Cooling Systems; CLEAVER-BROOKS INC.; CROWN BOILER CO., f/k/a Crown Industries Inc.; FORD MOTOR CO.; JOHNSON CONTROLS INC., individually, d/b/a and as successor to Evcon Industries Inc. and Coleman Heating and Air Conditioning Products Inc.; NIBCO INC.; and OAKFABCO INC., individually, d/b/a and as successor to Kewanee Boiler Corp.;

Defendants-Respondents,

and

A. O. SMITH CORP.; AARON & CO.; AMG INDUSTRIES INC., d/b/a and as successor to Akron Metallic Gasket Co.; AUTOMATIC SWITCH CO.; AUTOMOTIVE BRAKE CO.; A.W. CHESTERTON CO.; BASF CORP.; BERGEN INDUSTRIAL SUPPLY CO.; BETHLEHEM DYNATHERM, a/k/a Dynatherm Boiler Manufacturing Inc.; BINSKY & SNYDER LLC, individually, d/b/a and as successor to Binsky & Snyder Co.; BONLAND INDUSTRIES INC.; BORGWARNER MORSE TEC INC., as successor to Borg-Warner Corp.; BRIGGS INDUSTRIES INC.; CARLISLE COMPANIES INC.; CBS CORP., f/k/a Viacom Inc., successor by merger to CBS Corp., f/k/a

APPROVED FOR PUBLICATION

August 6, 2018

APPELLATE DIVISION

Westinghouse Electric Corp.; CENTRAL BRASS CO. INC., individually, d/b/a and as successor to Central Brass Manufacturing Co. and Central Brass & Fixture Co.; CENTRAL ENGINEERING & SUPPLY CO. INC.; CHICAGO FAUCET CO.; CHICAGO-WILCOX MANUFACTURING CO. INC.; COLFAX INC., individually and as successor to Warner Electric Brake & Clutch Co.; CRANE CO.; CROSSTOWN PLUMBING SUPPLY INC.; DANA COMPANIES LLC; DAP INC.; DUCTMATE INDUSTRIES INC.; DUNHAM-BUSH INC.; DUNPHEY & ASSOCIATES SUPPLY CO. INC.; DURO DYNE CORP.; ECR INTERNATIONAL INC., individually, d/b/a and as successor to Utica Boilers Inc., Utica Radiator Corp., Dunkirk Boilers, Pennco Inc., and Olsen Technology Inc.; ESSEX PLUMBING SUPPLY INC.; FISHER SCIENTIFIC INTERNATIONAL INC.; FORTUNE BRANDS HOME & SECURITY INC., individually, d/b/a and as successor to Moen Inc.; FOSTER WHEELER LLC; GENERAL ELECTRIC CO.; GEORGIA-PACIFIC LLC; THE GOODYEAR TIRE & RUBBER CO.; GOULDS PUMPS INC.; GRACO INC.; GRUNDFOS PUMPS CORP.; H.B. SMITH CO. INC.; HILCO INC., individually and as successor to Universal Supply Group Inc. and Amber Supply Co.; HONEYWELL INTERNATIONAL INC., f/k/a Honeywell Inc., Allied Signal Inc. and Bendix Corp.; INTERLINE BRANDS INC., individually, d/b/a and as successor to J.A. Sexauer Inc.; INTERNATIONAL BUSINESS MACHINES CORP.; ITT CORP.; KAISER GYPSUM CO. INC.; KANTOR SUPPLY INC.; KOHLER CO., individually, d/b/a and as successor to Sterling Faucet Co.; LENNOX INDUSTRIES INC., individually, d/b/a and as successor to Armstrong Furnace Co.; MAGNATROL VALVE CORP.; MANHATTAN WELDING CO. INC.; MAREMONT CORP.; MERITOR INC., individually and as successor to

Rockwell International Corp.; MESTEK INC., individually, d/b/a and as successor to H.B. Smith Co., Smith Cast Iron Boilers and Mills Boilers; MUELLER INDUSTRIES INC.; NATIONAL AUTOMOTIVE PARTS ASSOCIATION INC.; NEW JERSEY BOILER REPAIR CO.; NCH CORP., as successor to Creed Co. and Daniel P. Creed Co. Inc.; NMBFIL INC., f/k/a Bondo Corp.; OWENS-ILLINOIS INC.; PEERLESS INDUSTRIES INC.; PNEUMO-ABEX LLC, individually and as successor to Abex Corp.; PRICE PFISTER INC.; THE PRUDENTIAL INSURANCE CO. OF AMERICA; RHEEM MANUFACTURING CO.; RILEY POWER INC., f/k/a Riley-Stoker Corp.; ROBERTSHAW CONTROLS CO., individually and as successor to Fulton Sylphon Co.; SID HARVEY INDUSTRIES INC.; SLANT/FIN CORP.; SLOAN VALVE CO.; SOS PRODUCTS CO. INC.; SPEAKMAN CO.; SUPERIOR BOILER WORKS INC.; SUR-SEAL CORP.; TACO INC.; TRANE U.S. INC., individually and as successor to American Standard Inc. and American Radiator Co.; TURNER CONSTRUCTION CO.; UNILEVER UNITED STATES INC.; UNIROYAL HOLDING INC.; VERIZON NEW JERSEY INC., individually and as successor to New Jersey Bell Telephone Co.; VICTAULIC CO.; WALLWORK BROS. INC.; WAL-RICH CORP.; WEIL-MCLAIN, a division of the Marley-Wylain Co., a wholly-owned subsidiary of the Marley Co. LLC; W.V. EGBERT & CO. INC.; YORK INTERNATIONAL CORP.; ZURN INDUSTRIES LLC, individually, d/b/a and as successor to Erie City Iron Works and Zurn Industries Inc.; AII ACQUISITION LLC, individually, as successor to, f/k/a, and d/b/a Holland Furnace Co., Athlone Industries Inc., T.F.C. Holding Corp. and Thatcher Furnace Co.; AMERICAN PREMIER UNDERWRITERS,

individually and as successor to Hydrotherm Corp.; AUGUST ARACE & SONS INC.; HONEYWELL INC.; ROCKWELL AUTOMATION INC., individually, d/b/a and as successor to Sterling Faucet Co.; ROCKWELL COLLINS INC., individually, d/b/a and as successor to Sterling Faucet Co.; TRIMAS CORP., individually, d/b/a and as successor to NI Industries Inc.; WILMAR INDUSTRIES INC., individually, d/b/a and as successor to J.A. Sexauer Inc.; BASF CATALYSTS LLC; TRIMAS CORP., individually and as successor in interest to Norris Industries and/or NI Industries Inc.; YORK INTERNATIONAL CORP., individually and as successor to The Coleman Company Inc., a/k/a Coleman Heating and Air Conditioning Products Inc.,

Defendants.

Argued May 2, 2016

Before Judges Accurso, O'Connor, and Suter.

Reargued May 16, 2018 – Decided August 6, 2018

Before Judges Alvarez, Nugent, and Currier.

On appeal from Superior Court of New Jersey, Law Division, Middlesex County, Docket No. L-7161-12.

Kevin P. Parker (The Lanier Law Firm, PLLC) of the Texas bar, admitted pro hac vice, argued the cause on May 2, 2016 and May 16, 2018, and Rachel A. Placitella argued the cause on May 16, 2018, for appellant (Cohen, Placitella & Roth, PC, attorneys; Rachel A. Placitella, Nahid A. Shaikh, and Darron E. Berquist (The Lanier Law Firm, PLLC) of the New York bar, admitted pro hac vice, on the briefs).

Thomas J. Kelly, Jr. argued the cause for respondent Armstrong International, Inc. (Vasios, Kelly & Strollo, PA, attorneys; Thomas J. Kelly, Jr., of counsel and on the brief; Linda Fulop-Slaughter, on the brief).

Joseph D. Rasnek argued the cause for respondent Burnham, LLC (McElroy, Deutsch, Mulvaney & Carpenter, LLP, attorneys; Nancy McDonald, of counsel and on the brief; Christopher B. Bladel, on the brief).

Sara K. Saltsman argued the cause for respondent Carrier Corporation (Mayfield, Turner, O'Mara & Donnelly, P.C., attorneys; Sara K. Saltsman, on the brief).

Karen J. Stanzione-Conte argued the cause for respondents Cleaver-Brooks, Inc. and Crown Boiler, Company (Reilly, Janiczek & McDevitt, attorneys; Karen J. Stanzione-Conte, Michelle B. Cappuccio and Colleen B. Cavanaugh, on the briefs).

Robyn Gnudi Kalocsay argued the cause on May 2, 2016, and Sean M. Marotta argued the cause on May 16, 2018, for respondent Ford Motor Company (LeClair Ryan, attorneys; Robin Gnudi Kalocsay and Michael D. Goldklang, on the brief).

Marc S. Gaffrey argued the cause on May 2, 2016, and Jacob S. Grouser argued the cause on May 16, 2018, for respondent Johnson Controls, Inc. (Hoagland, Longo, Moran, Dunst & Doukas, LLP, attorneys; Marc S. Gaffrey, of counsel and on the brief; Anita S. Cohen, on the brief).

Robert T. Connor argued the cause on May 2, 2016, and Stephanie A. DiVita argued the cause on May 16, 2018, for respondent NIBCO, Inc. (Pascarella DiVita, PLLP attorneys; Robert T. Connor, of counsel and on the brief; Angela Coll Caliendo, on the brief).

Hawkins Parnell Thackston & Young LLP, attorneys for respondent Oakfabco, Inc. (Roy F. Viola, Jr., and Deena M. Crimaldi on the brief).

The opinion of the court was delivered by

CURRIER, J.A.D.

In this products liability case arising out of exposure to asbestos, we consider anew whether a manufacturer has a duty to warn about the risk of harm from exposure to asbestos-containing replacement parts integral to the function of the manufacturer's product, even if the manufacturer did not fabricate or distribute the replacement parts. We conclude that a duty to warn exists when the manufacturer's product contains asbestos components, which are integral to the function of the product, and the manufacturer is aware that routine periodic maintenance of its product will require the replacement of those components with other asbestos-containing parts.

Plaintiff Arthur Whelan contends he developed mesothelioma as the result of his work-related exposure to numerous asbestos-containing products. Plaintiff asserts, as a plumber and auto mechanic, he was exposed to asbestos in products manufactured by

defendants,[1] specifically boilers, valves, steam traps, and brake drums. Although plaintiff installed and worked with some original products manufactured by some defendants, he primarily encountered asbestos in his cleaning, repair, and replacement of components used in the products.

Defendants Armstrong International Inc., Burnham LLC, Carrier Corp., Cleaver-Brooks Inc., Crown Boiler Co., Ford Motor Co., Johnson Controls Inc., NIBCO Inc., and Oakfabco Inc. filed summary judgment motions. Each defendant argued plaintiff had not demonstrated exposure to friable asbestos on a regular and frequent basis from a product it sold, manufactured, supplied, or distributed. The trial judge found defendants were not liable for asbestos-containing replacement parts they did not manufacture or place into the stream of commerce. Because plaintiff could not identify an exposure to asbestos from a product actually manufactured or distributed by defendants, the court granted summary judgment to each defendant.

In light of our determination that a manufacturer's product includes any replacement parts necessary to its function, defendants' duty to warn extends to any danger created by those replacement parts. A careful review of the record reveals

[1] When discussing a particular defendant, we refer to it by name. Otherwise, we refer to all defendants involved in this appeal collectively.

plaintiff presented sufficient evidence detailing his exposure to asbestos, either from original parts supplied by defendants or replacement parts required for the function of defendants' products, to create issues of fact as to all defendants. We, therefore, reverse the October 3, November 15, and December 23, 2013 orders granting summary judgment in favor of defendants.

I.

We discern the following facts from the summary judgment record. Plaintiff began work as a residential and commercial plumber in 1952. He previously worked at an automotive repair shop, and continued throughout his life to restore vintage cars as a hobby. From 1955 to 1959, plaintiff worked for Franklin Lowe & Sons. Plaintiff opened his own plumbing business, Arthur Whelan Plumbing and Heating, in 1959, which he maintained until 1968. From 1968 until 1971, plaintiff worked at several other plumbing companies before becoming employed by Powers Regulator, where he worked for twenty-five years.

In 2008, plaintiff was diagnosed with asbestosis; he was subsequently diagnosed with malignant mesothelioma in 2012. Plaintiff's causation expert, pathologist Eugene J. Mark, M.D., stated in his August 2, 2013 report that plaintiff "developed a diffuse malignant mesothelioma of the pleura" caused by asbestos

exposure.[2] Dr. Mark further concluded, "with reasonable medical certainty" that "all of the special exposures to asbestos which took place prior to the occurrence of the malignancy together contributed to cause the diffuse malignant mesothelioma . . . [and each] was a substantial contributing factor in the causation of the diffuse malignant mesothelioma."

A.

Armstrong International Inc.

While employed by Franklin Lowe, plaintiff estimated he worked on twenty Armstrong steam traps installed on commercial boilers.[3] The company's name was imprinted on the traps. Plaintiff's job duties entailed opening the traps in order to clean them and replace the asbestos gaskets.[4] The process of replacing a gasket took approximately twenty minutes to one hour depending on its condition and how long it had been in place. Plaintiff testified that "[d]ue to the high heat involved, these

[2] The expert further stated in his report that asbestos is the only established cause of diffuse malignant mesothelioma for individuals who have not previously received radiotherapy at the site of the tumor.

[3] A steam trap is placed on the end of a boiler's steam line to prevent the steam from going back into the boiler.

[4] A gasket is a mechanical seal used in a high pressure steam system that fills the space between two or more mating surfaces, generally to prevent leakage from, or into, the joined objects while under compression. Gasket, Wikipedia (June 26, 2018, 10:59 PM), https://en.wikipedia.org/wiki/Gasket.

gaskets normally baked themselves onto the product, so they had to be scraped and brushed off." Plaintiff could not confirm whether he replaced gaskets original to the boiler or if the original had been replaced prior to his work on the system. His employer supplied the new gaskets but plaintiff did not know the manufacturer of them. He advised, however, that the Armstrong steam trap's design required the use of that specific type of gasket to function properly. Plaintiff also testified that, in his experience, asbestos gaskets were "the only product that would work with the heat involved."

Armstrong confirmed it manufactured steam traps and some of its traps contained a single internal gasket, which contained "an unknown quantity of non-friable chrysotile asbestos." The gasket was manufactured and supplied by an unrelated company. Armstrong also conceded the asbestos gaskets built into the steam traps "were necessary[, and] . . . standard in the industry for these types of products," and were specified as the proper replacement part for the steam traps.

Armstrong argued summary judgment was appropriate because plaintiff was unable to identify either the manufacturer of the replacement gaskets he installed or whether the gaskets he replaced in the Armstrong steam traps were original to the trap. Plaintiff opposed the motion, noting Armstrong's concession that

the original component gaskets installed in its steam traps contained asbestos until 1987, the recommended routine maintenance required replacement of the gaskets every one to two years with gaskets identical to the original specifications, and asbestos gaskets were the industry standard and considered necessary for proper function at the time.

B.

Burnham LLC

While self-employed from 1959 to 1968, plaintiff installed twenty to thirty packaged, cast iron, oil-fired Burnham boilers. Plaintiff stated, in general, the process of installing a packaged boiler involved "moving the boiler around, taking it out of the crate, [and] moving it into place, . . . [which] created some dust from removing the insulation underneath the jacket." He described a gray dust, which he inhaled, as asbestos dust generated during the installation process. He stated the dust emanated from the boiler's gray-colored insulation that was visible through the "knock out hole where the piping would be hooked up."

In moving for summary judgment, Burnham pointed out the inconsistencies in plaintiff's deposition testimony. Contrary to the above-cited testimony, plaintiff also conceded he could not specifically recall whether any of the Burnham packaged

units had asbestos insulation under the jacket. In an affidavit submitted in support of its motion, Burnham's former Chief Engineer and Chief Operating Officer, Donald Sweigart, certified Burnham began phasing out the use of asbestos insulation in the metal jacket of boilers "beginning in the late 1940s and early 1950s," completing the process "well before 1959"[5] when plaintiff installed the Burnham boilers.

In his de bene esse deposition, taken prior to the summary judgment motions, plaintiff added that he cleaned approximately twelve Burnham cast iron sectional boilers. The process of cleaning a cast iron sectional boiler was "basically the same" for all boilers.[6] Each took approximately half an hour to two hours to clean. Plaintiff explained he used a wire brush and vacuum to clean the fireboxes[7] and it was "normal for some of the asbestos to come loose with the wire brush."

---

[5] The information contained in this affidavit is contrary to testimony provided by a different Burnham corporate representative who stated, during a 2007 deposition, that asbestos components were used in Burnham boilers until 1993.

[6] During his deposition, plaintiff was asked specifically about cleaning Bryant boilers. He later noted the cleaning process for a cast iron sectional boiler was "basically the same" regardless of the manufacturer.

[7] Fireboxes were constructed of cement brick put together with an asbestos-based refractory cement. Plaintiff testified it was common for fireboxes to break down and decay due to the intense (continued)

Burnham filed a motion for summary judgment, arguing summary judgment was appropriate because plaintiff did not know the dates of manufacture of the boilers he installed nor their maintenance history. Burnham also argued plaintiff conceded he did not know whether the Burnham boilers he installed had asbestos insulation under their jackets and emphasized Swigert's affidavit that Burnham no longer used asbestos insulation in its products by 1959. Plaintiff countered he had presented evidence of exposure to asbestos in the cleaning and installation of the Burnham boilers and established the existence of material issues of fact.

C.

Carrier Corp.

Between 1959 and 1968, plaintiff recalled cleaning and repairing less than ten Bryant[8] boilers that were packaged units with jackets. He described seeing dark gray asbestos insulation through the holes in the jacket of the boilers and stated it was "very possible" he disturbed the asbestos around the boiler during a repair. He explained that to repair a leak in a boiler's supply pipe, it was necessary to replace the asbestos-

---

(continued)
heat of the oil burner, requiring routine cleaning and replacement of the cement bricks.

[8] Carrier is the successor to Bryant Heating & Cooling Systems.

insulated pipe, resulting in a disturbance of the asbestos. In addition, any work on the boiler itself that required moving the jacket would disturb the asbestos insulation under the jacket because "[t]he jackets are not really substantially fastened to the boiler . . . [s]o when you're moving [the boiler], you were moving the whole jacket against the boiler . . . [and,] after time, asbestos becomes brittle and flakes."

In his de bene esse deposition, plaintiff further recalled installing one or two Bryant cast iron sectional boilers during the same timeframe. Installation of a cast iron section boiler required

> removal of the existing heating plant, then moving the new heating plant into position which would include uncrating [the boiler to] move into a basement or a boiler room that same equipment and assembling it on the spot where it's going. By assembling it, you put a base together, install a firebox in that base and set the sections on top of that base and draw them together with draw rods. If the boiler came with a jacket, the jacket would be applied at that point. If it did not come with a jacket, then the asbestos coating would be applied at that point.
>
> Once that jacket or coating is installed, then the piping to the house or building . . . is connected to the . . . boiler.

Plaintiff also described how he constructed and installed the fireboxes for cast iron sectional boilers. Using bricks

made with a refractory material able to withstand extreme temperatures, the firebox was

> built up like you would build something with building blocks, put together with an asbestos type cement to hold it in place. Once that firebox is built up, you filled in the outsides with a Vermiculite type of insulation and capped it with an asbestos product, either the cement you used to put the bricks together or mix-up an asbestos powder and capped the top off so the Vermiculite did not fly out.

Plaintiff was able to identify the cement used to construct the firebox as "asbestos type cement" because "asbestos [wa]s the only product at the time that you could mix and use as a bonding agent that would[]withstand [the] extreme heat of a firebox." The cans he used were marked "asbestos cement." Plaintiff also stated the asbestos cement generated dust that dried on his hands, which he "wiped on [his] clothes or wiped off on a rag." He also noted asbestos cement "normally came with the boiler itself," because "[t]he manufacturer supplied usually what was needed to put that boiler together."

Carrier's corporate representative, Howard E. Jameson, conceded that Bryant boilers produced between 1938 and 1963 contained asbestos-based components such as jacket insulation and rope gaskets. The brochures for some models of Bryant boilers even described the jackets as asbestos-insulated.

Carrier filed a motion for summary judgment, arguing plaintiff's asbestos exposure from Bryant boilers was minimal. Carrier asserted plaintiff testified he did not install or remove Bryant boilers, cleaned fewer than ten of them, and could not specifically identify any unit or the maintenance history of any boiler he serviced.

Plaintiff responded he presented evidence of installing new Bryant boilers on at least two occasions, disturbing the asbestos insulation each time, and had cleaned or repaired twelve to fifteen other Bryant boilers. Plaintiff asserted Carrier manufactured and distributed asbestos brick, cement, and rope gaskets, and admitted those products were used until the 1960s and 1970s.

D.

Cleaver-Brooks Inc.

During the 1950s, plaintiff cleaned Cleaver-Brooks "pork chop" oil-fired boilers, although he could not recall a specific number of times. He also stated he was present during the installation of a Cleaver-Brooks boiler. These boilers were approximately eight to ten feet high and eight to twelve feet long, and each took one to two days to clean.

When working on these boilers, plaintiff used a wire brush and vacuum to clean the soot inside of the boiler and,

specifically, inside the boiler's firebox. The fireboxes were constructed of firebricks put together with asbestos cement and sometimes capped with a coat of asbestos. Plaintiff could not identify the manufacturer of the asbestos-containing materials in the boilers or the boilers' maintenance history or age.

During the same timeframe, plaintiff testified he also cleaned and completed small repairs, such as cutting and replacing leaky tubes on Cleaver-Brook steel fire tube boilers. Plaintiff stated the cleaning process for a steel fire tube boiler was the same as other boilers and he was "[d]efinitely" exposed to asbestos when cleaning them. He conceded ignorance of the maintenance history of the specific steel fire Cleaver-Brooks boilers he worked on.

Cleaver-Brooks filed a motion for summary judgment, arguing plaintiff failed to provide sufficient evidence that he was exposed to any asbestos-containing product it manufactured or distributed. Plaintiff could not identify specific models or their maintenance history. He also did not identify the manufacturer of the asbestos-containing materials in the fireboxes.

Plaintiff presented deposition evidence from a Cleaver-Brooks's corporate representative who affirmed in a different legal action that some of its boilers contained asbestos and

regular maintenance and cleaning was generally required. Another representative testified he was unaware of any Cleaver-Brooks boiler manufactured prior to the 1980s that was made with non-asbestos cement.

E.

Crown Boiler Co.

During his January 2, 2013 deposition, plaintiff said he did not personally work on any Crown Boilers and could not attribute his asbestos exposure to that product. However, in response to his counsel's questioning during the January 28, 2013 de bene esse deposition, plaintiff testified he cleaned five or six Crown Boilers during his plumbing and heating employment.

Crown Boiler argued it was entitled to summary judgment because plaintiff had not established he was exposed to any asbestos-containing materials that it manufactured, supplied, sold, or distributed, and because he failed to produce evidence that he was exposed to those materials on the frequency required by Sholtis v. American Cyanamid Co., 238 N.J. Super. 8, 30-31 (App. Div. 1989).

Plaintiff argued, in opposition, that the evidence showed he had cleaned the fireboxes of Crown Boilers five or six times

with a wire brush and vacuum and it took him up to two hours to clean each one.

F.

Ford Motor Co.

In 1952, plaintiff worked at Charlie's Auto Repair for six or seven months where he was exposed to asbestos from brake linings and mufflers. He estimated he performed three brake jobs and two or three muffler jobs at this employment using Bendix replacement brakes and Marmont mufflers. He did not know if any of the brakes he worked on were original to the cars.

For six months in 1953, plaintiff worked at a "machine shop" called Modern Motors. He spent five days a week operating the brake lathe that cut brake drums, fitting new brake shoes to the drums, and installing brake linings. He testified the asbestos drums created dust when they were being set up, wiped out, and cut. The majority of the drums "were original lined" and plaintiff estimated approximately twenty-five percent of the drums he worked on at Modern Motors were made by Ford.

Plaintiff submitted documents from Ford reflecting dozens of its vehicles used asbestos for the rear brake drums and front disc brake linings for several decades. In a 1985 letter to the Environmental Protection Agency, Ford explained it purchased all of the brake systems installed on its vehicles from outside

manufacturers. Ford recommended the EPA "not seek to regulate the use of asbestos in the brakes" of vehicles that currently or previously had been manufactured with asbestos-containing brake systems.

In addition to his professional automotive work, plaintiff encountered Ford brakes as part of his hobby of restoring antique cars. Among other vehicles, he owned a 1932 Ford Roadster, a 1934 Ford pickup truck, a 1949 Ford sedan, a 1950 Mercury, and a 1953 Ford pickup truck. In 1957, plaintiff performed a brake job on the 1953 Ford.[9] In or about 1997, plaintiff changed the drum brakes for all four wheels on the 1934 Ford. He recalled the brake shoes had been updated to "1950 to '53 Ford F100 brakes on the front and a 1957 Ford rear end in it" but he was unable to identify the manufacturer of the existing brake linings. Plaintiff "sent the drums out to make sure they were perfectly round" and when they returned, he put the Ford brake shoes back on the car with new Bendix brake linings.

In 2009, plaintiff performed a brake job on his 1949 Ford, which had its original 1949 Ford brakes. He was exposed to asbestos dust when he removed the rear brake drums. He also

[9] Plaintiff purchased this car new.

removed the Ford engine from the car and cleaned the old asbestos gaskets.

Plaintiff replaced the brakes on a 1950 Mercury when he purchased that car in the mid-1980s. He was unable to identify the manufacturer of the old brakes because they were so worn down. He replaced them with Bendix brand brakes. Plaintiff also replaced the exhaust and intake gaskets on three of the Ford cars approximately seven times. He did not know the manufacturer of the original gaskets he removed.

In its motion for summary judgment, Ford did not dispute plaintiff was exposed to some of its asbestos-containing products while working as an automotive professional. Ford argued, instead, that plaintiff's exposure to asbestos from changing the brakes on his personal vehicles was minimal.

In response, plaintiff argued the evidence showed that as a professional mechanic, he worked on hundreds of "Ford, original brake drums," which took five to ten minutes per drum, and fifty to sixty percent of those drums had never been cut or worked on before. He further contended the evidence showed Ford manufactured its own brakes for use with its cars and standard procedure required the drums be ground flat to accept a new brake shoe. While performing repairs on his personal Ford vehicles and for six or seven months while employed at another

auto repair shop, plaintiff noted the brake systems required the use of asbestos and were designed to be replaced with asbestos linings.

G.

Johnson Controls Inc.

During his employment with Powers, plaintiff testified he repaired approximately one dozen Johnson Controls steam and hot water valves at the University of Medicine and Dentistry in New Jersey (UMDNJ). A repair entailed changing the stem packings, which involved "taking the stem packing nut out, digging the packings out, and replacing them." The work took from one to four hours to complete. Plaintiff knew the stem packing on the valves was asbestos. He did not know the service history of any of the valves or the components.

Johnson Controls' corporate representative, Robert Franecki, testified in his deposition that Johnson Controls sold replacement asbestos packing for its valves. He also acknowledged it was feasible for the company to place a warning tag on the valve itself or in a manual.

In its application for summary judgment, Johnson Controls argued plaintiff did not know who manufactured or supplied either the existing packing that he removed or the new packing he used as replacement in his work replacing stem packing and

valves at UMDNJ. Plaintiff conceded he was unable to identify the manufacturer of the packing, but argued Johnson Controls supplied its valves with asbestos components and knew they would be replaced with like components. According to Franecki, the company also knew the replacement process would expose people to dangerous asbestos dust and it could have warned them of the danger but did not.

H.

NIBCO Inc.

Plaintiff installed new NIBCO brand valves in one of his homes and as part of his work at Franklin Lowe. He admitted it was unlikely he was exposed to asbestos during the installation of new valves, but would have been exposed to asbestos while replacing the packing.

The exposure to asbestos occurred when cutting up the new packing and from "digging the old packings out, cleaning up where it was." If a valve was leaking, the first repair would be to "tighten down on the packing nut . . . to see if there's anything left in there" and then repair it if that did not work. NIBCO valves failed infrequently, however, and "it was much easier and cheaper . . . to put the packing in rather than put a new valve in." The valves' design required the replacement packing be the same type as the original. Plaintiff did not

know the repair history of any of the valves he worked on or whether the packing he pulled out came from a manufacturer other than NIBCO.

In moving for summary judgment, NIBCO argued there was no evidence plaintiff was exposed to asbestos from NIBCO valves as plaintiff admitted he was not exposed during installation and the valves failed infrequently. Plaintiff countered that the evidence showed he was exposed to friable asbestos when he removed original packing.

I.

Oakfabco Inc.[10]

Plaintiff first encountered oil-fired Kewanee boilers in the 1950s and he worked on or around them "[r]ight up to the day [he] retired." The commercial boiler was six to nine feet high and ten to twelve feet long. Plaintiff cleaned them approximately one to two dozen times, but he never installed, repaired or removed one. Cleaning required plaintiff to "go into the firebox area, and wire brush whatever was accessible from that point, open the front and back doors, brush that all down, vacuum it out and inspect the tubes."

Plaintiff asserted he was exposed to asbestos from "[d]isturbing the asbestos around the boiler, [and] replacing

[10] Oakfabco is the successor to Kewanee Boiler Corp.

any gaskets that would be on the doors." He also stated it was "possible" the material being vacuumed contained asbestos, because the cleaning disturbed the refractory cement inside the firebox and vacuuming blew the dust back into the room.

Plaintiff did not know who manufactured or supplied the asbestos around the boiler and in the fireboxes, or the old gaskets that he replaced, nor did he know the maintenance history of any of the boilers.

Oakfabco argued it was entitled to summary judgment because plaintiff was unable to show he was exposed to any asbestos as a result of cleaning a Kewanee boiler or to any asbestos sold with the boiler. It was undisputed plaintiff had never installed or removed a Kewanee boiler. And, although he cleaned them, he was unable to provide any specific information as to the location, model, year, or maintenance history of any of the Kewanee boilers.

In opposition to the motion, plaintiff reiterated he had testified to cleaning the fireboxes and removing and replacing gaskets on one to two dozen Kewanee dry back boilers — a very specific type of boiler. That process required brushing and scraping the inside of the asbestos-containing firebox, which took up to two hours for each boiler.

During oral argument before the trial court, plaintiff stated he was "not necessarily arguing" he was "exposed to asbestos that Kewanee actually manufactured," but rather contended Kewanee manufactured and distributed asbestos-containing boilers, specified how to clean the asbestos-containing fireboxes of its boilers, mandated replacement of its asbestos-containing gaskets, and failed to warn plaintiff about it. Because the cement manufacturer could not place a warning on its cement inside the boilers, plaintiff contended it was Kewanee's responsibility to provide the warning on the boiler itself.

II.

On appeal,[11] plaintiff argues defendants were strictly liable for their failure to warn users of the asbestos-related hazards of their products, inclusive of any component parts, including those hazards associated with routine maintenance and replacement, regardless of whether defendants manufactured or supplied the asbestos-containing hazardous components or replacement parts.

Defendants assert settled principles of product liability law in New Jersey require a plaintiff to demonstrate he or she

[11] Although the complaint presented multiple causes of action against defendants, the parties and trial court only addressed plaintiff's allegations of strict liability.

was exposed to asbestos and suffered injury from a defect in a defendant's own product. Defendants contend the focus is on the alleged injury-producing asbestos product itself, alleviating a manufacturer from liability for an asbestos-containing component or replacement part it did not manufacture or supply.

To prevail on a strict liability claim, plaintiff must present proof "that the product was defective, that the defect existed when the product left the defendant's control, and that the defect caused injury to a reasonably foreseeable user." Zaza v. Marquess & Nell, Inc., 144 N.J. 34, 49 (1996) (quoting Feldman v. Lederle Labs., 97 N.J. 429, 449 (1984)). A failure to warn product liability action is premised on the theory that the product is defective because, absent a warning, the product was not reasonably fit, suitable or safe for its intended purpose. Coffman v. Keene Corp., 133 N.J. 581, 593-94 (1993). The defect in the product is the absence of a warning that the product has the potential to cause injury. Ibid.

A plaintiff must satisfy two elements to establish a product liability claim arising from allegations that he or she was harmed by a product that was defective because it failed to warn of asbestos-related hazards associated with its use. Id. at 594. First, the plaintiff must prove "product-defect causation" by demonstrating the defect existed when it left the

defendant's control and the defect was a proximate cause of the plaintiff's injury. Ibid.

Second, in all cases involving occupational exposure to toxic materials, including asbestos failure to warn cases, the plaintiff must also prove "medical causation" by demonstrating "his or her injuries were proximately caused by exposure to defendant's asbestos product." Ibid. A plaintiff must demonstrate his or her exposure to a defendant's product "was a substantial factor in causing or exacerbating the disease." James v. Bessemer Processing Co., 155 N.J. 279, 299 (1998) (quoting Sholtis, 238 N.J. Super. at 30-31).

Against that backdrop, we consider whether defendants are liable for a failure to warn of asbestos-containing components or replacement parts necessary to the function of their product, but not manufactured by them. In our consideration, we are guided by prior case law and established principles in our jurisprudence.

In Molino v. B.F. Goodrich Co., 261 N.J. Super. 85 (App. Div. 1992), we determined a manufacturer could be held strictly liable for injuries caused by a component part it did not manufacture if the two products were designed to be used as a unit. There, plaintiff was attempting to change a flat tire on a dump truck. Id. at 90-91. As he did so, the spare tire,

already inflated and mounted on a rim assembly, exploded as plaintiff was installing the unit to the truck. Id. at 91. Plaintiff brought suit against the tire manufacturer,[12] Uniroyal Goodrich Tire Company,[13] and others. Id. at 89.

At trial, plaintiff's expert conceded the tire itself was not defective. Id. at 90-91. The expert further testified the tire was made to be used with the multi-piece rim assembly and the industry was aware the assemblies were problematic. Id. at 93. He stated, "[i]t takes the whole assembly," including the tire, "for this to happen." Ibid. The expert opined that air should have been put into the tire only after the assembly was locked into place on the truck. Id. at 91. As a result, the tire should have contained warnings, including a warning to secure the tire to the truck before inflation. Ibid.

This court reversed the trial judge's rulings barring the expert's evidence and granting a directed verdict for Uniroyal. Id. at 94. We determined the judge should have allowed the expert's testimony. Ibid. Because the tire and rim assembly were designed to be used together, we stated: if the jury was convinced the tire manufacturer "should have foreseen or

[12] Prior to trial, a settlement was reached with the other defendants, including the manufacturer of the rim.

[13] Uniroyal Goodrich was improperly pled as B.F. Goodrich.

actually knew of the dangers involved with the rim assemblies used with its product, [it should] consider [the manufacturer's] duty to provide an adequate warning . . . reasonably foreseeable to users." Ibid.

Molino, therefore, provides precedent for a manufacturer to be held strictly liable for injuries caused by a component part it did not manufacture if the two products were designed to be used as a unit. In a case decided the same year as Molino, we established a manufacturer might still have a duty to warn of the dangers in its machine as originally manufactured, even if major components of the machine have been replaced prior to a plaintiff sustaining harm.

In Seeley v. Cincinnati Shaper Co., plaintiff was injured while working on a press brake originally designed, manufactured, and sold by defendant. 256 N.J. Super. 1, 4 (App. Div. 1992). The machine had been substantially altered prior to its sale to plaintiff's employer. Id. at 5. Defendant argued it had no duty to warn of the dangers inherent in the machine as originally manufactured, because major components of the machine had been replaced. Id. at 18. We rejected that argument, noting the replacement parts either "were irrelevant" to the circumstances of the accident "or could reasonably have been contemplated by defendant." Ibid. With the changes, we

reasoned the manufacturer's "portion of the remaining machine could be thought of as a component part of the machine as it existed at the time of the accident" and "the manufacturer of even a component part may be liable for a . . . warning defect." Ibid.

Here, it is undisputed defendants' products as originally marketed had asbestos–containing component parts. Defendants have not argued they were unaware these component parts would be replaced regularly as part of routine maintenance on their products. Instead, they assert the duty to warn does not extend to replacement parts they did not manufacture or distribute.

Shortly after the entry of the summary judgment orders in this case, we considered defendants' responsibility for the duty to warn of danger in replacement parts in Hughes v. A.W. Chesterton Co., 435 N.J. Super. 326 (App. Div. 2014). There, we held a manufacturer has a duty to warn of the dangers from asbestos in replacement parts when its product required the use of asbestos component parts. Id. at 338-47.

In Hughes, the plaintiffs sought to hold liable the manufacturers of a pump with asbestos-containing component parts -- gaskets and packing -- for their exposure to the asbestos in those component parts that had been replaced years after the

pumps left the defendants' control. Id. at 332-33. Relying on Molino and Seeley, the panel found the

> asbestos-containing gaskets and packing posed an inherent danger in the pumps as originally manufactured. The fact that these component parts would be replaced regularly as part of routine maintenance did not absolve [defendant] of any duty to warn because it was reasonably foreseeable that these components would be replaced as part of regular maintenance.
>
> [Id. at 341.]

Like the manufacturers' products here, the defendant in Hughes acknowledged its pump would require replacement gaskets and packing during routine maintenance. See ibid. As a result, the Hughes court concluded

> it was reasonably foreseeable, at the time the pumps were placed into the marketplace, that the gaskets and packing would be replaced regularly with gaskets and packing that contained asbestos. [Defendant] could not rely upon plaintiffs' employers or others responsible for the replacement parts to issue a warning to employees because the duty to warn is nondelegable.
>
> [Ibid.]

The Hughes court, therefore, extended the duty to warn not only to workers who were exposed to the products as originally manufactured, but also to "those workers who came into contact with the component parts as part of regular maintenance." Id.

at 342. As a result, the panel determined the product-defect causation element was met. Ibid.

However, the Hughes court reached a different conclusion on the medical causation element, declining to extend liability to a manufacturer if the plaintiff's injuries were caused solely by replacement parts, because he or she had never been exposed to the original asbestos-containing components supplied by the manufacturer. See id. at 343-46. The panel found plaintiffs could not prove causation without showing exposure to an injury-producing element in the product that was manufactured or sold by the defendants. Id. at 346. That product, according to the court, was only the manufacturer's pump, and did not include its component parts. Id. at 345-46.

It is there that we part ways and disagree with our colleagues in Hughes, as we discern the limited definition of "product" employed by that panel is inconsistent with deep-rooted principles of product liability under New Jersey law.

It is well-established in this state's products liability jurisprudence that a manufacturer may be held liable for a failure to warn of the dangers of its product, even if the product has undergone substantial alteration, as long as the alteration did not affect the defect at issue. "[I]f the defect which, singly or in combination, caused the injury existed

before, as well as after, the change, the manufacturer is not relieved of liability, regardless of how much the product has been changed." Michalko v. Cooke Color & Chem. Corp., 91 N.J. 386, 400 (1982); accord Becker v. Baron Bros., 138 N.J. 145, 151 (1994); O'Brien v. Muskin Corp., 94 N.J. 169, 179-80 (1983); Koruba v. Am. Honda Motor Co. Inc., 396 N.J. Super. 517, 524-25 (App. Div. 2007); Levey v. Yamaha Motor Corp., U.S.A., 361 N.J. Super. 312, 318 (App. Div. 2003).

Pursuant to Michalko and its progeny, our courts assess a manufacturer's liability for a defective product by the condition of the product when it left the manufacturer's control. A product that contained asbestos when it was supplied by the manufacturer, with no warning as to the dangers posed by the asbestos-containing component, and that contained asbestos when encountered by a worker years later, remains in substantially the same defective condition, whether or not its original asbestos has been replaced with other asbestos.

The "product," against which a worker's exposure to asbestos is measured, is not the asbestos contained in the pump's component parts, as stated in Hughes. The "product" is the complete manufactured item as delivered by the manufacturer to the consumer, not just the asbestos contained in one of the product's components. In Hughes, the whole pump supplied by the

defendants was defective, because it did not carry a warning about the dangers of asbestos in its components. Here, it is the boiler, valve, steam trap, brake systems, and the component parts integral to their function that is the product.

To define the "product" as the manufacturer's complete product as marketed and distributed to the end user is consistent with our holding in Seeley as well as our Supreme Court's holdings extending liability to a manufacturer for foreseeable alterations to its product. See Jurado v. W. Gear Works, 131 N.J. 375, 386 (1993) (reasoning "[t]he concept of foreseeable misuse extends to cases in which a product has been substantially altered from its original design"); Brown v. U.S. Stove Co., 98 N.J. 155, 169 (1984) (holding a defect-free product "extends to one that is suitably safe after it has been . . . foreseeably altered"); Lewis v. Am. Cyanamid Co., 294 N.J. Super. 53, 68 (App. Div. 1996) (reasoning the Court "has held that a product is defectively designed if it is not designed to be as safe as reasonably feasible under conditions of foreseeable misuse"), aff'd in part, modified in part, 155 N.J. 544, 559 (1998); see also Restatement (Second) of Torts § 402A (Am. Law Inst. 1965) ("[o]ne who sells any product in a defective condition unreasonably dangerous to the user or consumer . . . is subject to liability for physical harm . . .

caused to the ultimate user or consumer . . . if . . . it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold").[14]

Here, it was foreseeable, at the time defendants placed their products into the marketplace, that asbestos-containing component parts of the product would be replaced with similar asbestos-containing parts. Replacing an original part with a substantially similar part is a foreseeable alteration. Therefore, the replacement of the asbestos did not substantially alter either the injury-producing element or the defect.

Employing this definition of "product" is a reasonable conclusion, following the concepts established in Michalko and the myriad of cases following it, and continuing in the vein of Molino and Seeley. Therefore, we conclude that a manufacturer will have a duty to warn in strict liability if a plaintiff can show: 1) the manufacturer's product as marketed to the end user contained asbestos-containing components; 2) the asbestos-containing components were integral to the function of the product; and 3) the manufacturer was reasonably aware its product would require periodic and routine maintenance involving

[14] See also Restatement (Second) of Torts § 402A cmt. g (Am. Law Inst. 1965) ("The burden of proof that the product was in a defective condition at the time that it left the hands of the particular seller is upon the injured plaintiff." (Emphasis added)).

the replacement of the asbestos-containing component parts with other asbestos-containing component parts. Under these limited circumstances, the manufacturer's liability for a failure to warn extends to the danger created by the component and replacement parts.

We are satisfied the imposition of such a duty does not offend basic principles of fairness and public policy that must be accorded to all parties. Olivo v. Owens-Illinois, Inc., 186 N.J. 394, 401-03 (2006) (holding "considerations of fairness and policy govern whether the imposition of a duty is warranted"). As stated in Hughes, "a warning given at the time of the initial sale would ensure that this information was available to be considered in subsequent decisions regarding the choice of replacement parts and any additional safeguards for workers who made the replacements." 435 N.J. Super. at 343. We assume today, as we did then, that the cost of including a pump on each of defendants' products would have "little, if any, effect on [the] product's utility." Ibid. (quoting Campos v. Firestone Tire & Rubber Co., 98 N.J. 198, 207 (1984)).

How a manufacturer's product is defined appears to be determinant in other states' consideration of this issue as well. Is a "product" only the item fabricated by the manufacturer or does a "product" include asbestos-containing

component and replacement parts necessary to maintain its functionality?

In considering appellate authority from other jurisdictions, there is no clear majority rule as to a manufacturer's duty to warn for exposure to asbestos-containing replacement component parts required for the function of its product. The recent trend, however, appears skewed towards the imposition of liability on manufacturers even where the worker's exposure was to replacement parts, where the original product was manufactured with asbestos-containing parts. See, cf., May v. Air & Liquid Sys. Corp., 129 A.3d 984, 995 (Md. 2015) (defining asbestos-containing component parts as the "product" and imposing a duty to warn when the manufacturer's product "not only has asbestos components, but also cannot function properly without these hazardous components, and a [worker] will be exposed to the asbestos during necessary, periodic replacement of the parts with other asbestos-containing parts"); Poage v. Crane Co., 523 S.W.3d 496, 511, 514-15 (Mo. Ct. App.), transfer denied, 2017 Mo. LEXIS 375 (Mo. Aug. 22, 2017), cert. denied sub nom, Crane Co. v. Poage, ___ U.S. ___ (2018) (slip op. at 2) (holding a manufacturer could be held liable under a duty to warn theory where it provided valves that used asbestos-containing gaskets and packing, and also specified and

identified asbestos-containing replacement parts as proper for replacing the original valves); In re N.Y.C. Asbestos Litig., 59 N.E.3d 458, 463-78 (N.Y. 2016) (extending duty to warn of the dangers of asbestos-containing parts manufactured by a third party when the manufacturer's product required those parts as a matter of design, mechanics, or economic necessity even if the manufacturer had not originally provided those components when it supplied its product to the end user); McKenzie v. A.W. Chesterson Co., 373 P.3d 150, 155-56 (Or. Ct. App. 2016) (defining "product" as the pump sold by the manufacturer to the end user including the asbestos-containing gaskets and packing); Macias v. Saberhagen Holdings, Inc., 282 P.3d 1069, 1076-77 (Wash. 2012) (assigning liability to manufacturers whose products, when "used exactly as intended and cleaned for reuse exactly as intended[,] inherently and invariably posed the danger of exposure to asbestos"); see also Chesher v. 3M Co., 234 F. Supp. 3d 693 (D.S.C. 2017) (recognizing the majority of states have rejected the bare metal defense).

Other states have adhered to the "bare metal" defense, first used as a bright-line rule in federal maritime cases considering the scope of a defendant's liability for dangers of asbestos-containing products on ships. See Devries v. GE, 188 F. Supp. 3d 454, 462 (E.D. Pa. 2016). That defense declines to

recognize, under any theory of liability, a manufacturer's liability for harm caused by any actual asbestos products that it did not manufacture or supply. Lindstrom v. A-C Prod. Liab. Tr., 424 F.3d 488, 492-96 (6th Cir. 2005).

In O'Neil v. Crane Co., 266 P.3d 987 (Cal. 2012), the plaintiff worked on valves and pumps that used gaskets and packing containing asbestos. Id. at 992. He did not work with the products until more than twenty years after the defendants supplied their equipment to the Navy. Id. at 993. Therefore, the original asbestos-containing components supplied with the products had long been replaced. Ibid. Because California law limited a duty to warn "to risks arising from the manufacturer's own product," the California Supreme Court found no duty to warn of hazards from the exposure to asbestos that occurred during maintenance work on the defendants' pumps and valves. Id. at 997.

In noting the lack of evidence that the valves or pumps required asbestos-containing components to operate, the California Supreme Court acknowledged the analysis for failure to warn might be different for a product that required the use of a defective component for its proper function. Id. at 996 n.6. The court noted, under those circumstances, the finished product would necessarily incorporate a defect, and the

replacement of the original defective part with another equally defective part supplied by another manufacturer "would not break the chain of causation." Ibid. In addition, "if the product manufacturer specified or required the use of a defective replacement part, a stronger case could be made that the manufacturer's failure to warn was a proximate cause of resulting injury." Ibid.[15]

In companion cases decided on the same day, the Washington Supreme Court also considered the issue of a manufacturer's liability for harm caused by asbestos in the context of both asbestos-containing parts made and supplied by a third party for use with the defendants' products, Simonetta v. Viad Corp., 197 P.3d 127, 129-38 (Wash. 2008), and replacement parts for original asbestos-containing parts supplied by the manufacturer. Braaten v. Saberhagen Holdings, 198 P.3d 493, 495-504 (Wash. 2008).

---

[15] Subsequent courts considering this issue have commented that O'Neil did not foreclose on the possibility of liability for component parts a manufacture did not fabricate or distribute. See, e.g., Willis v. Buffalo Pumps, Inc., 34 F. Supp. 3d 1117, 1123 (S.D. Cal. 2014) (noting O'Neil limited a defendant's liability for third party components but did not eliminate the possibility of such liability); Schwartz v. Abex Corp., 106 F. Supp. 3d 626, 644 n.58 (E.D. Pa. 2015) (observing O'Neil "contains indications of potential exceptions" to the bare metal defense).

In Simonetta, the defendant manufactured an evaporator, a distilling plant that converted seawater to freshwater. 197 P.3d at 129. After the manufacturer delivered the evaporator, the Navy or another entity insulated it with asbestos mud and cloth products made and provided by a third party. Id. at 129-30. The evidence revealed the evaporator required asbestos insulation to function properly, the insulation contained asbestos, and the defendant knew, or should have known, the insulation would be disturbed during normal maintenance. Id. at 131.

In analyzing the nature of the "product," the Washington court determined the "completed product was the evaporator," as delivered by defendant, without any asbestos insulation. Id. at 138. As strict liability attaches only when a manufacturer has sold an unreasonably dangerous product, and the unreasonably dangerous product here was the asbestos insulation, not the evaporator, the court declined to impose a duty. Ibid. "[I]t was not the evaporator, but the dangers inherent in the asbestos insulation, a product [defendant] did not manufacture or supply, that was the proximate cause of [plaintiff's] alleged injury." Id. at 136.

In Braaten, the defendants manufactured valves and pumps. 198 P.3d at 495. Some of their products contained asbestos

gaskets and packing, which were manufactured by other companies but installed by the defendants into the pumps and valves prior to sale. Ibid. The manufacturers did not dispute liability for the failure to warn of the dangers from asbestos in the parts they originally supplied with the product. Id. at 501. Rather, they asserted strict liability principles did not support the imposition of liability for replacement parts they had not manufactured or distributed. Id. at 501-02.

The Washington Supreme Court relied on its holding in Simonetta, concluding there was no duty to warn for replacement gaskets and packing. Id. at 501. However, the court advised:

> we need not and do not reach the issue of whether a duty to warn might arise with respect to the danger of exposure to asbestos-containing products specified by the manufacturer to be applied to, in, or connected to their products, or required because of a peculiar, unusual, or unique design.
>
> [Id. at 504.]

Subsequently in Macias, the Washington court stated: "While the chain-of-distribution requirement is undoubtedly the general rule . . . it is not absolute." 282 P.3d at 1080; see also Morgan v. Bill Vann Co., 969 F. Supp. 2d 1358, 1364-67 (S.D. Ala. 2013) (applying bare-metal defense/predicting Alabama would adopt it); Faddish v. Buffalo Pumps, 881 F. Supp. 2d 1361, 1368-72 (S.D. Fla. 2012) (applying bare-metal defense, finding it

consistent with Florida law); Thurmon v. A.W. Chesterton, Inc., 61 F. Supp. 3d 1280, 1284-86 (N.D. Ga. 2014) (applying bare-metal defense/predicting Georgia would adopt it), aff'd sub nom, Thurman v. Ga. Pac., 650 Fed. Appx. 752 (11th Cir. 2016); Cabasug v. Crane Co., 989 F. Supp. 2d 1027, 1043 (D. Haw. 2013) (holding, "under maritime law, a manufacturer is not liable for harm caused by, and owes no duty to warn of the hazards inherent in, asbestos-containing replacement parts that the manufacturer did not manufacture or distribute"); Woo v. Gen. Elec. Co., 393 P.3d 869, 876 (Wash. Ct. App. 2017) (denying summary judgment to manufacturer and affirming Washington's exceptions to the bare metal defense).

While noting the doctrinal trends of other appellate courts, we reach the result enunciated today after weighing policy considerations, guided by the principles that are the bedrock of our jurisprudence, and as a natural progression from the decisions that have come before.

A defect that existed when the product left the manufacturer's control is neither ameliorated nor diminished when it arises from a component that has been replaced with a component that contains the identical injury–producing element. That well-established principle governs our definition of a

product for purposes of determining a manufacturer's liability for an asbestos-containing replacement part.

We are confident this limited "common sense" approach to refining a manufacturer's duty in the context of asbestos exposure cases alleviates the concerns expressed by the Hughes panel. In declining to extend liability to the original manufacturer for a replacement part it did not manufacture, the court explained:

> If that were the case, a manufacturer or seller who failed to give a warning could be strictly liable for alleged injuries long after the product entered the marketplace even if the injury-producing element of the product no longer existed. The imposition of liability [for replacement component parts] . . . would [also] fail to limit liability "only to those defendants to whose products the plaintiff can demonstrate he or she was intensely exposed."
>
> [Hughes, 435 N.J. Super. at 346 (quoting James, 155 N.J. at 302-03).]

Defendants echoed these arguments in their summary judgment motions and before this court, asserting plaintiff could not satisfy the "frequency, regularity and proximity" test enunciated in Sholtis and adopted by the Supreme Court in James. In James, the Court determined in cases where the plaintiff alleged exposure to asbestos from multiple defendants, he or she could establish a prima facie case of medical causation by showing "an exposure of sufficient frequency, with a regularity

of contact, and with the product in close proximity." 155 N.J. at 301 (quoting Sholtis, 238 N.J. Super. at 28).

We are satisfied our ruling today remains consistent with the proofs required under Sholtis and James. A plaintiff in an asbestos failure to warn case must continue to establish medical causation through exposure to the defendant's complete, as marketed product.

In opposing summary judgment, a plaintiff must still produce evidence from which a fact-finder, after assessing the proof of frequency and intensity of plaintiff's contacts with a particular manufacturer's asbestos-containing product, including all necessary component or replacement parts, could reasonably infer toxic exposure. Sholtis, 238 N.J. Super. at 29. Plaintiff must also show his or her exposure was more than casual or minimal. Goss v. Am. Cyanamid, Co., 278 N.J. Super. 227, 236 (App. Div. 1994). If the product did not contain original asbestos component parts and did not require replacement asbestos parts, or plaintiff cannot demonstrate he or she used asbestos-containing replacement parts, the manufacturer is absolved of its responsibility to warn.

III.

We review orders granting summary judgment de novo, applying the same standard as the trial court. Templo Fuente De

Vida Corp. v. Nat'l Union Fire Ins. Co. of Pittsburgh, 224 N.J. 189, 199 (2016). Viewing the evidence in the light most favorable to the non-moving party, we must decide whether the moving party was entitled to judgment as a matter of law. W.J.A. v. D.A., 210 N.J. 229, 237-38 (2012). Summary judgment should not be granted where there are disputed issues of facts material to the legal conclusion. Taylor v. Metzger, 152 N.J. 490, 514 (1998). In reviewing a summary judgment decision, the factual findings of the trial court are accorded substantial deference on appeal, but no special deference is owed to the trial court's interpretation of the law and the legal consequences that emanate from established facts. Manahawkin Convalescent v. O'Neill, 217 N.J. 99, 115 (2014).

We turn, then, to the evidence in the record. As noted, the product-defect causation element has been met. The defendants may be held liable for the failure to warn of the dangers associated with the asbestos contained in their product — inclusive of component parts it did not manufacture or supply. That liability extends to the failure to warn of the dangers from cleaning, repairing, and replacing the asbestos-containing components as none of those activities substantially changed the product or mitigated the danger. The fact that plaintiff was

exposed to a replacement part, rather than an original part, will not eliminate a defendant's liability.

We have also determined, viewing the evidence in the light most favorable to plaintiff, that he presented sufficient evidence detailing his exposure to asbestos, either from original parts supplied by defendants or replacement parts required for the function of defendants' products to create issues of fact as to each defendant.

With regard to the boiler defendants — Burnham and Carrier — plaintiff identified asbestos insulation under the boiler jacket. Installing and working on the units created asbestos dust. Plaintiff also built and cleaned fireboxes requiring the use of asbestos cement.

The room-size boilers of Cleaver-Brooks and Oakfabco took two days to clean. The cleaning included work done on fireboxes constructed of bricks held together and capped with asbestos cement. None of the contact described by plaintiff with these boilers was casual or minimal. It is undisputed the products, as marketed, contained asbestos components and required periodic, routine replacement. Plaintiff noted asbestos cement was the only product available during the relevant years that could withstand the "extreme heat" of a firebox. He also noted

the asbestos cement was supplied with the boiler as it was needed for the installation and operation of the product.

When queried about his contact with Crown Boiler products during his January 2, 2013 deposition, plaintiff said he did not personally work on any Crown boilers and could not attribute his asbestos exposure to that product. However, several weeks later, at his de bene esse deposition, plaintiff recalled cleaning five or six Crown boilers. This inconsistency in testimony is a factual dispute to be resolved by a jury. Plaintiff's description of cleaning all of the involved boilers is sufficient to allow an inference of exposure to these products on a frequent and regular basis.

Plaintiff also presented sufficient evidence to raise a jury question as to whether he met the "frequency, regularity, and proximity" test regarding the valve manufacturers – Johnson Controls and NIBCO. He testified he repaired at least a dozen Johnson steam and hot water valves, which entailed digging out and replacing the asbestos packing. Plaintiff described the same type of work regarding his exposure with NIBCO valves. Those valves required asbestos packing for sealing; the valves' design required the replacement packing be the same as the original. Plaintiff's testimony is, therefore, sufficient to

raise the inference he worked frequently and regularly in close proximity to asbestos in Johnson Controls and NIBCO valves.

Plaintiff also estimated he cleaned twenty Armstrong steam traps. The traps were designed to use a specific type of asbestos gasket to function properly. The scraping out of the asbestos gasket took one to four hours. Plaintiff presented sufficient evidence to withstand the grant of summary judgment.

It is undisputed plaintiff was exposed to asbestos during his work with Ford cars and their brake systems. The systems required the use of asbestos and were designed to be replaced with asbestos linings. The majority of the brake drums plaintiff worked on at Modern Motors were "original lined." He stated twenty-five percent of those drums were made by Ford. The trial court erred in concluding plaintiff had not established Ford as the manufacturer of the lining on the vehicles on which he worked at Modern Motors. Plaintiff demonstrated an exposure to Ford asbestos products sufficient to raise a factual issue for the jury under the Sholtis test.

We, therefore, reverse the orders of summary judgment as to each named defendant and remand to the trial court for trial.

Reversed and remanded for further proceedings consistent with this opinion. We do not retain jurisdiction.